

A photograph of a wind turbine on the ocean, viewed from a low angle. The turbine is white and stands against a blue sky with light clouds. The ocean is visible in the background. The image is partially obscured by a dark blue geometric shape that frames the text.

Appendix N

Responses to
Comments on
the Draft
Environmental
Impact Statement

Appendix N: Responses to Comments on the Draft Environmental Impact Statement

Contents

N.1	Introduction	N-1
N.2	Objective	N-1
N.3	Methodology.....	N-1
N.3.1	Terminology	N-1
N.3.2	Comment Submittals	N-2
N.3.3	Comment Processing	N-3
N.4	Responses to Cooperating and Participating Agency Comments on the Draft EIS.....	N-4
N.4.1	Cooperating and Participating Federal Agencies.....	N-4
N.4.2	Cooperating State Agencies.....	N-77
N.5	Responses to Lessee Comments on the Draft EIS.....	N-128
N.6	Responses to Other Agency, Stakeholder, and Public Comments on the Draft EIS.....	N-142
N.6.1	Purpose and Need.....	N-142
N.6.2	Proposed Action and Alternatives	N-155
N.6.3	Air Quality	N-179
N.6.4	Water Quality.....	N-203
N.6.5	Bats	N-217
N.6.6	Benthic Resources.....	N-225
N.6.7	Birds	N-243
N.6.8	Coastal Habitat and Fauna.....	N-275
N.6.9	Finfish, Invertebrates, and Essential Fish Habitat.....	N-275
N.6.10	Marine Mammals	N-291
N.6.11	Sea Turtles	N-361
N.6.12	Wetlands.....	N-365
N.6.13	Commercial Fisheries and For-Hire Recreational Fishing.....	N-367
N.6.14	Cultural Resources.....	N-393
N.6.15	Demographics, Employment, and Economics	N-420
N.6.16	Environmental Justice.....	N-438
N.6.17	Land Use and Coastal Infrastructure	N-442

N.6.18	Navigation and Vessel Traffic	N-456
N.6.19	Other Uses (Marine Minerals, Military Use, Aviation, and Scientific Research and Surveys).....	N-470
N.6.20	Recreation and Tourism	N-483
N.6.21	Scenic and Visual Resources	N-515
N.6.22	Project Design Envelope	N-540
N.6.23	Mitigation and Monitoring	N-579
N.6.24	Cumulative Impacts	N-619
N.6.25	Connected Action	N-632
N.6.26	National Environmental Policy Act/Public Involvement Process	N-633
N.7	General Comment Summaries and Responses.....	N-710
N.7.1	Purpose and Need.....	N-710
N.7.2	Proposed Action and Alternatives	N-711
N.7.3	Air Quality	N-713
N.7.4	Water Quality.....	N-716
N.7.5	Bats	N-718
N.7.6	Benthic Resources.....	N-719
N.7.7	Birds	N-719
N.7.8	Coastal Habitat and Fauna	N-721
N.7.9	Finfish, Invertebrates, and Essential Fish Habitat.....	N-721
N.7.10	Marine Mammals	N-723
N.7.11	Sea Turtles	N-726
N.7.12	Wetlands.....	N-728
N.7.13	Commercial Fisheries and For-Hire Recreational Fishing.....	N-728
N.7.14	Cultural Resources.....	N-731
N.7.15	Demographics, Employment, and Economics	N-732
N.7.16	Environmental Justice.....	N-734
N.7.17	Land Use and Coastal Infrastructure	N-736
N.7.18	Navigation and Vessel Traffic	N-738
N.7.19	Other Uses (Marine Minerals, Military Use, Aviation, and Scientific Research and Surveys).....	N-740
N.7.20	Recreation and Tourism	N-740
N.7.21	Scenic and Visual Resources	N-742
N.7.22	Project Design Envelope	N-742
N.7.23	Mitigation and Monitoring	N-743
N.7.24	Cumulative Impacts	N-744
N.7.25	Connected Action	N-744
N.7.26	National Environmental Policy Act/Public Involvement Process	N-745

N.7.27	General Support or Opposition	N-745
N.8	Form Letters.....	N-751
N.9	List of Commenters by Commenter Type and Submission Number.....	N-764
N.10	References Cited	N-794
N.10.1	Section N.4.1, Responses to Cooperating and Participating Federal Agencies.....	N-794
N.10.2	Section N.4.2, Responses to Cooperating State Agencies.....	N-796
N.10.3	Section N.5, Responses to Lessee.....	N-797
N.10.4	Section N.6, Responses to Other Agency, Stakeholder, and Public Comments.....	N-797

List of Tables

Table	Page
Table N-1. Public Meetings	N-2
Table N.4-1. Responses to Comments from NMFS [BOEM-2023-0030-1811]	N-4
Table N.4-2. Responses to Comments from USEPA [BOEM-2023-0030-1240]	N-51
Table N.4-3. Responses to Comments from U.S. Fish and Wildlife Service [BOEM-2023-0030-0925]	N-67
Table N.4-4. Responses to Comments from National Park Service [BOEM-2023-0030-1813].....	N-73
Table N.4-5. Responses to Comments from New Jersey Department of Environmental Protection [BOEM-2023-0030-1538; BOEM-2023-0030-2015]	N-77
Table N.5-1. Responses to Comments from Atlantic Shores Offshore Wind, LLC [BOEM-2023-0030-1226].....	N-128
Table N.6-1. Responses to Comments on the Purpose and Need	N-142
Table N.6-2. Responses to Comments on the Proposed Action and Alternatives.....	N-155
Table N.6-3. Responses to Comments on Air Quality	N-179
Table N.6-4. Responses to Comments on Water Quality	N-203
Table N.6-5. Responses to Comments on Bats	N-217
Table N.6-6. Responses to Comments on Benthic Resources	N-225
Table N.6-7. Responses to Comments on Birds	N-243
Table N.6-8. Responses to Comments on Coastal Habitat and Fauna.....	N-275
Table N.6-9. Responses to Comments on Finfish, Invertebrates, and Essential Fish Habitat	N-275
Table N.6-10. Responses to Comments on Marine Mammals	N-291
Table N.6-11. Responses to Comments on Sea Turtles	N-361
Table N.6-12. Responses to Comments on Wetlands.....	N-365
Table N.6-13. Responses to Comments on Commercial Fisheries and For-Hire Recreational Fishing	N-367
Table N.6-14. Responses to Comments on Cultural Resources.....	N-393
Table N.6-15. Responses to Comments on Demographics, Employment, and Economics	N-420
Table N.6-16. Responses to Comments on Environmental Justice	N-438
Table N.6-17. Responses to Comments on Land Use and Coastal Infrastructure	N-442
Table N.6-18. Responses to Comments on Navigation and Vessel Traffic	N-456
Table N.6-19. Responses to Comments on Other Uses	N-470
Table N.6-20. Responses to Comments on Recreation and Tourism	N-483
Table N.6-21. Responses to Comments on Scenic and Visual Resources	N-515
Table N.6-22. Responses to Comments on Project Design Envelope	N-540

Table N.6-23. Responses to Comments on Mitigation and Monitoring	N-579
Table N.6-24. Responses to Comments on Cumulative Impacts	N-619
Table N.6-25. Responses to Comments on Connected Action	N-632
Table N.6-26. Responses to Comments on National Environmental Policy Act/Public Involvement Process	N-633
Table N.7-1. General Comments on Purpose and Need	N-710
Table N.7-2. General Comments on the Proposed Action and Alternatives	N-711
Table N.7-3. General Comments on Air Quality.....	N-713
Table N.7-4. General Comments on Water Quality	N-716
Table N.7-5. General Comments on Bats.....	N-718
Table N.7-6. General Comments on Benthic Resources	N-719
Table N.7-7. General Comments on Birds.....	N-719
Table N.7-8. General Comments on Coastal Habitat and Fauna	N-721
Table N.7-9. General Comments on Finfish, Invertebrates, and Essential Fish Habitat	N-721
Table N.7-10. General Comments on Marine Mammals	N-723
Table N.7-11. General Comments on Sea Turtles.....	N-726
Table N.7-12. General Comments on Wetlands	N-728
Table N.7-13. General Comments on Commercial Fisheries and For-Hire Recreational Fishing	N-728
Table N.7-14. General Comments on Cultural Resources	N-731
Table N.7-15. General Comments on Demographics, Employment, and Economics.....	N-732
Table N.7-16. General Comments on Environmental Justice	N-734
Table N.7-17. General Comments on Land Use and Coastal Infrastructure.....	N-736
Table N.7-18. General Comments on Navigation and Vessel Traffic.....	N-738
Table N.7-19. General Comments on Other Uses.....	N-740
Table N.7-20. General Comments on Recreation and Tourism	N-740
Table N.7-21. General Comments on Scenic and Visual Resources	N-742
Table N.7-22. General Comments on Project Design Envelope.....	N-742
Table N.7-24. General Comments on Cumulative Impacts.....	N-744
Table N.7-25. General Comments on Connected Action	N-744
Table N.7-26. General Comments on National Environmental Policy Act/Public Involvement Process	N-745
Table N.7-27. Responses to General Support or Opposition Comments	N-745
Table N.8-1. Form Letter 1	N-751
Table N.8-2. Form Letter 2	N-751
Table N.8-3. Form Letter 3	N-752
Table N.8-4. Form Letter 4	N-753
Table N.8-5. Form Letter 5	N-753

Table N.8-6. Form Letter 6.....	N-756
Table N.8-7. Form Letter 7.....	N-758
Table N.8-8. Form Letter 8.....	N-758
Table N.8-9. Form Letter 9.....	N-759
Table N.8-10. Form Letter 10.....	N-760
Table N.8-11. Form Letter 11.....	N-761
Table N.8-12. Form Letter 12.....	N-762
Table N.8-13. Form Letter 13.....	N-762
Table N.8-14. Form Letter 14.....	N-763
Table N.9-1. Federal Agencies.....	N-764
Table N.9-2. Tribes and Native Organizations	N-765
Table N.9-3. State Agencies	N-765
Table N.9-4. Local Government/Agencies	N-765
Table N.9-5. Elected Official.....	N-765
Table N.9-6. Lessee	N-765
Table N.9-7. Businesses and Organizations	N-766
Table N.9-8. Individuals.....	N-768
Table N.9-9. Anonymous.....	N-791

N.1 Introduction

On May 19, 2023, BOEM published a Notice of Availability for the Atlantic Shores Offshore Wind South Draft EIS, consistent with the regulations implementing NEPA (42 USC 4321 et seq.), to assess the potential impacts of the Proposed Action and alternatives. The Draft EIS was made available in electronic form for public viewing at <https://www.boem.gov/renewable-energy/state-activities/atlantic-shores-south>, and hard copies or electronic copies were delivered to other entities as specified in Appendix M of the Draft EIS. The NEPA review process requires agencies to allow the public the opportunity to comment on a Draft EIS. The Notice of Availability initiated a 45-day public comment period for the Draft EIS. The comment period closed on July 3, 2023. This appendix describes the Draft EIS public comment processing methodology and definitions, includes responses to comments received on the Draft EIS, and describes where specific updates to the Final EIS can be found in the document.

N.2 Objective

BOEM reviewed and considered all written and oral public submissions received during the Draft EIS public review and comment period. BOEM's goal was to identify comments to be addressed in this Final EIS and to categorize those comments based on the applicable resource areas or NEPA topics. This categorization scheme allowed subject matter experts to review comments directly related to their areas of expertise and allowed BOEM to generate statistics based on the resource areas or NEPA topics addressed in each of the comments. All public comment submissions received can be viewed online at <http://www.regulations.gov> by typing "BOEM-2023-0030" in the search field.

N.3 Methodology

N.3.1 Terminology

The following terminology is used throughout this appendix:

- **Submission:** The entire content submitted by a single person or group at a single time. For example, a 10-page letter from a citizen, an email with a portable document format (PDF) attachment, and a transcript of an oral comment given at a public hearing meeting were each considered to be a submission.
- **Comment:** A specific statement within a submission that expresses a sender's specific point of view, concern, question, or suggestion. A comment can consist of more than one sentence, as long as those grouped sentences express a single idea. One submission may contain many comments.
- **Substantive Comment:** Draft EIS submissions were reviewed to identify and categorize "substantive" comments. To be substantive, a comment must relate to the reasonably foreseeable impacts of the Proposed Action, alternatives, or cumulative actions and do one or more of the following:

- Question (with supporting rationale) the accuracy of information in the Draft EIS.
 - Question (with supporting rationale) the adequacy of, methodology for, or assumptions used for the environmental analysis.
 - Present new information relevant to the analysis.
 - Present reasonable alternatives or mitigation measures other than those analyzed in the Draft EIS.
 - Present or cause modifications to alternatives or mitigation measures analyzed in the Draft EIS.
 - Correct factual errors in the content of the Draft EIS.
- General Comment: General comments are comments other than substantive comments. General comments may: (1) express interest or concern regarding an impact topic without providing specific comments on the information, methods, or findings presented in the Draft EIS; (2) express general support for or opposition to the proposed Project; or (3) comment on a topic unrelated to the proposed Project.

N.3.2 Comment Submittals

Tribal governments, federal agencies, state/local governments, and the general public had the opportunity to provide comments on the Draft EIS via the following mechanisms:

- Electronic submissions via www.regulations.gov on docket number BOEM-2023-0030;
- Hard-copy comment letters submitted to BOEM via traditional mail; and
- Written or oral comments submitted at each of the public meetings.

BOEM held two in-person and two virtual public meetings via Zoom to solicit written and verbal comments to inform preparation of the Final EIS. The meetings were free and open to the public with no reservations required. Locations and dates of these meetings are outlined in Table N-1.

Table N-1. Public Meetings

Date	Time	Location
June 21, 2023	5:00 p.m. Eastern Time	Holiday Inn Manahawkin/Long Beach Island 151 Route 72 West Manahawkin, NJ 08050
June 22, 2023	5:00 p.m. Eastern Time	Atlantic City Convention Center 1 Convention Boulevard Atlantic City, NJ 08401
June 26, 2023	1:00 p.m. Eastern Time	Zoom Webinar: https://www.boem.gov/renewable-energy/state-activities/boem-asow-deis-virtual-hearing-june-26-2023

Date	Time	Location
June 28, 2023	5:00 p.m. Eastern Time	Zoom Webinar: https://www.boem.gov/renewable-energy/state-activities/boem-asow-deis-virtual-hearing-june-28-2023

All submissions initially provided by methods other than www.regulations.gov, including the transcripts of comments recorded at each public meeting listed in Table N-1, were uploaded to the docket. Each submission, including testimony by individual speakers at the public meetings listed in Table N-1, was assigned a unique identification number. That unique Submission ID was retained throughout the comment management process, for both submissions and the individual comments within those submissions.

N.3.3 Comment Processing

BOEM downloaded and reviewed all submissions from [regulations.gov](http://www.regulations.gov). These submissions were provided in Hypertext Markup Language (html) format, while attachments provided by stakeholders as part of their [regulations.gov](http://www.regulations.gov) submission were typically provided in PDF or Microsoft Word format. Text from all formats was parsed, coded, and exported into a single Microsoft Excel file that served as the primary submission database. In cases where an attachment did not contain comments specific to the docket for the Atlantic Shores South Draft EIS, the attachment was retained separately for BOEM reference as applicable, linked to the main body of the submission through the unique Submission ID. Examples of this type of attachment include copies of comment letters that were originally submitted during the scoping period, copies of comment letters that were originally submitted on another docket, or attached photos, published reports, news articles, or other secondary material. The submission database also included information about each submission, including the submitter’s contact information, submission date, and whether the submitter was a government entity or agency.

Each submission and all oral testimony were read to identify individual substantive and general comments (as defined under Section N.3.1). Each comment was parsed, coded, and exported to a spreadsheet that served as the master comment database. Each comment then received a unique comment ID number, tied to the Submission ID. For example, the fourth comment identified in [regulations.gov](http://www.regulations.gov) submission 0005 was identified as BOEM-2023-0030-0005-0004.

Substantive comments from cooperating agencies were organized by agency and are presented verbatim in Section N.4 Other agency, stakeholder, and public comments were each assigned to one section of the Draft EIS, based on the document’s table of contents, or to a general topic such as “NEPA/Public Involvement Process.” Substantive comments are presented verbatim in Section N.5. General comments are summarized in Section N.7 and the specific comments that contributed to a comment summary are identified by comment number.

N.4 Responses to Cooperating and Participating Agency Comments on the Draft EIS

N.4.1 Cooperating and Participating Federal Agencies

N.4.1.1 National Marine Fisheries Service

Table N.4-1. Responses to Comments from NMFS [BOEM-2023-0030-1811]

Comment	Response
<p>In response to the May 19 2023 Notice of Availability we conducted this review as a cooperating agency with legal jurisdiction and special expertise over marine trust resources and fishing operations and fishing communities including resources protected by the Magnuson- Stevens Fishery Conservation and Management Act (MSA) and the Endangered Species Act (ESA) under which we also serve as a consulting agency. We are also an action agency for this project to the extent that NOAA’s National Marine Fisheries Service (NMFS) provides Incidental Take Authorizations (ITA) under the Marine Mammal Protection Act (MMPA). If we determine the document is sufficient we will rely on and adopt your Final EIS (FEIS) to satisfy our independent legal obligations to prepare an adequate and sufficient analysis under the National Environmental Policy Act (NEPA) in support of our proposal to issue the ITA for the proposed project. If NMFS does not deem the FEIS sufficient for this purpose we would need to conduct an independent NEPA analysis to evaluate the impacts of the proposed issuance of the ITA which would significantly delay the permitting timeline. We look forward to continuing to collaborate with you on the Atlantic Shores South EIS in order to facilitate an efficient process.</p>	<p>Comment acknowledged.</p>
<p>In our dual roles as both a cooperating and adopting agency we provided comments on August 31 2022 during an interagency review of the Preliminary DEIS (PDEIS). While some of our comments were addressed a number of comments we provided during the cooperating agency review are not reflected or resolved in the current version of the DEIS. Thus we remain concerned with the analysis of impacts from the project on NOAA trust resources and fishing operations. Below we elaborate on these issues and recommend BOEM resolve these issues in the Final EIS. Please note that due</p>	<p>Comment acknowledged.</p>

Comment	Response
<p>to the overlapping offshore wind project reviews and consultations we were not able to provide a complete review of every section of the DEIS. The attached table contains comments associated with sections of the document that we have reviewed.</p>	
<p>Environmentally Preferred Alternative. We consider a combination of Alternative C 1 through 3 to be the environmentally preferred alternative for this project. The Atlantic Shores South Project is proposed both in an area of high relief sand ridge and trough complexes and in a distinct large bathymetric feature that is also a designated New Jersey Prime Fishing Ground known as “Lobster Hole.” These two sensitive ecological areas provide valuable habitat for a number of federally managed fish species their prey and other marine resources. These two areas are defined by high habitat heterogeneity and complexity on various spatial scales (from sub-meter to many kilometers) that provide numerous sub- and micro-habitats and support countless species in the region. Given the significance of these sensitive habitats to the ecology of the area we recommend this alternative be selected to avoid and minimize long-term and permanent impacts from construction and operation of this project.</p>	<p>BOEM acknowledges that NMFS supports a combination of Alternatives C1 through C3.</p>
<p>While we consider this the environmentally preferred alternative, we are concerned that the DEIS discussion of Alternative C does not properly evaluate the intensity of the project’s impact by understating the relative value of existing and uniquely valuable habitat resources. First the summary of impacts suggests there is essentially no difference in effects of Alternative C compared to other alternatives; this conclusion appears to result from discounting and minimizing the unique and distinct nature of the important habitats in the areas of concern (high relief sand ridge and trough complexes and Lobster Hole). Although the DEIS acknowledges the high value of these areas the analysis treats them as equal to all other habitats in the project area and region. Second the DEIS suggests that the habitat conversion resulting from the placement of WTGs and scour protection is without any adverse effects and may be more beneficial than avoiding development within the existing fully functional habitats. We are concerned with this characterization as it does not comprehensively address differential impacts to habitats and species groups. We recommend the analysis in the FEIS be updated to appropriately reflect all potential impacts of the project including</p>	<p>Section 3.5.2, <i>Benthic Resources</i>, of the Final EIS describes potential impacts of the project including adverse impacts from habitat conversion. The level of analysis and detail is commensurate with other BOEM offshore wind EISs.</p> <p>Regarding Alternative C4, when BOEM determines if something is a mitigation measure or an alternative, it depends on the scale and intensity of the action. If what is being asked would remove or move multiple turbines and greatly physically change a project BOEM looks at it as an alternative, but if it would not remove or move multiple turbines or greatly physically change the project then it is typically analyzed as a mitigation measure. With the C4 alternative, it allows for the micrositing of multiple WTGs and an OSS (which is a large project change) and is different from the alternatives that include turbine removal. Due to this, BOEM decided that this was better as an alternative than a mitigation measure.</p>

Comment	Response
<p>adverse impacts from habitat conversion so that the FEIS provides full disclosure of all potential impacts of the project. Finally, we do not consider Alternative C4 to be a distinct alternative as it focuses on micrositing which is a mitigative measure that should be considered for every WTG OSS and cable (inter-array inter-link and export).</p>	
<p>Alternatives Analysis. In addition to the analysis of Alternative C, we have a number of concerns with how the alternatives are analyzed in the DEIS. First the range of reasonable alternatives is not clear. The DEIS indicates without specificity that some combinations of sub-alternatives may not meet the purpose and need in which case they would not be reasonable alternatives that could be selected. We request that BOEM clarify the range of reasonable alternatives in the FEIS by providing a clear summary of which alternatives and sub-alternatives can be combined into feasible alternatives that would meet the purpose and need and therefore could be selected as well as identifying those combinations that could not. This would clarify the impact analysis and aid in comparing expected effects of each combination of sub-alternatives that could be selected.</p>	<p>As indicated in the Draft EIS Section 2.1, <i>Alternatives</i>, “BOEM may “mix and match” multiple listed Draft EIS alternatives to result in a preferred alternative.” Alternatives were reviewed using BOEM’s screening criteria, presented in Section 2.2, <i>Alternatives Considered but Not Analyzed in Detail</i>. Alternatives that were found to be infeasible or did not meet the purpose and need were dismissed from detailed analysis. Based on public input on the Draft EIS and the analysis of impacts of the alternatives, BOEM selected the Preferred Alternative, which is identified in the Final EIS.</p> <p>The Preferred Alternative must meet the purpose and need in order for it to be selected by BOEM.</p>
<p>We recommend the analysis of action alternatives be enhanced and supplemented with more focused project-level impacts analyses. The DEIS includes information under the No Action Alternative but does not incorporate a similar level of information into the evaluation of each individual action alternative. Rather analyses for each action alternative refer back to information and citations provided in the No Action analysis. We recommend that impacts of each action alternative be contextualized and analyzed to the project area and scale and not simply as a subset or smaller percentage of all ongoing or planned activities in the region (i.e., as compared to the No Action Alternative). Such an approach would provide a clear distinction between alternatives and give the reader an understanding of the impacts of each individual action alternative.</p>	<p>BOEM believes the analysis in the Draft EIS provided appropriate level of detail and comparative analysis among alternatives in order for the public and decision maker to distinguish the impacts between alternatives. The level of analysis and detail by alternatives is commensurate with other BOEM offshore wind EISs.</p>
<p>Alternative F which considers different foundation types would particularly benefit from a more detailed discussion and analysis of impacts. The analysis does not provide for a clear distinction of differences among the sub alternatives and the proposed action. Further there are inconsistencies in the DEIS related to the Alternative F analysis. Some sections of the DEIS indicate that although the Alternative F sub-alternatives are for a single foundation</p>	<p>The EIS analyzes the maximum potential impacts on each environmental resource from each type of foundation. A representation of the impacts that could occur given the choice of foundation type per project can be found in Table 2-5 in Chapter 2, <i>Alternatives</i>. The EIS analysis is consistent with the MMPA and ESA. While the EIS analyzes each foundation type, a single WTG foundation type will be used per project.</p>

Comment	Response
<p>type it is possible that the project will in fact use a combination of foundation types for WTGs within the lease area. This inconsistency should be addressed to provide a clear and accurate description of the different alternative options and a robust analysis of the different impacts associated with each sub-alternative's foundation type. Furthermore the structure of Alternative F which is meant to provide an analysis of the maximum potential impact from the use of each foundation type does not address the importance of the specific location where the WTGs are placed. The DEIS does not acknowledge how impacts may vary depending on the habitat or location of the different foundation types. Finally the analysis of impacts from foundation types focuses entirely on one factor - acreage of area disturbed (i.e. benthic habitat) - but does not consider other anticipated impact producing factors (IPFs) that may affect pelagic habitats (i.e. turbidity noise presence of structures-altered hydrodynamics). The analysis of Alternative F should be expanded beyond the simple comparison of acreage disturbed or converted to consider the effects of the different foundation types on all the resources including pelagic habitat. We also note that if Alternative F is intended to reflect a scenario with multiple WTG foundation types per project phase then it is inconsistent with the proposed actions being considered under the MMPA and ESA which both consider only a single WTG foundation type per project (i.e. Project 1 is all monopiles Project 2 is monopiles or jackets).</p>	
<p>We continue to recommend BOEM ensure the FEIS includes a full analysis of impacts to all affected fisheries including those not fully reflected in Greater Atlantic Regional Fisheries Office logbook data and impacts to shoreside support services and associated communities. BOEM's draft fisheries mitigation guidance can provide examples of analysis to address such omissions particularly data sources for other fisheries and methods to estimate community impacts. We also encourage BOEM to reassess previous assumptions about the degree and duration of fishery impacts which underestimate impacts to fishery operations particularly those associated with construction activities including vessel activity scour protection and cable emplacement (e.g., boulder relocation trenching and armoring).</p>	<p>As described in Table 3.6.1-39, Atlantic Shores will conduct an analysis of impacts on shoreside seafood businesses adjacent to ports listed in Table 3.6.1-15.</p> <p>Construction-related impacts are generally expected to last no longer than the duration of construction activities and are therefore classified as short-term (i.e., less than 3 years). This includes construction-related vessel traffic, seafloor preparation, installation of foundations, and emplacement of cables.</p>
<p>The DEIS relies on the development of a compensation fund by Atlantic Shores within one year after the approval of the COP yet still concludes that such indeterminate plans will reduce fishery impacts. As proposed it is</p>	<p>BOEM does not require a stakeholder review to be incorporated into the development of the fisheries compensation fund. However, the developer is required to have a fisheries communication plan. As described in the</p>

Comment	Response
<p>unclear whether affected fishery participants and coastal communities would be involved in either the development or the review of the compensation fund developed by Atlantic Shores. Further the proposed timeline for compensation plan review could limit the likelihood that any substantive changes to the fund would result from comments submitted. As we have previously noted we recommend BOEM require the development of compensation plans before finalizing the FEIS and COP approval to ensure the FEIS fully evaluates and mitigates expected fishery impacts.</p>	<p>commercial fisheries engagement strategies for the Atlantic Shores Fisheries Communication Plan, Atlantic Shores would engage with fishermen to establish a set of guiding principles and procedures for determining any required mitigation, including fisheries compensation claims. The Atlantic Shores South Fisheries Communication Plan is available at the link below: https://www.atlanticshoreswind.com/wp-content/uploads/ASOW_FCP_Version_1.3-rev.pdf.</p> <p>As described in Table 3.6.1-39, Atlantic Shores must commit to establishing a fisheries compensation fund that is consistent with BOEM’s draft Guidance for Mitigating Impacts to Commercial and Recreational Fisheries and is based on the revenue exposure analysis for fisheries summarized in Section 3.6.1, <i>Commercial Fisheries and For-Hire Recreational Fishing</i>, of the EIS. This BOEM-proposed mitigation measure establishes the framework that Atlantic Shores will use to develop the fisheries compensation fund.</p>
<p>We recommend that BOEM review NMFS comments on the August 2022 preliminary DEIS as well as comments we made to improve analytical approaches for other recent offshore wind projects including the Ocean Wind EIS and incorporate those into the FEIS. Below we highlight several analytical issues that we recommend be resolved in the FEIS. We offer additional examples of the issues identified below in the attachment spreadsheet.</p> <p>Support for conclusions - We recommend BOEM thoroughly review the rationale for each impact level conclusion to ensure conclusions are fully supported by the text and the best available information. Impact determinations should also be consistent with the definition of the impact conclusion; for example, the DEIS states some impacts are negligible despite the text providing supporting rationale for measurable project impacts. We also recommend BOEM compare impact determinations across Alternatives to ensure that the determinations are logical when considering the impacts described. Missing analyses - There continue to be important analyses and conclusions that are absent from the DEIS. For example, we continue to encourage BOEM to include an analysis of the potential impacts from wind wake effects from turbine placement and operation. Document inconsistencies - The level of analysis by project area and resources is inconsistent throughout the document. Some sections have more thorough</p>	<p>BOEM took into consideration and addressed comments received from all cooperating agencies on the Preliminary Draft EIS. In addition, BOEM strived to incorporate all applicable edits and comments received on other recently completed or ongoing BOEM environmental reviews into the Atlantic Shores South EIS.</p> <p>In light of comments received on the Draft EIS, BOEM has revisited the impact level determinations and revised where needed.</p> <p>BOEM believes the analysis in the EIS provided appropriate level of detail and comparative analysis among alternatives in order for the public and decision maker to distinguish the impacts between alternatives. The level of analysis and detail by alternatives is commensurate with other BOEM offshore wind EISs.</p> <p>A discussion on wind wake effects have been added to Sections 3.5.5, <i>Finfish, Invertebrates, and Essential Fish Habitat</i> and 3.5.6, <i>Marine Mammals</i>, of the Final EIS.</p>

Comment	Response
<p>evaluations but those analyses do not always align with the impact conclusion; while other sections are much more limited in the analysis of potential project impacts. We recommend all anticipated IPFs be fully analyzed for each resource area and for each alternative.</p>	
<p>Mitigation measures – We recommend the FEIS analyze and describe the anticipated impacts of the proposed action mitigation measures considered to be part of that action the effectiveness of these measures the expected impacts if mitigation methods are applied as well as the likelihood that such measures will be required and implemented. This structure is important to clarify the final impact determinations and is not currently applied in the DEIS. For example, the DEIS lists proposed mitigation measures for impacts to benthic resources and points the reader to additional measures listed in a table in an appendix. There is no analysis or discussion regarding how the impacts are mitigated by the application of these measures. While Appendix G lists possible additional mitigation measures these measures are not all analyzed in the DEIS. The DEIS still contains sections where BOEM is relying on mitigation measures to reduce impacts but does not specify which of these measures if any are factored into the impact determination.</p>	<p>EIS Chapter 3, <i>Affected Environment and Environmental Consequences</i>, provides a summary of proposed mitigation measures for each environmental resource. Additional detail on BOEM-proposed mitigation is included in EIS Appendix G, <i>Mitigation and Monitoring</i>, and in BOEM’s BA. Atlantic Shores has also proposed many measures to avoid and minimize impacts on marine mammals, including pile-driving impacts as described in Appendix G and the BA. The Final EIS incorporates the results of BOEM’s consultation with NMFS under the ESA and NMFS’s Biological Opinion. This level of detail and analysis is commensurate with other BOEM EISs.</p>
<p>In addition, assumptions about the success of mitigation measures are made despite a lack of evidence or adequate detail regarding specific mitigation measures (i.e., fisheries and resource survey impact mitigation).</p>	<p>BOEM used best practices as described in Appendix G, <i>Mitigation and Monitoring</i>, regarding mitigation measures. The Final EIS incorporates the results of BOEM’s consultation with NMFS under the ESA and NMFS’s Biological Opinion. This level of detail and analysis is commensurate with other BOEM EISs.</p>
<p>Impact-Level Definitions - The impact-level definitions for some resources in combination with the defined area of analysis for each resource do not fully consider variations in the intensity or scale of impacts and how these factors may affect resources at the project regional or population levels. The importance of the seasonal timing or temporal duration of impacts to resources is not clearly explained through the impact terminology or applied to the analysis. In these instances the analyses do not provide a clear picture of what the effects of those spatial impacts and temporal losses mean for NOAA trust resources and the communities that rely on them. Consideration of both the scale and intensity of impacts in the definition and application of the significance criteria would allow for accurate impact conclusions and provide clear distinctions among action alternatives.</p>	<p>BOEM agrees that the alternatives vary in impacts based on the location that the IPFs would occur and has described those impacts to the extent the information is available.</p>

Comment	Response
<p>Cumulative Analysis - The cumulative analysis in the DEIS is very general, and does not provide a meaningful analysis of how this project, in combination with adjacent and nearby projects, will impact marine trust resources, fishing operations, and affected fishing communities along New Jersey and in the New York Bight. While the cumulative analysis includes areas beyond these areas, the effects to this specific region from large-scale development are not analyzed in the document; we recommend this gap be addressed in the FEIS.</p>	<p>The Project-specific port analysis is available in Section 3.6.1, Commercial Fisheries and For-Hire Recreational Fishing of the EIS and BOEM has proposed a fisheries compensation measure that will require the developer to incorporate shore side support services at impacted ports into their Direct Fisheries Compensation Fund.</p>
<p>NOAA Scientific Surveys. We continue to have significant concerns related to the major impacts offshore wind development will have on our NOAA scientific surveys. As we have discussed in previous collaborations on survey mitigation plans mitigation measures that address both project-specific survey mitigation as well as cumulative effects of offshore wind development on these long- standing surveys must be included as a mitigation measure to be consistent with the NMFS/BOEM Final Survey Mitigation Strategy for the Northeast U.S. Region. We request that BOEM incorporate the project-specific mitigation measures into the FEIS that were developed and agreed upon by the joint-agency Northeast Survey Impact Mitigation Team.</p>	<p>BOEM has committed to working with NOAA to implement the Federal Survey Mitigation Strategy program. As of May 2024, implementation is pending. As discussions between BOEM and NOAA on implementation of the program continue, specific details of appropriate mitigation measures will be added to the environmental analysis. In Appendix G, <i>Mitigation and Monitoring</i>, of the Final EIS, BOEM has indicated that the individual survey mitigation plans associated with the NOAA and BOEM Federal Survey Mitigation Program have not been developed and funding is not currently available to support survey mitigation plans to date.</p>
<p>MMPA Incidental Take Authorization As you are aware after independent review and a determination of sufficiency NMFS intends to adopt this FEIS for purposes of fulfilling our independent responsibilities under the NEPA to support our decision of whether to issue an incidental take authorization to Atlantic Shores allowing the take of marine mammals. To strengthen the analysis directly related to our action for the purposes of adopting the EIS NMFS recently provided BOEM extensive substantive edits to the Marine Mammals section of Chapter 3 of the Ocean Wind draft FEIS. In addition to ensuring the format and structure follow the previously agreed upon approach and to ensure we can adopt these EISs we recommend that the content technical analysis and impact determination framework provided on the Ocean Wind draft FEIS be incorporated into all future EISs including the ASOW FEIS. This includes but is not limited to an additional determination on the incremental effects of the No Action Alternative (i.e., not approving the COP) on marine mammals that is comparable to the incremental effect determinations for each Alternative and that all incremental impact determinations are included in the summary table as this table is applied to the Record of Decision. We also recommend that the Acoustic Appendix that</p>	<p>The section has been reviewed and revised as necessary to ensure that the Atlantic Shores EIS is presenting the same level of information and relying on the same literature as the Ocean Wind Final EIS. Incremental effects of the No Action Alternative have been added to the Conclusions subsection of Section 3.5.6.3. The background information from BOEM’s acoustic appendix was included in Section B.5 of the EIS’ Appendix B. Project-specific information has been added to Appendix B, Section 5.</p>

Comment	Response
<p>BOEM’s Center for Marine Acoustics developed be included as an appendix in the FEIS. Further there are inconsistencies in impact determinations within and across EISs without clear justifications. We recommend BOEM compare determinations across Alternatives within an EIS and among EISs. Where impact determinations differ clear reasoning for the variation(s) should be easily identifiable in the analysis. We request BOEM explain how the impact determinations within and across EISs are being considered relative to each other.</p>	
<p>Section Title: Introduction; Section: ES.1; Page: ES-1; PDF Page: 29; Comment from NMFS unless otherwise noted: Please edit the second paragraph to reflect the following for NMFS related content in this and future EISs "Cooperating agencies may rely on this EIS to support their decision-making. In conjunction with submitting its COP Atlantic Shores applied to the National Oceanic and Atmospheric Administration’s (NOAA’s) National Marine Fisheries Service (NMFS) for an incidental take authorization in the form of a Letter of Authorization for Incidental Take Regulations under the Marine Mammal Protection Act (MMPA) of 1972 as amended (16 USC 1361 et seq.) for incidental take of marine mammals during Project construction. Under the MMPA NMFS is required to review applications and if appropriate issue an incidental take authorization. NMFS intends to adopt the Final EIS if after independent review and analysis NMFS determines the Final EIS to be sufficient to support its separate proposed action and decision to issue the authorization if appropriate."</p>	<p>Edits proposed were incorporated into the text.</p>
<p>Section Title: Alternatives Analyzed in Detail; Section: 2.1; Page: 2-1; PDF Page: 63; Comment from NMFS unless otherwise noted: It is not clear which of these alternative combinations are actually viable combinations. In the third paragraph in this section the DEIS notes that some combinations of sub-alternatives may not meet the purpose and need. We request BOEM clarify the range of reasonable alternatives in the FEIS by providing a clear summary of which alternatives and sub-alternatives can be combined into feasible alternatives that could be selected. This would assist in clarifying the impact analysis and comparing expected effects of each combination of alternatives that could be selected.</p>	<p>As indicated in the Draft EIS Section 2.1, Alternatives, “BOEM may “mix and match” multiple listed Draft EIS alternatives to result in a preferred alternative.” Alternatives were reviewed using BOEM’s screening criteria, presented in Section 2.2, <i>Alternatives Considered but Not Analyzed in Detail</i>. Alternatives that were found to be infeasible or did not meet the purpose and need were dismissed from detailed analysis. Based on public input on the Draft EIS and the analysis of impacts of the alternatives, BOEM selected the Preferred Alternative, which is identified in the Final EIS.</p> <p>The Preferred Alternative must meet the purpose and need in order for it to be selected by BOEM.</p>

Comment	Response
<p>Section Title: Alternatives Analyzed in Detail; Section: 2.1; Page: 2-2; PDF Page: 64; Comment from NWS: Table 2-1. The plans mention the building of one permanent 'met (observations) tower' and 4 temp metocean buoys. Please include more information regarding actual meteorological instruments; what data will be collected how (and how often) the data will be collected what the data will be used for (and who has access) how long they plan to use the temporary buoys more information about the instruments their range of acceptable errors (i.e., sensors with a certain degree of error tolerance) and the apparatus holding them (and keeping out the weather for more precise measurements). It is unclear if this information is already contained in appendices; if so, please cite to the precise location(s) in the appendices.</p>	<p>Additional information discussing the meteorological tower and metocean buoys can be found in Volume I Section 4.6 of the Construction and Operations Plan. The level of analysis and detail is commensurate with other BOEM offshore wind EISs.</p>
<p>Section Title: Construction and Installation; Section: 2.1.2.1; Page: 2-8; PDF Page: 70; Comment from NMFS unless otherwise noted: Geotechnical surveys and all other habitat surveys should be completed before NEPA analyses occur. Impacts of each alternative cannot be fully considered until surveys are complete and the existing environments are fully understood.</p>	<p>Atlantic Shores Offshore Wind conducted site assessment surveys of the offshore export cables and Lease Area as described in their Site Assessment Plan. The information gathered as part of this baseline data collection was used to inform the COP and was included in COP appendices (for example Appendix II-G, <i>Benthic Reports</i>).</p>
<p>Section Title: Alternative C: Habitat Impact Minimization; Section: 2.1.3; Page: 2-25; PDF Page: 87; Comment from NMFS unless otherwise noted: Please remove or edit the sentence "Although the overall artificial reef effect would be decreased by reducing the total number of WTGs in the Lease Area the biological benefits of preserving natural fish habitat may be beneficial." This sentence inaccurately implies that habitat conversion through introduction of artificial materials (referred to as "reef effect") will result in net beneficial impacts. This logic fails to incorporate the various adverse impacts of habitat conversion such as mortality of soft-bottom species facilitation of invasive species spread overpredation changes in hydrodynamics and changes to biogeochemical parameters in both the sediment and surrounding water column (Lefaible et al. 2023; Reubens et al. 2013). As such "reef effects" should be viewed as having both potential adverse and beneficial impacts and should not be considered a net benefit. Further it is inappropriate to imply that emplacement of WTGs and the resulting habitat conversion would be as or more beneficial than preserving natural fish habitat. Please modify accordingly.</p>	<p>The role of offshore structures as artificial reefs is well documented, and they attract invertebrates and pelagic and demersal fish, many species of which feed on filter-feeding heterotrophs. BOEM is not aware of any scientific studies documenting a decrease in plankton abundance in the presence of other offshore structures, such as oil and gas rigs in locations such as the Gulf of Mexico, which currently has over 4,000 rigs.</p>

Comment	Response
<p>Section Title: Non-Routine Activities and Low-Probability Events; Section: 2.3; Page: 2-61; PDF Page: 123; Comment from NWS: The Severe weather and natural events sub-section mentions that this area is 'subject to extreme weather such as storms and hurricanes which may impose hydrodynamic load and sediment scouring.' It goes on to expand on hurricane/tropical climatologies and frequencies. However, this area is notorious for powerful winter weather including hurricane force winds high seas and frozen precipitation (all at the same time). We recommend BOEM to not overlook 'severe weather' as just thunderstorms and/or tropical events and provide additional discussion. On page 3.4.2-21 there is slightly more discussion about the potential impact of winter storms. There should be more in-depth discussion of the developer's operations and/or infrastructure could be adversely impacted.</p>	<p>Additional text was added to Section 2.3, <i>Non-Routine Activities and Events</i>, of the EIS, describing how WTGs are designed to sufficiently withstand severe storm events.</p>
<p>Section Title: Global comment; Comment from NMFS unless otherwise noted: Each alternative should be evaluated fully and equally under NEPA. As such alternatives C D E and F should all have their own separate analysis and should include distinct and robust discussions of each potential IPF for that action.</p>	<p>Within each environmental resource, the potential impacts of each alternative are evaluated relative to the potential impacts discussed for the Proposed Action. Where relevant, the analysis includes quantitative discussion of number of WTGs, acres or linear extent of habitat impacted, etc. Per 40 CFR §1502.2(a), an EIS shall not be encyclopedic. In addition, per 40 CFR §1502.7, an EIS cannot exceed 300 pages. BOEM is mindful of both requirements and as such, determined that references can be made to previous discussions as opposed to repeating text. Cooperating agencies approved this format.</p>
<p>Section Title: Global Comment; Comment from NMFS unless otherwise noted: The sections appear to reach conclusions that are inconsistent with the limited discussions of potential impacts within each section appear to inappropriately discount/minimize potential impacts too often err on the side of little/no impacts especially when there are unknowns and are inconsistent with definitions of both adverse and beneficial impacts. Please address and modify impact conclusions to more closely reflect realistic impacts evidenced by best available science.</p>	<p>BOEM believes the analysis in the Draft EIS provided appropriate level of detail and comparative analysis among alternatives in order for the public and decision maker to distinguish the impacts between alternatives. The level of analysis and detail by alternatives is commensurate with other BOEM offshore wind EISs.</p>
<p>Section Title: Global Comment; Comment from NMFS unless otherwise noted: A deeper analysis of the impacts of altered hydrodynamics on benthic resources are needed for all alternatives. Please incorporate all best available science into the analyses including Christiansen et al. 2022; Dorrell et al. 2022; Miles et al. 2021; van Berkel et al. 2020; and Chen et al. 2021.</p>	<p>Section 3.5.2, <i>Benthic Resources</i>, of the Draft EIS includes reference to Christiansen et al. 2022, Dorrell et al. 2022, and Chen et al. 2021. Further discussion of the possible atmospheric and hydrodynamic impacts from the presence of foundation structures and operational wind turbine generators, as well as data gaps, has been added to Section 3.5.2,</p>

Comment	Response
<p>Section Title: Impacts of Alternative A – No Action on Benthic Resources; Section: 3.5.2.3; Page: 3.5.2-11; PDF Page: 251; Comment from NMFS unless otherwise noted: You have stated potential adverse impacts of the No Action Alternative however it is important to note beneficial impacts of this alternative as well (relevant to the specific Project area). This includes avoiding disruption of existing benthic habitats and mortality of benthic fauna and reducing the risk from all potential IPFs. The No Action Alternative should not just consider impacts as a fraction of all other ongoing or planned activities but also as they pertain to the localized Project area and the proposed action.</p>	<p>The No Action Alternative consists of the current baseline conditions as influenced by past and ongoing activities and trends and serves as the baseline against which all action alternatives are evaluated. The EIS also separately analyzes the continuation of all other existing and reasonably foreseeable future activities. A detailed description of BOEM’s methodology for assessing impacts is provided in Section 1.6, <i>Methodology for Assessing Impacts</i>, of the EIS.</p>
<p>Section Title: Description of the Affected Environment and Future Baseline Conditions; Section: 3.5.2.1; Page: 3.5.2-5; PDF Page: 245; Comment from NMFS unless otherwise noted: This section states "the only complex hard bottom habitat in the Project area is provided by multiple shipwrecks that are located in and along its borders and three artificial reefs (the Atlantic City reef located near the southwest corner of the WTA and the Manasquan Inlet and Axel Carlson reefs located along the outer borders of the Monmouth ECC." This is incorrect. These are perhaps the only man-made or artificial hard structures present but per CMECs (as stated in our Updated Recommendations for Mapping Fish Habitat letter which was sent to BOEM on March 21 2021 and as presented in Appendix II -J2 of the COP) complex habitat also includes hard bottom substrate including gravels gravel mixes gravelly and shell as well as hard bottom substrates with epifauna or macroalgae cover and vegetated habitats. Several of these habitats are present in the Project area. Please modify the language to include these various definitions of complex habitat identify areas/amounts where each are present in the Project area and ensure consistency between the information presented in the DEIS and the EFH assessment.</p>	<p>The text has been modified as follows: "Sediments with greater than 5% and less than 80% gravel are considered coarse sediments as per the CMECS and as complex habitat under NMFS EFH recommendations. Other complex hard bottom habitat in the Project area is provided by multiple shipwrecks that are located in and along its borders, and three artificial reefs (the Atlantic City reef located near the southwest corner of the WTA, and the Manasquan Inlet and Axel Carlson reefs located along the outer borders of the Monmouth ECC) (COP Volume II, Appendix II-G2; Atlantic Shores 2024)." Locations of sediment samples and their CMECS substrate categories are presented in Tables 3.5.2-1 and 3.5.2-2, and the reader is also referred to COP Volume II, Appendix II-G3 (Benthic Assessment Report). Please note that sample locations in the Atlantic Shores North WTA that were mistakenly added to Table 3.5.2-1 have been removed.</p>
<p>Section Title: Impacts of Alternative B – Proposed Action on Benthic Resources; Section: 3.5.2.5; Page: 3.5.2-28-38; PDF Page: 268-278; Comment from NMFS unless otherwise noted: As mentioned previously in our Cooperating Agency DEIS comments characterizing the "incremental" contributions of accidental releases cable emplacement discharges/intakes EMF etc. at Atlantic Shores as a fraction of the contributions from all ongoing</p>	<p>Section 3.5.2.5 does discuss the IPFs and related impacts of the Proposed Action on benthic resources in the Project area. Sentences in the Accidental Releases, Noise, and Connected Action – Accidental Releases IPFs that contained the word "incremental" and comparisons to the No-Action Alternative have been revised to remove the word "incremental" in comparison to the No Action Alternative.</p>

Comment	Response
and planned activities is an inappropriate approach to this analysis. Please modify to accurately represent consequences of the IPFs on the specific benthic resources present in the Project area.	
Section Title: Impacts of Alternative B – Proposed Action on Benthic Resources; Section: 3.5.2.5; Page: 3.5.2-31; PDF Page: 271; Comment from NMFS unless otherwise noted: Cable emplacement and maintenance- Please provide a discussion on impacts of cable emplacement to complex habitat which exist within proposed cable locations (please see comment above regarding definitions of complex habitat). Additionally, it is stated "if the presence of an existing cable prevents Atlantic Shores' cable from being buried to its target burial depth it may be necessary to place cable protection on top of the cable" however there is no discussion of potential impacts of additional cable protection on benthic resources. Please address these potential additional impacts.	A discussion of the impacts of cable laying to complex habitat located along the ECCs has been added to the Cable Emplacement and Maintenance IPF. The potential impacts of cable protection are discussed under the Presence of Structures IPF.
Section Title: Impacts of Alternative B – Proposed Action on Benthic Resources; Section: 3.5.2.5; Page: 3.5.2-33; PDF Page: 273; Comment from NMFS unless otherwise noted: Discharges/Intakes - Please provide more information on discharge and intake specifics of the Project including where the outflow and inflow pipes will be located and at what depths.	The Discharges/intakes IPF refers to discharges and intakes from Project-related vessels. The location of outflow and inflow pipes will vary by vessel type, but due to the water depths of the offshore Project area the vessel intake/outflow pipes will not be located near the bottom substrate except in along ECCs approaching landfall. Cooling water intakes for HVDC converters are discussed in Section 3.5.5, <i>Finfish, Invertebrates, and Essential Fish Habitat</i> .
Section Title: Impacts of Alternative B – Proposed Action on Benthic Resources; Section: 3.5.2.5; Page: 3.5.2-33; PDF Page: 273; Comment from NMFS unless otherwise noted: EMFs- Please clarify whether 230–275 kV HVAC or 320–525 kV HVDC offshore export cables will be used under this alternative as this will determine how many export cables will be implemented (ranging anywhere from two to eight) and thus will influence the level of impacts on benthic resources which should be analyzed accordingly. Additionally, acknowledgement that DC cables are used to transmit higher power electricity and emit stronger magnetic fields than AC cables of similar voltage should be included and the resulting differing levels of potential impacts should be discussed.	The type and number of offshore export cables have not been finalized at this time. The EMF and cable heat IPF under Section 3.5.2.3, <i>Impacts of Alternative A – No Action on Benthic Resources</i> does include a discussion in the differences between HVAC and HVDC and the type and intensity of the EMF they produce. Text has been added to this section and Section 3.5.2.5 stating that cable shielding required by BOEM would block electric fields emitted by HVDC and HVAC cables and that a weak induced electric field would be present if HVAC cables are used. Both sections discuss the impacts of any remaining EMF on benthic invertebrates.
Section Title: Impacts of Alternative B – Proposed Action on Benthic Resources; Section: 3.5.2.5; Page: 3.5.2-37; PDF Page: 277; Comment from	The impact determination for Presence of Structures associated with Alternative B in the <i>Conclusions: Impacts of Alternative B – Proposed Action</i>

Comment	Response
<p>NMFS unless otherwise noted: Presence of Structures- this section states that impacts due to habitat conversion would range from negligible to moderately beneficial however this determination fails to incorporate the various adverse impacts of habitat conversion (some of which you identify in your discussion) such as mortality of soft-bottom species facilitation of invasive species spread changes in hydrodynamics impacting benthic habitat and changes to biogeochemical parameters in both the sediment and surrounding water column (Lefaible et al. 2023; Reubens et al. 2013). Further you state impacts due to habitat conversion would be localized however this is unfounded as benthic habitat modification associated with offshore wind structures could have a direct effect on an area up to 250 m away from foundations and may also affect adjacent (mid- and far-field) environments (Lefaible et al. 2023; 2018). Please address and modify impacts determinations accordingly.</p>	<p>subsection of Section 3.5.2.6 was made in consideration of the potential impacts of hydrodynamic alterations, benthos mortality, and invasive species, as discussed in the analysis in this section. The commenter correctly noted that the determination in this section was stated as “negligible to moderately beneficial.” As supported by the analysis in the Presence of Structures section, this should state “minor to moderately beneficial.” This has been corrected. The increases in sediment organic content and macrobenthic abundance and species richness occurring near jacket foundations described in Lefaible et al. (2018 and 2023) are generally considered to be positive impacts, due to the increased prey availability for higher trophic-level organisms. It should be noted that these effects were dependent on foundation type, as they were only observed in relation to jacket foundations, and not monopile foundations. The beneficial aspect of the reef effect is supported by Reubens et al. (2013), which documented increased CPUE of Atlantic cod and pouting at WTG-related hard substrates as compared to shipwrecks and sandy bottom habitats. The three referenced papers (Lefaible et al. 2018; 2023 and Reubens et al. 2013) support our determination of moderate beneficial effects. “Localized” is a relative term when describing the extent of habitat modification as an extent of 250m from foundations is “localized” when compared to the distances between WTG foundations and the overall size of the Lease Area.</p>
<p>Section Title: Impacts of Alternatives C D E; Section: 3.5.2.7; Page: 3.5.2-47; PDF Page: 287; Comment from NMFS unless otherwise noted: Conclusions- NMFS does not agree that "the impacts on benthic resources resulting from individual IPFs associated with construction and installation O&M and decommissioning of the Project under Alternatives C D and E would be the same as or substantially similar to those described under the Proposed Action." As stated in the DEIS "Alternative C would reduce the impacts on the valuable habitat in AOC 1 AOC 2 and/or the demarcated sand ridge complex" which constitutes a measurable reduction in impacts to benthic resources in the Project area as compared to the Proposed Action. Please ensure each alternative is appropriately contextualized or analyzed in a way that reflects the value of the specific habitat areas covered.</p>	<p>The value of the habitats contained in AOC 1, AOC 2, and the demarcated sand wave complex are described in Section 3.5.2.1, <i>Description of the Affected Environment and Future Baseline Conditions</i> and Section 3.5.2.7, <i>Impacts of Alternatives C, D, and E</i>. The impact designations of the Alternatives consider overall project impacts and the reduction of impacts to these habitats are acknowledged in the text.</p>
<p>Section Title: Impacts of Alternative F on Benthic Resources; Section: 3.5.2.8; Page: 3.5.2-47-3.2.5-48; PDF Page: 287-288; Comment from NMFS unless</p>	<p>Table 3.5.2-5 Comparison of alternatives has been added to Section 3.5.2, <i>Benthic Resources</i>. This table details the number of WTGs, the benthic</p>

Comment	Response
<p>otherwise noted: Each foundation type under this alternative should be analyzed individually for impacts to benthic resources within the Project area. Additionally, a more robust discussion on impacts of pile driving on benthic resources using the best available science is needed.</p>	<p>footprint of foundations and associated scour protection, and the interarray cable length for each Alternative. Unfortunately, there are few studies on the impacts of substrate-borne vibrations resulting from pile-driving activities to benthic invertebrates and the current information presented in the EIS represents the best available science.</p>
<p>Section Title: Global comment; Comment from NMFS unless otherwise noted: Each alternative should be evaluated fully and equally under NEPA. As such alternatives C D E and F should all have their own separate analysis and should include distinct and robust discussions of each potential IPF for that action.</p>	<p>Each of the Project Alternatives have been evaluated for Benthic Resources consistent with the approach used for each of the other resources assessed in the EIS. That is, the potential impacts of each alternative are evaluated relative to the potential impacts discussed for the Proposed Action. Where relevant, the analysis includes quantitative discussion of a number of WTGs, acres or linear extent of habitat impacted, etc. Per 40 CFR §1502.2(a), an EIS shall not be encyclopedic. In addition, per 40 CFR §1502.7, an EIS cannot exceed 300 pages. BOEM is mindful of both requirements and as such, determined that references can be made to previous discussions as opposed to repeating text. Cooperating agencies approved this format.</p>
<p>Section Title: Global Comment; Comment from NMFS unless otherwise noted: As we have noted in our comment letter each Alternative should receive its own complete thorough evaluation of IPFs and the reader should not be referred back to the No Action Alternative section for this information (e.g., "As described under the No Action Alternative...") Further, the No Action Alternative section currently analyzes the Proposed Action in combination with all planned and ongoing activities which is a much larger scope/scale than any individual Alternative of the Proposed Action. By stating impacts are "similar to" those listed under the No Action Alternative dilutes the potential impacts of the Proposed Action by implying impacts to the area will effectively be "not as bad" or negligible compared to the large scale planned or ongoing activities. For example, under "Lighting" you state "the incremental contribution associated with the concurrent operation of up to 16 Project vessels during construction and installation represents a small fraction of the lighting expected under the No Action Alternative." This is an incorrect approach to analysis. Please ensure each Alternative receives an analysis as it pertains to the described Project components and Project area for that specific Alternative exclusive of other ongoing or planned activities. Impacts in combination with or in comparison to ongoing or planned</p>	<p>See response to comment BOEM-2023-0030-1811-0035.</p> <p>The discussion included in the No Action Alternative section does not include the Proposed Action, but rather considers the baseline plus ongoing activities. The discussion in the cumulative impacts section of the No Action Alternative includes consideration of the No Action Alternative plus planned offshore and non-offshore activities. The impacts of the Proposed Action alone are analyzed in the Impacts of the Proposed Action section. The discussion in the Cumulative Impacts of the Proposed Action includes consideration of the Proposed Action plus the Cumulative Impacts of the No Action Alternative.</p> <p>The sentence noted under "Lighting" was deleted from Section 3.5.5, <i>Finfish, Invertebrates, and Essential Fish Habitat</i>, as were similar instances within that section and others throughout the EIS.</p>

Comment	Response
<p>activities (incremental contributions of the Proposed Action) can be provided the Cumulative Impacts section of each Alternative analysis.</p>	
<p>Section Title: Description of the Affected Environment and Future Baseline Conditions; Section: 3.5.5.1; Page: 3.5.5-4; PDF Page: 346; Comment from NMFS unless otherwise noted: Regional Setting- this paragraph focuses on the fact that sand dominates the Project area but fails to adequately describe the gravelly or gravelly/sand mixed habitat present which constitutes complex habitat and has important value for finfish invertebrates and EFH species. Complex Habitat is defined as substrates composed of gravelly gravel sand or gravel/gravel mixes in accordance with CMECs and complex habitat and Heterogeneous Complex Habitat is defined as areas of interbedded mixes that contain a base of either soft or complex with indecipherable interface between two distinct classes (see Attachment 1 to Appendix II -J2 of the COP or our Recommendations for Mapping Fish Habitat letter which was sent to BOEM on March 21 2021 for more detail). Please modify to better describe the differing types of complex habitat and their prevalence in the area so that impacts to finfish invertebrates and EFH species can be more accurately analyzed. Further please correct the existing inconsistencies on presence/types of complex habitat in the Project area between the DEIS and the EFH Assessment</p>	<p>Section 3.5.5.1 was revised to better summarize the results from the Sediment study and to describe complex habitats in the Offshore Project Area and geographic analysis area. Sections 3.5.5.3 and 3.5.5.5 were also revised to consider complex habitats. The description of the presence of other complex habitats in the WTA and geographic analysis area was also revised to be consistent with the EFH Assessment.</p>
<p>Section Title: Impacts of Alternative A – No Action on Finfish Invertebrates and Essential Fish Habitat; Section: 3.5.5.3; Page: 3.5.5-10; PDF Page: 352; Comment from NMFS unless otherwise noted: The purpose of this section should be to clearly evaluate the potential beneficial and adverse impacts of not carrying out the Proposed Action. Currently you state adverse impacts of other ongoing or planned activities that may impact resources however you fail to mention any potential benefits of this Alternative. This includes avoiding disruption of EFH habitat and HAPC as well as reducing the risk from all potential IPFs in the Project area. The No Action Alternative should not just consider impacts as a fraction of all other ongoing or planned activities but also as they pertain to the localized Project area and the Proposed Action independently.</p>	<p>The approach for evaluating impacts of Alternative A is based on the guidance template that was agreed upon by all cooperating agencies and is consistent across resource sections. The approach assumes that the current conditions and existing infrastructure/operations in the GAA would continue and that future development would move forward as planned. Accordingly, guidance under the EIS template has language that “Under the No Action Alternative, BOEM would not approve the COP, and the Project construction and installation, O&M, and conceptual decommissioning activities would not occur. Any potential environmental and socioeconomic impacts, including benefits, associated with the Project as described under the Proposed Action would not occur.”</p>
<p>Section Title: Impacts of Alternative B – Proposed Action on Finfish Invertebrates and Essential Fish Habitat; Section: 3.5.5.5; Page: 3.5.5-36; PDF Page: 378-380; Comment from NMFS unless otherwise noted: Cable</p>	<p>The impact determinations for cable emplacement and maintenance activities were added to the conclusions for Section 3.5.5.5.</p>

Comment	Response
<p>emplacement and maintenance- No clear impact determination is provided for this IPF. Please include this and ensure conclusions are adequately supported by discussions/analyses in preceding pages/subsections.</p>	
<p>Section Title: Impacts of Alternative B – Proposed Action on Finfish Invertebrates and Essential Fish Habitat; Section: 3.5.5.5; Page: 3.5.5-38; PDF Page: 380; Comment from NMFS unless otherwise noted: Cable emplacement and maintenance- This section states "impacts would be further minimized by seasonal work window restrictions that avoid construction during periods when sensitive species and life stages would be present in the Project area as feasible." Please expand on this or refer the reader to where they can find information on these work window restrictions that would be implemented and which species and life stages they would benefit.</p>	<p>This anticipated protection measure cannot currently be expanded. Atlantic Shores has indicated their commitment to adhering to time of year restrictions during construction as determined through consultations with USFWS and NMFS. In the COP, Atlantic Shores specifically committed to seasonal restrictions to construction activity in months from January to April. This specific construction window is intended to protect NARWs but would benefit spring migrating Atlantic sturgeon as well. This information has been added to Section 3.5.5.5. and throughout.</p>
<p>Section Title: Impacts of Alternative B – Proposed Action on Finfish Invertebrates and Essential Fish Habitat; Section: 3.5.5.5; Page: 3.5.5-39; PDF Page: 381; Comment from NMFS unless otherwise noted: Cable emplacement and maintenance- This section mentions heat emission from cables however no discussion of how heat emission would impact invertebrates, finfish or EFH is provided. Please include.</p>	<p>A short discussion was added to Sections 3.5.5.3 and 3.5.5.5 identifying vulnerable organisms (e.g., infaunal), potential chemical changes to sediments citing Meißner and Sordyl (2006), and potential avoidance by some species of areas where elevated temperatures occur.</p>
<p>Section Title: Impacts of Alternative B – Proposed Action on Finfish Invertebrates and Essential Fish Habitat; Section: 3.5.5.5; Page: 3.5.5-38; PDF Page: 380; Comment from NMFS unless otherwise noted: Discharges/Intakes - Please provide more information on discharge and intake specifics of the Project including where the outflow and inflow pipes will be located and at what depths. This information could potentially modify which species are impacted by discharges/intakes and should be addressed accordingly.</p>	<p>If HVDC technology is selected, Atlantic Shores anticipates the use of closed-loop cooling technologies, pending technical suitability and commercial availability, which would avoid the need for intakes and discharges.</p>
<p>Section Title: Impacts of Alternative B – Proposed Action on Finfish Invertebrates and Essential Fish Habitat; Section: 3.5.5.5; Page: 3.5.5-38; PDF Page: 380-381; Comment from NMFS unless otherwise noted: EMFs- Please clarify whether 230–275 kV HVAC or 320–525 kV HVDC offshore export cables will be used under this alternative as this will determine how many export cables will be implemented (ranging anywhere from two to eight) and thus may influence the level of impacts on finfish invertebrates and EFH which should be analyzed accordingly. Additionally, acknowledgement that DC cables are used to transmit higher power electricity and emit stronger</p>	<p>The analysis in Section 3.5.5.5 considers the range of options that includes 23-275 kV HVAC or 320-525 kV HVDC export cables. Also specified in the section, up to eight export cables would be required under the HVAC option while only two cables under the HVDC option. The evaluation of potential impacts from EMFs in sections 3.5.5.3 and 3.5.5.5 consider EMFs from cables specifically studied in the literature. A statement was added to sections 3.5.5.3 and 3.5.5.5 acknowledging that magnetic fields from HVAC are greater than from HVDC citing Gill et al. (2012b).</p>

Comment	Response
magnetic fields than AC cables of similar voltage should be provided and the resulting differing levels of potential impacts should be discussed using best available science.	
Section Title: Impacts of Alternative B – Proposed Action on Finfish Invertebrates and Essential Fish Habitat; Section: 3.5.5.5; Page: 3.5.5-40; PDF Page: 382; Comment from NMFS unless otherwise noted: Lighting- Artificial light at night (ALAN) can alter migratory patterns and even food webs via point source (Cooke et al 2017) or general sky illumination (see Mazur and Beauchamp 2006). But shadows of overwater structures can also affect adult migration larval settlement feeding predation risk etc. (Ono and Simenstad 2014; Sabal et al 2021; O'Connor et al 2019). It does not take much light for hormonal changes (Kupprat et al 2020). In addition, the effects can be seen across multiple trophic levels (Bolton et al 2017). Consider incorporating these references.	The topics and some references suggested in the comment have been incorporated into a revised version of Section 3.5.5.3. The Ono and Simenstad 2014 and Sabal et al. 2021 references suggested by the commenter focus on the somewhat unrelated topic of shade effects of overwater structures (including during daytime, e.g., Ono and Simenstad 2014) and were not included in the discussion.
Section Title: Impacts of Alternative B – Proposed Action on Finfish Invertebrates and Essential Fish Habitat; Section: 3.5.5.5; Page: 3.5.5-52; PDF Page: 394; Comment from NMFS unless otherwise noted: This paragraph lacks clarity and there are multiple inconsistent or overlapping statements that make it difficult for the reader to understand what conclusions are being made. Please modify to clearly distinguish what the impact determinations are for each IPF. A table or a bulleted list is suggested.	The paragraph and other paragraphs in the <i>Conclusions</i> subsection of Section 3.5.5.5 were revised to clearly state impact level determinations for each IPF. Thank you for your suggestion of including a table or bulleted list, BOEM will evaluate this for future projects.
Section Title: Impacts of Alternative C on Finfish Invertebrates and Essential Fish Habitat; Section: 3.5.5.6; Page: 3.5.5-53; PDF Page: 395; Comment from NMFS unless otherwise noted: Under Offshore Activities and Facilities you state "presence of structures under the Proposed Action include moderate adverse and moderate beneficial impacts on finfish and invertebrates which would be reduced under Alternative C." However, under Conclusions in Section 3.5.5.5- Impacts of Alternative B- you do not state any beneficial impacts from presence of structures. Please clarify and ensure consistency in determinations and language across sections.	The impact determination for presence of structures under the Proposed Action was revised to be moderate adverse with minor beneficial. This impact determination was also revised for the other alternatives. The minor beneficial impacts due to presence of structures remains constant among alternatives while the adverse impacts were adjusted accordingly given the value of avoiding some areas of complex habitats. The impacts due to presence of structures under Alternative C were updated to minor to reflect the value in avoiding adverse impacts to some areas of complex habitats where structures would not be placed under this Alternative. The minor beneficial impact determination due to presence of structures was made consistent between the Proposed Action and Alternative C because of the similar benefits provided by the presence of structures in both Alternatives.

Comment	Response
<p>Section Title: Impacts of Alternative C on Finfish Invertebrates and Essential Fish Habitat; Section: 3.5.5.6; Page: 3.5.5-53; PDF Page: 395; Comment from NMFS unless otherwise noted: Conclusions- NMFS does not agree that "Impacts of Alternative C would not be measurably different from the impacts of the Proposed Action." Alternative C is not appropriately contextualized or analyzed in a way that reflects the value of the habitats or differentiates them from other habitats in the lease. There should be a robust analysis and discussion of the importance of the habitats covered by Alternative C that sets it apart from the other areas of the lease and the other alternatives and how the impacts to EFH finfish and invertebrates would be different.</p>	<p>Section 3.5.5.6 has been revised to better contextualize the benefit of reducing impacts to complex habitat due to the removal of some WTG positions in those habitats. In the revised section, avoidance of ridge and swale habitats are specifically noted while citing the habitat impact analysis in Table 10 of the EFH Assessment. Additionally, the language stating that impacts under Alternative C "would not be measurable" has been deleted. However, the impact determination for presence of structures and cable emplacement would remain moderate adverse despite avoiding impacts to sensitive habitats that are known to be productive fish and invertebrate areas. Reductions in impact determinations from presence of structures and cable emplacement is not justified because impacts to other sensitive habitats would not be avoided. The impacts due to presence of structures and cable emplacement under Alternative C still fall within moderate adverse as defined in Table 3.5.5-1.</p>
<p>Section Title: Comparison of Alternatives; Section: 3.5.5.10; Page: 3.5.5-59; PDF Page: 401; Comment from NMFS unless otherwise noted: Here you state that "Alternative C would result in slightly reduced impacts on finfish and invertebrates due to the avoidance and minimization of impacts on sensitive habitats and the potential removal of up to 29 WTGs 1 OSS and associated interarray cables slightly reducing impacts due to presence of structures and cable emplacement." This statement should be included in the Conclusions section of Section 3.5.5.6- Impacts of Alternative C to ensure consistency and clarity across sections. Further despite acknowledging these reduced impacts you still state "Construction O&M and decommissioning of Alternatives C D E and F would have the same negligible to moderate adverse impacts and minor beneficial impacts on finfish invertebrates and EFH as described under the Proposed Action" and that "Any reductions in offshore wind structures under Alternatives C D or E would result in slight reductions of both adverse and beneficial impacts but these reductions would not change the overall impact determination made under the Proposed Action." Again, NMFS does not agree due to the lack of appropriately contextualized value of habitats or resources spared as addressed in our previous comment. Please be sure to provide proper evaluation of alternatives in comparison to the Proposed Action not just as a fraction of a larger area or of all ongoing or planned activities.</p>	<p>Similar to that discussed in the response to the previous comment, Alternatives C and D1-D3 would avoid impacts due to presence of structures and cable emplacement within sensitive habitats; though the purpose of the alternative is to address visual impacts. A reduction in the impact determination due to presence of structures and cable emplacement is not justified, however. According to the impact determination definitions in Table 3.5.5-1, moderate adverse impact definitions should be maintained for these IPFs because impacts to other sensitive habitats would not be avoided under Alternatives D and E. BOEM does not feel that reducing and micro-siting up to 5 WTGs under Alternative E justifies a reduction in its impact determination. The avoided WTG positions under Alternative E also would not avoid complex habitats. These changes were made in Sections 3.5.5.6, 3.5.5.7, and 3.5.5.10.</p>

Comment	Response
<p>Section Title: Impacts of Alternative B - Proposed Action on ESA-listed Species; Section: 3.5.5.5; PDF Page: 388; Comment from NMFS unless otherwise noted: Cable emplacement and Maintenance: Evaluation of the impacts associated with the utilization of a hopper dredge during sand bedform removal activities should be further assessed for ESA-listed sturgeon. The DEIS briefly describes that Atlantic and shortnose sturgeon may be impacted by nearshore cable emplacement and maintenance activities but does not go into further detail.</p>	<p>A discussion on dredging activities under “Cable emplacement” was added to the subsection Impacts of Alternative B – Proposed Action on ESA-listed species that is consistent with the NMFS Biological Assessment for the Project. This discussion evaluates the vulnerability of Atlantic sturgeon to dredging activities based on studies documenting their responses to dredging activities (Balazik et al. 2020; Balazik et al. 2012). The revised discussion evaluates potential avoidance of mechanical and cutterhead dredge equipment by Atlantic sturgeon while acknowledging documented injuries and mortalities during navigation channel hopper dredging activities citing Reine et al. (2014).</p> <p>The best available science includes descriptions of distribution ranges, habitat use, and migrations by ESA-listed species which are useful in identifying potential overlap or conflicts with activities associated with the Proposed Action. Specifically, the best available science provides information on specific impacts from cable emplacement or associated dredging, EMFs, gear utilization from biological monitoring surveys, presence of structures, and vessel traffic. Taken together, the information from the best available science is reasonably sufficient to support the determinations made in the EIS.</p>
<p>Section Title: Impacts of Alternative B- Proposed Action on ESA-listed Species; Section: 3.5.5.5; PDF Page: 388; Comment from NMFS unless otherwise noted: Risk of Vessel Strike: The DEIS briefly describes that Atlantic and shortnose sturgeon would be at risk to vessel strikes from Project-related vessel activities. Please identify an impact level determination associated with vessel strikes on ESA-listed fish.</p>	<p>Impact determinations are not made in the EIS but Sections 3.5.5.3 and 3.5.5.5 have been revised to also include evaluations of impacts to ESA-listed species that are consistent with the NMFS Biological Assessment for the Proposed Project. A reference was made to the NMFS Biological Assessment for the full analyses of Impacts from the Proposed Action on ESA-listed species that includes determinations under the ESA. Based on a request by NMFS in the marine mammal resource section, BOEM agrees to also remove the ESA-listed subsections in Sections 3.5.5.3 and 3.5.5.5. The impacts to ESA-listed species were integrated into relevant IPFs subsections in Sections 3.5.5.3 and 3.5.5.5. The vessel traffic, “Traffic”, IPF was added to these sections to evaluate vessel strikes on sturgeon species and giant manta ray.</p>
<p>Section Title: Impacts of Alternative B- Proposed Action on ESA-listed Species; Section: 3.5.5.5; PDF Page: 379; Comment from NMFS unless otherwise noted: Dredging: The DEIS indicates that 20 percent of the seabed profile along the export cable corridors and 10 percent of the interarray cable corridors would be dredged. Please identify the dredge method in section</p>	<p>The proposed options for dredge methods were added to this Section 3.5.5.5. They include mechanical or hydraulic dredging. Hydraulic dredges may be trailing suction hopper or cutterhead. Sections 3.5.5.3 and 3.5.5.5 has been expanded to also evaluate impacts on ESA-listed sturgeon due to cable emplacement and dredging. Each proposed method is evaluated consistent</p>

Comment	Response
3.5.5.5 and assess any impacts that may be expected to ESA-listed fish in this section.	with the discussion in BOEM’s NMFS Biological Assessment for the Project. Potential impacts of dredging on Atlantic sturgeon, which are relatively more vulnerable to this activity than other ESA-listed fish that may occur along cable corridors, include injury or mortality. However, the Biological Assessment determined that Project dredging was not likely to adversely affect Atlantic sturgeon, and NMFS’ Biological Opinion did not authorize any incidental take of Atlantic sturgeon due to dredging.
Section Title: Marine Mammals; Section: 3.5.6; Page: Global; PDF Page: Global; Comment from NMFS unless otherwise noted: Please provide impact determinations for each IPF in the proposed action rather than only describing their impact as relative to the No Action Alternative.	Incremental determinations (for the Proposed Action rather than relative to the No Action Alternative) have been added to the section.
Section Title: Marine Mammals; Section: 3.5.6; Page: 3.5.6-1; PDF Page: 403; Comment from NMFS unless otherwise noted: We note that this DEIS does not follow the framework and substantive content of the Ocean Wind 1 FEIS despite BOEM agreeing to use this FEIS as a template moving forward. BOEM needs to make changes to this chapter to ensure consistency across all NEPA documents and to ensure the appropriate and relevant information is being carried forward. The ASOW FEIS must follow the OW1 EIS in addition to the recent comments NMFS had on that EIS in order to ensure NMFS can adopt this EIS.	The Ocean Wind Final EIS section has been reviewed against this EIS section and revisions have been made to ensure that the Atlantic Shores EIS is presenting the same level of information and relying on the same literature as the Ocean Wind Final EIS.
Section Title: Marine Mammals; Section: 3.5.6; Page: 3.5.6-1; PDF Page: 403; Comment from NMFS unless otherwise noted: Generally, the organization of this chapter is difficult to follow. An example of this would be in the species description where information on NARWs are presented additional species are then discussed and then more information is presented on NARWs. BOEM needs to ensure that this section is well organized in that a reader can follow similar ideas and themes across paragraphs.	The species description section for endangered and threatened species has been revised so that critical habitat and BIAs for the species are discussed under the species descriptions rather than in the section introduction.
Section Title: Marine Mammals; Section: 3.5.6; Page: General; PDF Page: General; Comment from NMFS unless otherwise noted: As NMFS has noted previously the section should be broken up into sub-sections to separately discuss the Impacts of the No Action Alternative Cumulative Impacts of the No Action Alternative and Conclusions. We recommend BOEM clearly define sub-sections to allow for easier review and understanding of this information following the structure and organization as agreed upon in the OW FEIS.	The EIS has sub-sections for impacts of Alternative A, cumulative impacts of Alternative A, and conclusions, consistent with the Ocean Wind Final EIS.

Comment	Response
<p>Section Title: Marine Mammals; Section: 3.5.6; Page: 3.5.6-1; PDF Page: 403; Comment from NMFS unless otherwise noted: It reads here in the first paragraph "This area is intended to capture the majority of the movement range for most marine mammal species that could be affected by the Project." Please edit this to reflect what is provided in Appendix D (D-1) as the definition of the GAA so it reads "This area is intended to capture the general movement range for the marine mammal species that could be affected by the Project."</p>	<p>The language has been revised as requested.</p>
<p>Section Title: Marine Mammals; Section: 3.5.6; Page: 3.5.6-1; PDF Page: 403; Comment from NMFS unless otherwise noted: BOEM describes here that "Fifty species of marine mammals are known to occur or could occur" within the geographic area analyzed in this DEIS. However, DEIS/FEIS for other projects identify around 38 marine mammal species. It is not clear why the number of species analyzed in the geographic area analysis is not carried through consistently across all relevant NEPA documents. BOEM should select a single value that most accurately represents marine mammals in the analysis and carry this number through consistently as such we recommend that change being made here to reflect previous DEIS/FEIS.</p>	<p>This number was consistent with the South Fork FEIS. However, the sources cited in the South Fork FEIS were reviewed, and the species number was updated accordingly (39).</p>
<p>Section Title: Marine Mammals; Section: 3.5.6 - 3.5.6.1; Page: 3.5.6-1; PDF Page: 403; Comment from NMFS unless otherwise noted: The CVOW-C PFEIS identifies "the Scotian Shelf Northeast Shelf and Southeast Shelf LME" as the geographic area being considered. It is not clear why the Atlantic Shores DEIS and all DEIS/FEIS are not consistently carrying through the same areas within the same geographic analysis area. The bolded area is carried through in Atlantic Shores' DEIS but not in CVOW-C's: "the Canadian Scotian Shelf Northeast Shelf Southeast Shelf and Gulf of Mexico LMEs." This is included uniquely here due to vessel transit that would occur from Corpus Christi Texas. Although BOEM notes that the geographic analysis area for Atlantic Shores' DEIS carries forward the Gulf of Mexico LME the sentence found in the first paragraph of 3.5.6.1 does not consistently indicate this as the Gulf of Mexico is not part of the northwest Atlantic Ocean. This is even discounted by BOEM later on in this paragraph by stating that "However only 20 round trips from the Gulf of Mexico are expected for the Project...Vessel noise would be temporary and localized and noise effects of 20 round trips would be insignificant. The increased risk of a vessel strike associated with 20 round</p>	<p>As stated in the comment, the Gulf of Mexico LME is included in the geographic analysis area for this Project due to the vessel trips to the Gulf of Mexico, which creates the potential for effects to occur to species in that LME. This geographic analysis area is consistent with other offshore wind projects that anticipate vessel trips to the Gulf of Mexico.</p>

Comment	Response
<p>trips would be discountable and this risk would be further reduced by vessel speed restrictions and collision avoidance measures in the Project's Incidental Take Regulations and associated LOA. Therefore Project impacts in the Gulf of Mexico are unlikely and species unique to the Gulf of Mexico are not considered further in this Draft EIS." It does not make sense to include this area uniquely into this NEPA analysis and then immediately discount it as "unlikely" and "discountable". For this and the reasons described above we recommend BOEM consider a consistent geographic area for NEPA projects and consider consistent species which includes the Gulf of Mexico LME. Please make changes for consistency here.</p>	
<p>Section Title: Marine Mammals; Section: 3.5.6.1; Page: 3.5.6-2; PDF Page: 404; Comment from NMFS unless otherwise noted: "Unit 1 of NARW critical habitat is located approximately 249 miles...and Unit 2 is located..." Please describe what "Unit 1" and "Unit 2" are in the text as this is not clearly defined/explained to the reader. Also please use appropriate language (i.e., foraging ground calving ground Migratory corridor etc.) as "Unit" does not clearly describe how the habitat is specific to the NARW.</p>	<p>Unit 1 and Unit 2 have been defined as foraging habitat and calving habitat, as described in the proposed rule for critical habitat designation.</p>
<p>Section Title: Marine Mammals; Section: 3.5.6.1; Page: 3.5.6-2; PDF Page: 404; Comment from NMFS unless otherwise noted: "Additional information on these species can be found in COP Volume II Section 4.7.1 (Atlantic Shores 2023a) and the Project's application for MMPA rulemaking and LOA (Atlantic Shores 2022 2023b)." BOEM needs to provide information on each species using best available scientific publications and information. BOEM should not cite the COP and MMPA ITA application as these are not the correct or original sources of this information. This is referenced several times for the species descriptions and BOEM needs to rectify this.</p>	<p>The citations in the affected environment section of the EIS have all been reviewed to confirm that citations are to primary references and any cross-references to the COP or ITA application have been removed. The species information provided in this EIS is consistent with BOEM's other EISs for offshore wind projects.</p>
<p>Section Title: Marine Mammals; Section: 3.5.6.1; Page: 3.5.6-6; PDF Page: 408; Comment from NMFS unless otherwise noted: The link found in Footnote 2 does not take the reader to a website with a map; instead it takes the reader to the website for the Office of Science and Technology. Please correct this with the appropriate web link.</p>	<p>The EIS footnote link was checked and functioning properly.</p>
<p>Section Title: Marine Mammals; Section: 3.5.6.1; Page: 3.5.6-8; PDF Page: 410; Comment from NMFS unless otherwise noted: Include the scientific names for the Atlantic spotted dolphin Atlantic white-sided dolphin pilot</p>	<p>The species names were added to the text.</p>

Comment	Response
<p>whale spp. and Risso's dolphin at first mention and as done with other species presented in this paragraph.</p>	
<p>Section Title: Marine Mammals; Section: 3.5.6.1; Page: 3.5.6-8 -3.5.6-10; PDF Page: 410-12; Comment from NMFS unless otherwise noted: "Additional information on these species can be found in COP Volume II Section 4.7.1 (Atlantic Shores 2023a) and the Project's application for MMPA rulemaking and LOA (Atlantic Shores 2022 2023b)." BOEM needs to provide information on each species using best available scientific publications and information. BOEM should not cite the COP and MMPA ITA application as these are not the correct or original sources of this information. This is referenced several times in the species descriptions ("Detailed species descriptions for these odontocetes and the four additional taxa expected to experience acoustic effects are provided in COP Volume II Section 4.7.1.3 (Atlantic Shores 2023a) and in Atlantic Shores Offshore Wind Application for Marine Mammal Protection Act (MMPA) Rulemaking and Letter of Authorization Section 4.2 (Atlantic Shores 2022") and BOEM needs to rectify this.</p>	<p>The citations in the affected environment section of the EIS have all been reviewed to confirm that citations are to primary references and any cross-references to the COP or ITA application have been removed. The species information provided in this EIS is consistent with BOEM's other EISs for offshore wind projects.</p>
<p>Section Title: Marine Mammals; Section: 3.5.6; Comment from NMFS unless otherwise noted: General: NMFS continues to recommend that impact conclusions for marine mammals are not lumped but for all Alternatives are partitioned out by NARWs other mysticetes odontocetes and pinnipeds with supporting analysis for each group included. Currently the Conclusions sections for each Alternative are not consistent in the way they group marine mammals.</p>	<p>The section has been reviewed to ensure that there are separate impact determinations for NARW, mysticetes other than NARW, odontocetes, and pinnipeds in the <i>Conclusions</i> section for each Alternative.</p>
<p>Section Title: Impacts of Alternative A - No Action on Marine Mammals; Section: 3.5.6.3; Page: 3.5.6-12; PDF Page: 334; Comment from NMFS unless otherwise noted: The No Action Conclusions section makes impact determinations on the baseline conditions of marine mammals. However, it is missing an impact determination on not approving the COP (i.e. the incremental impact of taking No Action). NMFS advises adding a paragraph along the lines of the following: Under the No Action Alternative BOEM would not approve Dominion Energy's COP. Hence stressors from construction operation and maintenance of the CVOW Project would not occur. Baseline conditions of the existing environment would remain unchanged. Hence not approving the COP would have no additional incremental effect on marine mammals. Similarly, NMFS No Action</p>	<p>A similar paragraph has been added to the conclusions section under <i>Impacts of Alternative A – No Action</i>.</p>

Comment	Response
<p>alternative (i.e. not issuing the requested incidental take authorization) would also have no additional incremental impact on marine mammals and their habitat.</p>	
<p>Section Title: Marine Mammals; Section: 3.5.6.1 Page: 3.5.6-13 and 3.5.6-14; PDF Page: 415 and 416; Comment from NMFS unless otherwise noted: BOEM has omitted several species for which Atl Shores has requested take and NMFS proposed to authorize in the proposed rule. The EIS must include all species for which impacts (e.g. take) is possible in the tables. BOEM's NEPA document would be adopted for purposes of the MMPA ITA. Please add in all species considered in the COP/proposed rule and use the OW1FEIS as a template which contain substantive information. While we use these two table as examples this comment applies to the entire Marine Mammals chapter.</p>	<p>All tables have been reviewed to ensure all species for which take has been requested are addressed.</p>
<p>Section Title: Marine Mammals; Section: 3.5.6; Page: General; PDF Page: General Comment from NMFS unless otherwise noted: General: Duke just released the 2022 Density model report: https://seamap.env.duke.edu/models/Duke/EC/. When referencing the Duke marine mammal habitat-based density models throughout the EIS please use Roberts et al. 2023 inline with the full citation being "Roberts JJ Yack TM Halpin PN (2023) Marine mammal density models for the U.S. Navy Atlantic Fleet Training and Testing (AFTT) study area for the Phase IV Navy Marine Species Density Database (NMSDD). Document version 1.3. Report prepared for Naval Facilities Engineering Systems Command Atlantic by the Duke University Marine Geospatial Ecology Lab Durham North Carolina. "</p>	<p>Tables/text have been updated based on the draft ITA issued for the Project, which relies on Roberts et al. 2023.</p>
<p>Section Title: Marine Mammals; Section: 3.5.6; Page: General; PDF Page: General; Comment from NMFS unless otherwise noted: NMFS released the draft 2022 SARs on January 24 2023. Please update the estimated abundance for the NARW from 368 to 338 and any other relevant information in the draft SAR. Please add inline citation as appropriate and full citation in reference. https://www.fisheries.noaa.gov/s3/2023-01/Draft%202022%20Atlantic%20SARs_final.pdf</p>	<p>The Draft EIS included the 2022 estimate for NARW (338 individuals) and any other relevant updates from the draft 2022 SAR. Now that the SAR is final, the reference has been updated in the section.</p>
<p>Section Title: Marine Mammals; Section: 3.5.6; Page: General; PDF Page: General; Comment from NMFS unless otherwise noted: Please update any UME information from our website closer to FEIS publication</p>	<p>All UME information was updated to the most recent information prior to publication of the Final EIS.</p>

Comment	Response
<p>Section Title: Overview of Sound and Marine Mammal Hearing; Section: 3.5.6.1; Page: 3.5.6-17; PDF Page: 419; Comment from NMFS unless otherwise noted: BOEM has not included a Table for marine mammal acoustic thresholds for impulsive and non-impulsive noise sources. Please include this in the text.</p>	<p>Thresholds for impulsive and non-impulsive sources were included in Table 3.5.6-7 of the EIS.</p>
<p>Section Title: Overview of Sound and Marine Mammal Hearing; Section: 3.5.6.1; Page: 3.5.6-17; PDF Page: 419; Comment from NMFS unless otherwise noted: Please modify the Taxonomic Groups to be updated to include the species relevant to the specific action. Please look at the CVOW-C cooperating agency (CA) FEIS for an example (Table 3.15-5 in that CA FEIS)</p>	<p>Table revised to include all species with requested take.</p>
<p>Section Title: Impacts of Alternative A - No Action on Marine Mammals; Section: 3.5.6.3; Page: 3.5.6-18; PDF Page: 420; Comment from NMFS unless otherwise noted: Please include "(excluding the Proposed Action)" after "ongoing offshore wind activities" so it is clear that this is not including the Proposed Action.</p>	<p>Requested text added.</p>
<p>Section Title: Impacts of Alternative A - No Action; Section: 3.5.6.3; Page: 3.5.6-19; PDF Page: 421; Comment from NMFS unless otherwise noted: Please add "Under the No Action Alternative BOEM would not approve the Atlantic Shores COP; Project construction and installation O&M and decommissioning would not occur; and potential impacts on marine mammals associated with the Project would not occur. Baseline conditions of the existing environment would remain unchanged. Therefore, not approving the COP would have no additional incremental effect on marine mammals. Similarly, NMFS's No Action Alternative (i.e., not issuing the requested incidental take authorization) would also have no additional incremental impact on marine mammals and their habitat."</p>	<p>Requested text added.</p>
<p>Section Title: Impacts of Alternative A - No Action; Section: 3.5.6.3; Page: 3.5.6-19; PDF Page: 421; Comment from NMFS unless otherwise noted: BOEM needs to discuss more marine mammal-specific threats in the paragraph starting with "Global climate change is..." This is missing relevant information such as vessel traffic entanglement with fishing gear and fisheries bycatch related to mortality and IPFs not associated with mortality such as underwater noise disturbance, disturbance of benthic habitats, and accidental or intention release of hazardous substances. It is also note clear</p>	<p>This paragraph is specific to climate change. The other stressors identified in the comment are addressed under their own subheadings in the section. Erosion and sediment deposition are related to seal haul-out habitats – additional text has been added to clarify.</p>

Comment	Response
<p>how "increased erosion and sediment deposition" would affect marine mammals as this is not quantified by BOEM. This section needs additional information and modification following Ocean Wind 1's example.</p>	
<p>Section Title: Impacts of Alternative A - No Action on ESA-listed Marine Mammals; Section: 3.5.6.3; Page: 3.5.6-32; PDF Page: 434; Comment from NMFS unless otherwise noted: Given this section looks to be specific to ESA-listed marine mammals it is not clear why BOEM also discusses non-ESA-listed marine mammals here too. E.g., "...are not expected to differ between ESA-listed marine mammals and other marine mammal species..." It may be best if BOEM does not specify ESA-listed marine mammals here in the header and instead discusses impacts to relevant marine mammals and specifics for ESA-listed species.</p>	<p>The "not expected to differ" language is included to indicate when readers should defer to the analysis in the previous section, <i>Impacts of Alternative A (No Action)</i>, for an analysis of impacts on ESA-listed species associated with that specific IPF.</p>
<p>Section Title: Offshore Activities and Facilities - Noise: Drilling; Section: 3.5.6.5; Page: 3.5.6-57; PDF Page: 459 ; Comment from NMFS unless otherwise noted: BOEM states that "Though not anticipated drilling could occur if pile driving encounters refusal." This was not analyzed or carried forward into the MMPA ITA application nor has the Applicant indicated that this is a possibility. Atlantic Shores has not assessed the potential for harassment to marine mammals from this activity; therefore, it should be very clear in the EIS that drilling would not occur. Take by this activity will not be authorized and therefore would be unlawful.</p>	<p>The potential for drilling has been removed from the COP. Therefore, this activity has been removed from Section 3.5.6.5.</p>
<p>Section Title: Offshore Activities and Facilities - Noise: Impact and vibratory pile driving; Section: 3.5.6.5; Page: 3.5.6-58 to 59; PDF Page: 460 - 461; Comment from NMFS unless otherwise noted: Please add "harassment" for each bullet describing the harassment of marine mammals so they say "Level A harassment" and "Level B harassment".</p>	<p>Requested text added.</p>
<p>Section Title: Offshore Activities and Facilities - Noise: Impact and vibratory pile driving; Section: 3.5.6.5; Page: 3.5.6-58 to 59; PDF Page: 460 - 461; Comment from NMFS unless otherwise noted: We note that in Atlantic Shores' ITA application and supplemental memos/documents they do describe analyzing 12-m diameter monopiles but only the 15-m monopiles were carried forward into the analysis. BOEM should note the pile sizes and describe that the 12-m were not carried forward into the analysis.</p>	<p>Text addressing modeling of both pile sizes and carrying forward of only the larger piles was added.</p>

Comment	Response
<p>Section Title: Impacts of the Connected Action; Section: 3.5.6.5; Page: 3.5.6-67; PDF Page: 468; Comment from NMFS unless otherwise noted: The Atlantic Shores' ITA application did not include bulkhead repair/installation as part of the specified activities associated with the Project. If this work could cause harassment to marine mammals (e.g., involves pile driving) take from that activity would not be authorized. Please update the EIS to indicate that activities with the potential to harass marine mammals (e.g., pile driving) is not part of the proposed scope of work. Also add additional information on the construction/installation work necessary for bulkhead repair.</p>	<p>The activities described in the referenced section are part of the connected action, which is the subject of a separate permit application, not the Proposed Action, and would therefore not be included in the Project's ITA application. The connected action is described here for analytical purposes under NEPA rather than as part of the activities that would be authorized under the COP and the other associated federal authorizations.</p>
<p>Section Title: Impacts of Alternative F on Marine Mammals; Section: 3.5.6.8; Page: 3.5.6-73; PDF Page: 475; Comment from NMFS unless otherwise noted: It is not clear to NMFS what the difference between the Proposed Action and Alternative F1 would be where "Alternatives F1 and F3 would result in a reduction of scour protection compared to the Proposed Action..." BOEM even says in the preceding sentence that the Proposed Action and Alternative F1's activities would not differ. BOEM needs to add an explanation to clarify the differences as these two look practically identical.</p>	<p>For the Proposed Action, the EIS analyzes the maximum potential impacts on each environmental resource from each of the potential foundation types. Alternative F1 restricts foundations for the Project to piled foundations. Alternative F1 could occur under the Proposed Action if Atlantic Shores elects to install only piled foundations for the Project. Clarifying language to further distinguish the sub-alternatives under Alternative F from the Proposed Action has been added.</p>
<p>Section Title: Impacts of Alternative F on Marine Mammals; Section: 3.5.6.8; Page: 3.5.6-73; PDF Page: 475; Comment from NMFS unless otherwise noted: It is not clear how "Alternatives F1 and F3 would result in reductions in both adverse and beneficial impacts" when compared to the Proposed Action if the Proposed Action and Alternative F1 are essentially the same action. Please describe in more detail how this was determined between those two actions.</p>	<p>Clarifying language to further distinguish the sub-alternatives under Alternative F from the Proposed Action has been added. As stated in the Section, these alternatives would result in a reduction in scour protection. Therefore, there would be less artificial reef habitat created. Clarifying language has been added to identify the source of reduced beneficial impacts.</p>
<p>Section Title: Impacts of Alternatives on Marine Mammals; Section: 3.5.6; Page: Global; PDF Page: Global; Comment from NMFS unless otherwise noted: In each Alternative conclusion section (3.5.6.3 through 3.5.6.8) there must be clear distinctions between impact determinations for the incremental impact of the project determinations in consideration of baseline and determinations in consideration of cumulative effects. The OW1 FEIS provides the language and framework that should be used in this EIS. Please mirror the OW1 format and substantive content in this EIS.</p>	<p>Incremental impacts have been added to each Alternative conclusion section.</p>
<p>Section Title: Description of the Affected Environment and Future Baseline Conditions; Threatened and Endangered Marine Mammals- NARW; Section:</p>	<p>Genus added.</p>

Comment	Response
3.5.6.1; Page: 3.5.6-7; PDF Page: 409; Comment from NMFS unless otherwise noted: Please add Centropages to the common prey items listed for Right Whales.	
Section Title: Impacts of Alternative A – No Action- Accidental releases and discharges; Section: 3.5.6.3; Page: 3.5.6-22; PDF Page: 424; Comment from NMFS unless otherwise noted: Add a more recent value for right whale entanglements. Today it is estimated "that over 85% of right whales have been entangled in fishing gear at least once." -NOAA Fisheries: https://www.fisheries.noaa.gov/species/north-atlantic-right-whale#:~:text=Fishing%20Gear%20Entanglements&text=This%20leads%20to%20i%20ncidental%20entanglements%20some%20point%20in%20their%20lifetime	The value provided is for humpback whale entanglement. However, the identified value for NARW has been added to the section.
Section Title: Impacts of Alternative A – No Action- Gear Utilization; Section: 3.5.6.3; Page: 3.5.6-22; PDF Page:424; Comment from NMFS unless otherwise noted: Please clarify how the species listed as "documented in several fisheries' bycatch data" was determined - please provide a source for that information.	This statement is consistent with the Ocean Wind Final EIS. A source is provided in the following sentence.
Section Title: Impacts of Alternative A – No Action on Marine Mammals; Traffic; Section: 3.5.6.3; Page: 3.5.6-29; PDF Page: 431; Comment from NMFS unless otherwise noted: Please clarify if this bullet point has a cutoff date or is from 2017-present day.	Through 2023. Text in section has been updated.
Section Title: Cumulative Impacts of Alternative A – No Action; Presence of structures; Section: 3.5.6.3; Page: 3.5.6-49; PDF Page: 451; Comment from NMFS unless otherwise noted: Please include description of wind-wake effect. Can use Christiansen et al 2022 as a source.	Wind wake effects have been added to this section, consistent with the Ocean Wind Final EIS.
Section Title: Cumulative Impacts of Alternative A – No Action; Presence of structures; Section: 3.5.6.3; Page: 3.5.6-49; PDF Page: 451; Comment from NMFS unless otherwise noted: Please add that energy extraction from turbines reduce wind-driven mixing of surface waters.	This section has been revised to be consistent with the Ocean Wind Final EIS.
Section Title: Cumulative Impacts of Alternative A – No Action; Presence of structures; Section: 3.5.6.3; Page: 3.5.6-50; PDF Page: 452; Comment from NMFS unless otherwise noted: Please add source Daewel et al 2022. This study shows that that the associated wind wakes in the North Sea provoke large-scale changes in annual primary production with local changes of up to	A discussion of Daewel et al. 2022 has been added to the section. As noted in the section, this study looked at effects in the North Sea. NMFS NEFSC states that the conditions in the North Sea are not comparable to those on the U.S. Atlantic coast due to the different oceanographic processes (e.g., Gulf Stream), and Golbazi et al. (2022) have shown that hub height influences

Comment	Response
±10% not only at the offshore wind farm clusters but also distributed over a wider region. This provides evidence that the ongoing offshore wind farm developments can have a substantial impact on the structuring of coastal marine ecosystems.	wind wake effects, as described in the section. NMFS and BOEM have contracted the National Academy of Sciences to investigate all current literature and provide its recommendations.
Section Title: Impacts of Alternative B – Proposed Action on Marine Mammals; Presence of structures; Section: 3.5.6.5; Page: 3.5.6-64; PDF Page: 466; Comment from NMFS unless otherwise noted: Please discuss the hydrodynamic impacts of the project itself in this section.	More specific discussion of hydrodynamic effects of the Project added.
Section Title: Cumulative Impacts of Alternative B – Proposed Action; Gear Utilization; Section: 3.5.6.5; Page: 3.5.6-68; PDF Page: 470; Comment from NMFS unless otherwise noted: Please provide an impact determination rather than describing the contributions of Gear Utilization of the proposed action as ‘noticeable.’	The IPF, including impact determination, was revised for consistency with Ocean Wind Final EIS.
Section Title: Impacts of Alternative A - No Action on Marine Mammals; Section: 3.5.6.3; Page: 3.5.6-12; PDF Page: 334; Comment from NMFS unless otherwise noted: The No Action Conclusions section makes impact determinations on the baseline conditions of marine mammals. However, it is missing an impact determination on not approving the COP (i.e., the incremental impact of taking No Action). NMFS advises adding a paragraph along the lines of the following: Under the No Action Alternative BOEM would not approve Atlantic Shore's COP. Hence stressors from construction operation and maintenance of the ASOW Project would not occur. Baseline conditions of the existing environment would remain unchanged. Hence not approving the COP would have no additional incremental effect on marine mammals. Similarly, NMFS No Action alternative (i.e., not issuing the requested incidental take authorization) would also have no additional incremental impact on marine mammals and their habitat.	An incremental impact determination has been added to the conclusions for the No Action Alternative.
Section Title: Impacts Section (General); Section: 3.5.7; Comment from NMFS unless otherwise noted: General: NMFS suggests not making a separate section for ESA listed species in the Impacts section and rather make note of them along with the other marine mammals so as not to cause confusion and to be in align with previously adopted EISs.	Separate impact sections for ESA-listed species have been removed and the information contained within these sections has been incorporated into the larger alternative assessments, as appropriate.
Section Title: Impacts of Alternative B -Sea Turtles; Section: 3.5.7.5; PDF Page: 503; Comment from NMFS unless otherwise noted: Cable emplacement and	Impact conclusions are provided under <i>Conclusions</i> in Section 3.5.7.5. The <i>Conclusions</i> section includes an impact determination of “minor” for cable

Comment	Response
<p>maintenance: Please consider adding an impact conclusion that corresponds with the impact level definitions that are described in table 3.5.7-4 (e.g., negligible minor moderate major) for the utilization of a hopper dredge during sand bedform removal activities.</p>	<p>emplacement and maintenance activities (including hopper dredging), which is consistent with the impact level definitions in Table 3.5.7-4. The determination has been revised to explicitly include hopper dredging.</p>
<p>Section Title: Impacts of Alternative B -Sea Turtles; Section: 3.5.7.5; PDF Page: 504; Comment from NMFS unless otherwise noted: Gear Utilization: This section describes that mobile gear surveys have the potential to capture or entangle sea turtles. NMFS recommends the use of ropeless gear be utilized during trap/pot gear surveys. Please confirm if ropeless gear can be utilized during the proposed trap/pot gear surveys.</p>	<p>Ropeless gear is preferred for the ventless trap survey, if feasible. Should the use of roped gear be necessary due to logistical or permitting constraints, an estimated 12 vertical lines would be in the water column when all 72 traps are deployed (i.e., 1 vertical line for each of the 12 sampling arrays/transects, where each array/transect is made up of 6 traps). Text addressing the use of ropeless gear has been added to the section.</p>
<p>Section Title: Impacts of Alternative A - No Action on Sea Turtles; Section: 3.5.7.3; PDF Page: 489; Comment from NMFS unless otherwise noted: As noted elsewhere in our comments the "No Action Alternative A" appears to analyze the cumulative impact of all activities in the area along with the current project.</p>	<p>The cumulative impacts of the No Action Alternative do not consider the Proposed Action. Language in Section 3.5.7.3 has been revised to clarify.</p>
<p>Section Title: Cumulative Impacts of Alternative A – No Action; Noise: G&G surveys.; Section: 3.5.7.3; PDF Page: 496; Comment from NMFS unless otherwise noted: Please revise the statement that 'survey vessels would travel quickly' and provide objective descriptions of any activities including vessel transit that may impact resources. High speed vessel travel leads to an increased risk of vessel strikes. If this is the case, please provide additional information about the expected activities (expected vessel speed range and transit routes) and note where to find the list of best management practices that will be applied for this activities to avoid minimize and mitigate impacts to resources.</p>	<p>Statement has been revised to note that survey vessels are mobile rather than traveling quickly.</p>
<p>Section Title: Cumulative Impacts of Alternative A – No Action; Presence of structures; Section: 3.5.7.3; PDF Page: 498; Comment from NMFS unless otherwise noted: Please include a more thorough description of hydrodynamic changes in the presence of structures. Information from Daewel et al 2022 and Christiansen et al 2022 should be included in the description.</p>	<p>Additional information on hydrodynamic changes associated with the presence of structures, including information from Christiansen et al. 2022 and Daewel et al. 2022, has been added to the section.</p>
<p>Section Title: Impacts of Alternative B - Proposed Action on Sea Turtles; Section: 3.5.7.5; PDF Page: 506; Comment from NMFS unless otherwise noted: Noise (Drilling): There is very little discussion on drilling noise impacts.</p>	<p>The potential for drilling has been removed from the COP and therefore from this section of the EIS.</p>

Comment	Response
The DEIS suggests that drilling could occur during pile driving activities. Please discuss potential noise impacts on sea turtles from drilling activities.	
Section Title: Impacts of Alternative A - No Action on Sea Turtles; Section: 3.5.7.13; PDF Page: 495; Comment from NMFS unless otherwise noted: Lighting: This paragraph cites Gless et al. 2008 indicating leatherback sea turtles may not be attracted to lights. The DEIS should incorporate more recent studies that suggest that these turtles do become disoriented with artificial lights (Rivas et. al. 2015)	Rivas et al. 2015 is a study of hatchling leatherbacks, which are not expected to occur in the Project area. Language in the section has been revised to specify the impact analysis is relevant to later life stages.
Section Title: Impacts of Alternatives A-F on Sea Turtles; Section: 3.5.7; Comment from NMFS unless otherwise noted: Submerged Aquatic Vegetation (SAV) is important for green sea turtle foraging and provides habitat for other sea turtle prey species. This section should discuss in greater detail the impact to SAV and how that may affect sea turtles or point the reader to where SAV impacts are discussed in greater detail elsewhere in the DEIS.	The section has been revised to note there is no known occurrence of SAV in the project area and directs the reader to Section 3.5.2, <i>Benthic Resources</i> , for a detailed assessment of impacts on benthic resources.
Section Title: Impacts of Alternative B - Proposed Action on Sea Turtles; Section: 3.5.7.5; PDF Page: 509; Comment from NMFS unless otherwise noted: Noise (Impact and vibratory pile driving): The DEIS describes that when nighttime pile driving cannot be avoided or when inclement weather limits visibility night vision devices would be used to monitor for sea turtle presence during pile driving activities. Please clarify if the Project intends to pile drive during nighttime or periods of inclement weather.	Atlantic Shores has included initiation of pile driving at any time during a 24-hour period in their COP. However, BOEM is requiring a BOEM- and NMFS-approved Alternative Monitoring Plan for nighttime pile driving in order to initiate pile driving after dark. Additional information on nighttime pile driving has been added to the section.
Section Title: Impacts of Alternative B – Proposed Action on Sea Turtles; Traffic; Section: 3.5.7.5; PDF Page: 511; Comment from NMFS unless otherwise noted: Please add source Hazel et al 2007 which implies that vessel operators cannot rely on turtles to actively avoid being struck by the vessel if speed exceeds 4 km/h.	The Hazel et al (2007) is only relevant in shallow areas (< 5m), where 97% of encounters occurred with turtles foraging or resting on the substrate and referred to as “benthic turtles”.
Section Title: Impacts of Alternative B – Proposed Action on Sea Turtles; Traffic; Section: 3.5.7.5; PDF Page: 511; Comment from NMFS unless otherwise noted: Please state why vessel strike is most likely to occur when project vessels are transiting to and from the project area.	This statement has been expanded to attribute this higher risk to the higher speeds that vessels are anticipated to travel when transiting to and from the Project area, as opposed to traveling within the Project area.
Section Title: General; Section: General; Comment from NMFS unless otherwise noted: Please include updated data available from NMFS. The VMS	The polar histograms were provided by BOEM when the most recent data were from 2019. The polar histograms (Figures 3.6.1-4 through 3.6.1-11) have

Comment	Response
<p>data referenced in the DEIS date to 2019 (e.g., polar histograms referenced on page 3.6.1-30). More updated data are available and should be used to more accurately describe recent fishing patterns. Similarly, data for commercial landings and revenue only reflect data through 2020. All data sources should be updated to include data within 2 years of the DEIS availability (i.e., through 2021).</p>	<p>been updated to include the most recent available data, which extend from 2014 through 2021.</p> <p>The commercial landings and revenue in the Lease Area were obtained from an April 2022 data request when the most recent data were from 2020.</p>
<p>Section Title: General; Section: General; Comment from NMFS unless otherwise noted: When referencing data based on the NMFS fishing footprint method (e.g., NMFS 2022b) please note that this likely underestimates relevant landings revenue and fishing effort because it does not include vessels without GARFO permits and fishing for species managed by the ASMFC (e.g. Atlantic menhaden) or states (e.g. conch/whelk) and by NMFS for highly migratory species. While a note at the bottom of relevant tables is appreciated that is insufficient for the purposes of accurately characterizing relevant analysis. Also, because GARFO data sources do not include all landings and revenue for non-GARFO managed species the DEIS should not quantify relative proportions of landings/revenues of such species in a regional context unless other data sources (i.e. ACCSP data Southeast Regional Fisheries Science Center data for highly migratory species and shoreside processor data for menhaden) are included. This more accurate characterization of relevant data is necessary to avoid drawing inaccurate conclusions and to put the analysis and conclusions into proper context.</p>	<p>The summaries of effort, landings, and revenue in Tables 3.6.1-4 through 3.6.1-23 are for the Lease Area only. Because the Lease Area is entirely within federal waters, any vessels fishing there should have federal permits. Therefore, the numbers presented in these tables should capture most of what was harvested by commercial fisheries in the Lease Area.</p> <p>In Tables 3.6.1-12 and 3.6.1-13, non-GARFO species are now identified, and the following footnote has been added for those species: “This species is not managed by GARFO. Proportions of landings and revenue are likely overestimated because they do not include regional landings of this species by vessels without GARFO permits.”</p>
<p>Section Title: General; Section: General; Comment from NMFS unless otherwise noted: To reflect the full scope of potential impacts to commercial fishing operations the DEIS should ensure that all affected fishing activity is described including by vessels issued only state permits and fishing in state waters other non-federally managed fisheries that operate in federal waters such as the menhaden and whelk/conch fisheries and species managed by the Southeast Regional Office and the Highly Migratory Species Division. This section suggests that only Greater Atlantic Region federally permitted fishing activity is included and implies that only these vessels and associated fisheries and ports are affected. Greater Atlantic Region VTR and dealer data do not include all operations that may be affected. Data on the additional operations referenced above should be included and are available from states the Atlantic Coastal Cooperative Statistics Program and other federal</p>	<p>Fisheries occurring in state waters would be impacted by the emplacement of the offshore export cable. Impacts from cable emplacement are expected to be localized and short-term, and fishing activity is expected resume following the completion of cable emplacement. For this reason, BOEM has determined that the qualitative analysis provided in Section 3.6.1.5 is appropriate for characterizing impacts of cable emplacement. Additional figures depicting revenue exposure of key fisheries in the Project area have been added under the “Cable emplacement and maintenance” IPF to support the qualitative analysis of OEC impacts.</p>

Comment	Response
<p>sources such as the Southeast Regional Office and Fisheries Science Center and the Highly Migratory Species Division. It is important to document all potential economic impacts if the NEPA analysis will be used to determine any compensation payments for non-mitigated impacts to fishing operations.</p>	
<p>Section Title: Description of the Affected Environment and Future Baseline Conditions; Section: 3.6.1.1; Page: 3.6.1-13; PDF Page: 555; Comment from NMFS unless otherwise noted: (Tables 3.6.1-11 3.6.1-12 3.6.1-13 and throughout.) Please remove reference to project-specific and regional proportions of non-GARFO managed species (channeled whelk smooth dogfish Atlantic menhaden tautog swordfish Atlantic croaker triggerfish American eel conger eel other highly migratory species) landings/revenues. GARFO data sources used for this analysis are not inclusive of all landings of these species and such estimates do not accurately characterize regional landings and revenues for these species. This should be applied throughout the document whenever relevant including regional total tables organized by other metrics such as port and state.</p>	<p>In Tables 3.6.1-12 and 3.6.1-13, non-GARFO species are now identified, and the following footnote has been added for those species: “This species is not managed by GARFO. Proportions of landings and revenue are likely overestimated because they do not include regional landings of this species by vessels without GARFO permits.”</p>
<p>Section Title: Description of the Affected Environment and Future Baseline Conditions; Section: 3.6.1.1; Page: 3.6.1-27; PDF Page: 569; Comment from NMFS unless otherwise noted: Figure 3.6.1-2 This figure appears to be inconsistent with the relative proportions of landings by gear type depicted in Figure 4.2 of our socioeconomic impact report for this lease area (available at: https://www.greateratlantic.fisheries.noaa.gov/ro/fso/reports/WIND/WIND_AREA_REPORTS/com/OCS_A_0499_Atlantic_Shores_South_com.html#Select_Gear_Types) and by the creation of a similar line graph using gear data as derived from our data download site (available at: https://www.greateratlantic.fisheries.noaa.gov/ro/fso/reports/WIND/ALL_WEA_BY_AREA_DATA.html). For example, using our online report data it appears that the proportion of landings by clam dredges is lowest in 2014, 2015, and 2020, not 2017 as indicated in this figure. We recommend reevaluating this figure and underlying data for accuracy and consistency.</p>	<p>Figure 3.6.1-2 depicts the percentage of landings attributed to each gear type, whereas Figure 4.1 from the NMFS socioeconomic impact report shows the weight of landings (millions of pounds) for each gear type. These figures are not comparable. Figure 4.1 indicates that approximately 60% of the landed weight was attributed to clam dredges, which is consistent with Figure 3.6.1-2.</p>
<p>Section Title: Description of the Affected Environment and Future Baseline Conditions; Section: 3.6.1.1; Page: 3.6.1-29; PDF Page: 571; Comment from NMFS unless otherwise noted: Figure 3.6.1-3 and Table 3.6.1-25. Please include a similar box plot for both project areas combined consistent with how data are presented for other evaluations and similar to what we have</p>	<p>A figure has been added (Figure 3.6.1-4) and Table 3.6.1-25 has been updated to depict the reliance of individual permit holders on the combined Project 1 and 2 WTAs.</p>

Comment	Response
<p>posted on our website (available at: https://www.greateratlantic.fisheries.noaa.gov/ro/fso/reports/WIND/WIND_AREA_REPORTS/com/OCS_A_0499_Atlantic_Shores_South_com.html#Percentage_of_Revenue_by_Permit). This would show dependence upon the entire lease area and avoid the complexities noted in this section regarding accounting for permits that fish in both areas. This also gives a bigger picture evaluation for the overall COP approval vs. separation by project. Similarly provide a table for both areas combined consistent with Table 3.6.1-25.</p>	
<p>Section Title: Description of the Affected Environment and Future Baseline Conditions; Section: 3.6.1.1; Page: 3.6.1-30; PDF Page: 572; Comment from NMFS unless otherwise noted: Please insert the correct citation for the claim that VMS vessels represent a substantial percentage of species landings to NMFS 2020 and insert a reference in Appendix J noting this was a personal communication from NMFS staff. As we have commented before on nearly every project EIS including the cooperating agency review of this document these estimates come from a personal communication by NMFS staff in 2020 and were not part of a comprehensive or reviewed analysis.</p>	<p>The in-text citation has been revised to “NMFS pers. comm. 2020”, and the citation has been added to Appendix J.</p>
<p>Section Title: Description of the Affected Environment and Future Baseline Conditions; Section: 3.6.1.1; Page: 3.6.1-30; PDF Page: 572; Comment from NMFS unless otherwise noted: Please correct any references to "non-VMS fisheries" to instead reference "non-DAS (days-at-sea) vessels" throughout this document particularly for the VMS polar histograms. Non-VMS vessels with VMS data is inaccurate as we have noted in previous EIS comments for other projects. Please reference our other comments and incorporate our recommended language in this document.</p>	<p>References to “non-VMS” vessels and fisheries have been revised to “non-DAS”.</p>
<p>Section Title: Description of the Affected Environment and Future Baseline Conditions; Section: 3.6.1.1; Page: 3.6.1-39; PDF Page: 581; Comment from NMFS unless otherwise noted: Please insert reference to and a discussion of recreational fishing tournaments for highly migratory species off the coast of various NJ ports (see https://grunt.sefsc.noaa.gov/apex/f?p=127:10:16703795924521:). That page lists several registered tournaments based out of ports affected by this project including Atlantic City Cape May and Ocean City for species such as blue and white marlin sailfish spearfish and various tuna species. These</p>	<p>A discussion of recreational fishing tournaments has been added to Section 3.6.1.1.</p>

Comment	Response
<p>tournaments and associated commercial and recreational catch should be discussed in throughout this section.</p>	
<p>Section Title: Description of the Affected Environment and Future Baseline Conditions; Section: 3.6.1.1; Page: 3.6.1-42; PDF Page: 584; Comment from NMFS unless otherwise noted: Please list the maximum number of annual trips to give the reader a sense of interannual variation and reflect the maximum impacts to associated ports and vessels. This is similar to peak landings and revenues for commercial vessels depicted in previous tables.</p>	<p>Maximum annual values have been added to each of the tables summarizing effort, landings, and revenue in the Lease Area.</p>
<p>Section Title: Description of the Affected Environment and Future Baseline Conditions; Section: 3.6.1.1; Page: 3.6.1-46; PDF Page: 588; Comment from NMFS unless otherwise noted: (Figure 3.6.1-14) Please update these figures through a new data request from NMFS. Such data only show one year of data and likely reflect a programming error we discovered following recent data requests. The similar box plot figure for the entire lease area available on our website: https://www.greateratlantic.fisheries.noaa.gov/ro/fso/reports/WIND/WIND_AREA_REPORTS/rec/OCS_A_0499_Atlantic_Shores_South_rec.html#Percentage_of_Angler_Trips_by_Permit depicts annual dependence. Further the Consistent with similar comments above for commercial vessels this figure for the entire lease area should also be included in the DEIS.</p>	<p>This figure has been replaced with the figure showing the percentage of angler trips by permit for the Atlantic Shores South Lease Area from the NMFS Socioeconomic website.</p>
<p>Section Title: Impacts of Alternative A; Section: 3.6.1.3; Page: 3.6.1-50; PDF Page: 592; Comment from NMFS unless otherwise noted: Under cable emplacement and maintenance please revise the impact conclusions to "moderate to major" and note that such activities could cause temporary or permanent displacement of fishing vessels and disruption of fishing activities over a prolonged period. To be consistent with the impact level definitions in Table 3.6.1-33 cable emplacement impacts are moderate to major because vessels would have to adjust somewhat or be substantially disrupted by cable preparation and protection measures as noted below. We disagree with BOEM's conclusion that the decision to lay cables concurrently or sequentially would not influence the extent of impacts on fisheries. As we have observed with the construction of South Fork and Vineyard Wind cables cable emplacement preparation (pre-lay grapnel runs boulder grab and boulder plow usage cable connections scour/cable protection and potential cable burial operation) can continue to occur over many months (e.g., South Fork</p>	<p>The "cable emplacement and maintenance" IPF includes impacts that occur during cable installation. Because cable installation would occur over a period of less than 3 years, impacts from the IPF are classified as short-term. The impact classification for this IPF has been revised to moderate for the No Action Alternative because fishing activity is expected to return to a condition with no measurable effects from this IPF (i.e., no construction-related disruptions) once cable installation is complete.</p> <p>Permanent impacts that would occur because of cable protection installed along the export cable corridors and associated fishing displacement are included under the "presence of structures" IPF. Impacts from the presence of structures are classified as moderate to major.</p>

Comment	Response
<p>cable work has been ongoing since August or September 2022 through June 2023) with informal safety zones and exposed cables impeding operations over a broad geographic area. Cables were left exposed for weeks, boulders were moved and cables were installed over the course of months and sections of the seabed were full of obstructions preventing fishing operations. Boulder grab and plow activities could transform the bottom from sandy to rocky or moving know obstacles (e.g., 6000 rocks were moved as part of South Fork Wind cable and foundation construction preparation) impeding fishing activities permanently because vessels cannot continue to target flatfish species with minimal ground gear in rocky areas. The concurrent construction of activities by adjacent or closely located projects such as South Fork and Vineyard Wind resulted in a large area being inaccessible to fishing vessels throughout the fishing year. Even if the actual footprint of disturbed bottom is small the large number of supporting vessels supporting construction activities and the associated safety perimeters (up to 1.5 miles in some instances) make it very difficult if not impossible to operate anywhere near such activities. For example, South Fork Wind's Mariner Briefing notice number 329 (https://a2f3e3.emailsp.com/frontend/nl_preview_window.aspx?idNL=614 accessed on June 7 2023) expects that up to 24 vessels will be operating simultaneously in the general lease area. Such larger scale and potentially permanent impacts from cable preparation and emplacement should be noted in the DEIS for the No Action and other alternatives throughout Section 3.6.1.</p>	
<p>Section Title: Impacts of Alternative A; Section: 3.6.1.3; Page: 3.6.1-52; PDF Page: 594; Comment from NMFS unless otherwise noted: Under Noise, please revise the risk of reduced recruitment due to behavioral impacts in response to noise to "moderate" instead of "low" for certain species. As noted in this section pile driving is expected to occur during spawning seasons of certain species over the course of 7-10 years for regional wind project. If pile driving occurs across projects where and when spawning activity occurs for species such as for longfin squid and cod long-term risk of reduced recruitment would be moderate. This should be noted here and other sections where similar issues are discussed.</p>	<p>The referenced sentence has been revised as follows: "There is a risk of reduced recruitment from pile-driving noise for some species because elevated noise levels would overlap the spawning period of certain species and would occur over a period of 7 to 10 years for regional wind projects."</p>

Comment	Response
<p>Section Title: Impacts of Alternative A; Section: 3.6.1.3; Page: 3.6.1-53; PDF Page: 595; Comment from NMFS unless otherwise noted: Under port utilization please revise the impact conclusions to "long-term to permanent" instead of just long-term. As noted in this section port expansion and utilization could last for the duration of the project which is consistent with permanent impacts as defined in this DEIS. This characterization should be mirrored in the discussion of other alternatives throughout this section.</p>	<p>The impact duration of this IPF has been revised to long-term to permanent.</p>
<p>Section Title: Impacts of Alternative A; Section: 3.6.1.3; Page: 3.6.1-55; PDF Page: 597; Comment from NMFS unless otherwise noted: (Table 3.6.1-34) Consistent with our socioeconomic impact guidance please delete Table 3.6.1-34 or update the revenue exposure data to reflect the fact that construction operations on multiple projects affected fishery operations starting in 2022 (South Fork and Vineyard Wind cable installation) and more recent data available through 2021 and note in the associated narrative that it underestimates revenue exposure because it only reflects fishing revenue from federally permitted vessels operating in the lease area and excludes considerations of the impacts to fishing operations along the export cable corridor and other fisheries documented in non-federal reports. It is not accurate to state that there are no annual revenue exposed for most of these fisheries in 2022 as ongoing construction for both Vineyard Wind and South Fork Wind affected fishing within portions of the geographic analysis area. The underlying data does not include all relevant fisheries data resources describing potential fishery impacts to other species (see previous comment). Thus, the data underrepresent likely revenue exposure given the false impression that impacts would be less than they would likely be. The use of revenue exposure data through 2019 is outdated and does not reflect more recent operations and updates to ongoing wind project development including the adjacent NY Bight lease areas designated by BOEM. Finally, as the text in this section states this table is demonstrative rather than predictive. Therefore, the DEIS should not base conclusions on this table. BOEM should remove this table as it misleads the public into thinking that the impacts would be less than they would likely be.</p>	<p>The revenue exposure numbers summarized in 3.6.1-34 (now Table 3.6.1-36) of the EIS are based on the most recent analysis of revenue exposure data for offshore wind projects in the geographic analysis area, which was developed from NMFS data through 2019.</p>
<p>Section Title: Impacts of Alternative A; Section: 3.6.1.3; Page: 3.6.1-59; PDF Page: 601; Comment from NMFS unless otherwise noted: Please update the impact conclusions to reflect more recent and therefore accurate estimates</p>	<p>The description of construction-related vessel traffic in Section 3.6.1.3 has been updated to reflect the more recent information presented in Appendix D, <i>Ongoing and Planned Activities Scenario</i>.</p>

Comment	Response
<p>of construction activities within the geographic analysis area. The peak construction activity estimates referenced in BOEM 2019 (see top of page 3.6.1-59) are likely outdated and not reflective of updated information with additional details available for more projects that have since been initiated including adjacent leases areas approved in the NY Bight.</p>	
<p>Section Title: Impacts of Alternative A; Section: 3.6.1.3; Page: 3.6.1-59; PDF Page: 601; Comment from NMFS unless otherwise noted: Please insert a discussion of the impacts of climate change under the No Action alternative or remove reference to that impact factor from the conclusions. Without information describing how climate change would impact fisheries it is inaccurate to include it as a factor influencing the impact conclusions of the No Action Alternative. Please update and make a similar correction throughout the document.</p>	<p>A discussion of the impacts of climate change is provided at the beginning of Section 3.6.1.3 on page 3.6.1-50.</p>
<p>Section Title: Impacts of Alternative A; Section: 3.6.1.3; Page: 3.6.1-59; PDF Page: 601; Comment from NMFS unless otherwise noted: Please insert discussion of environmental trends and ongoing activities or remove conclusions that such trends would continue. It is inaccurate to conclude trends will continue if they are not discussed in this document.</p>	<p>A discussion of the impacts of environmental trends and ongoing activities is provided at the beginning of Section 3.6.1.3 on pages 3.6.1-49 and 3.6.1-50.</p>
<p>Section Title: Impacts of Alternative B; Section: 3.6.1.5; Page: 3.6.1-61; PDF Page: 603; Comment from NMFS unless otherwise noted: Under cable emplacement please revise the impact conclusions to “long-term or permanent and moderate” to more accurately characterize potential impacts and maintain consistency with impact definitions in Table 3.6.1-33 and insert more discussion and analysis of potential impacts to fishery operations. This section must include a discussion of cable preparation activities such as boulder relocation boulder plow use trenching and cable armoring as these activities prolong impacts to commercial fishing beyond the installation operations alone. Building on the experience of South Fork and Vineyard Wind this section should note that cable installation might take more time than expected given that this project would install more miles of cables than these other projects which took nearly a year to install. Mobile gear will also be affected by cable emplacement activities in the form of boulder relocation and cable armoring and should be discussed in this section. As we’ve noted for nearly every project EIS analysis of fishery exposure to export cable corridors can be quantified. Most developers have requested fishing footprint</p>	<p>The “cable emplacement and maintenance” IPF Includes impacts that occur during cable installation. Because cable installation would occur over a period of less than 3 years, impacts from the IPF are classified as short-term. The impact classification for this IPF has been revised to moderate for the Proposed Action because fishing activity is expected to return to a condition with no measurable effects from this IPF (i.e., no construction-related disruptions) once cable installation is complete.</p> <p>A discussion of seabed preparation impacts associated with cable installation has been added to Section 3.6.1.5.</p>

Comment	Response
<p>analysis of export cable corridors. This should be included in this section. Based on information available from other projects we expect the export cable corridor will cross many other cables necessitating more cable armoring consistent with conventional practices. This increases impacts particularly for bottom tending mobile gear and these structures will be long-term or permanent. Impact conclusions should be adjusted accordingly to long-term or permanent moderate impacts. These issues should also be reflected on page 3.6.1-64 under "presence of structures."</p>	
<p>Section Title: Impacts of Alternative B; Section: 3.6.1.5; Page: 3.6.1-63; PDF Page: 605; Comment from NMFS unless otherwise noted: Under noise please note that pile driving and operational noise/vibration impacts to invertebrates such as surfclams that may close their valves retract siphons and burrow for long periods due to a behavioral response which may reduce respiration and feeding (see Roberts et al. 2015 at https://www.int-res.com/articles/meps2015/538/m538p185.pdf) and Roberts and Elliott 2017 at https://www.sciencedirect.com/science/article/pii/S0048969717306290?casa_token=5AHwGw6rDSgAAAAA:xOgimu0WnvCmJ5WC1T4MKQoHSqNBahdIP4FeHiBFhkIME1yxd1XGWWhNstpcfjg7y1h8M6nbR1eE#f0010). In fact, there is little mention of substrate vibration and its potential impact throughout the entire document. If this behavior is prolonged it could result in mortality or reduced spawning for these species resulting in reductions in fishery availability that could reduce fishery revenues. This should at least be mentioned qualitatively in this section.</p>	<p>Additional text has been added to Section 3.6.1.5 to discuss substrate vibration and potential impacts on bivalves.</p>
<p>Section Title: Impacts of Alternative B; Section: 3.6.1.5; Page: 3.6.1-63; PDF Page: 605; Comment from NMFS unless otherwise noted: Under port utilization please revise the impact conclusions to "long-term to permanent" and moderate impacts to be consistent with impact definitions in Table 3.6.1-33. Ports affected include those used by fisheries operating in the lease area and adjacent waters. As noted in this section vessel operations would be affected and they would have to adjust somewhat to increased port congestion. Therefore, these impacts are properly characterized as moderate using the definitions in Table 3.6.1-33.</p>	<p>The impact duration of this IPF has been revised to long-term to permanent.</p>
<p>Section Title: Impacts of Alternative B; Section: 3.6.1.5; Page: 3.6.1-64 through 3.6.1-68; PDF Page: 606-610; Comment from NMFS unless otherwise</p>	<p>Additional text has been added to Section 3.6.1.5 to note that Atlantic City derived the highest percentage of revenue from the Lease Area.</p>

Comment	Response
<p>noted: Under presence of structures please insert reference to Atlantic City as the port most affected by this project and include an estimate of impacts to shoreside support services as a result of fishing operations changes associated with this project. As noted in Table 3.6.1-24 Atlantic City is the port most affected by this project and it should be noted in this section. Quantitative analysis of shoreside support services impacts should be included in this section based on at least some of the established methods referenced in BOEM's draft fishery mitigation guidance (available at: https://www.boem.gov/renewable-energy/reducing-or-avoiding-impacts-offshore-wind-energy-fisheries). According to BOEM's guidance because any mitigation and compensation must be based on information available in the project NEPA or other supporting documents an evaluation of shoreside impacts should be included in the FEIS to ensure that anticipated impacts can be appropriately mitigated. Also please note that our party/charter report (available at: https://www.greateratlantic.fisheries.noaa.gov/ro/fso/reports/WIND/WIND_AREA_REPORTS/rec/OCS_A_0499_Atlantic_Shores_South_rec.html#Percentage_of_Angler_Trips_by_Permit) indicates at least one vessel was reliant upon this area for over 90 percent of annual angler trips in 2009 and 2011.</p>	<p>As described in Table 3.6.1-39, Atlantic Shores will conduct an analysis of impacts on shoreside seafood businesses adjacent to ports listed in Table 3.6.1-15.</p> <p>Additional text has been added to Section 3.6.1.5 to note that several recreational permit holders are highly reliant on the Lease Area.</p>
<p>Section Title: Impacts of Alternative B; Section: 3.6.1.5; Page: 3.6.1-71; PDF Page: 613; Comment from NMFS unless otherwise noted: Under port utilization please note that impacts on commercial and for-hire fishing operations out of Atlantic City are expected to be long-term and moderate due to the connected action.</p>	<p>The impact designation for port utilization has been revised to long-term and moderate.</p>
<p>Section Title: Impacts of Alternative B; Section: 3.6.1.5; Page: 3.6.1-72; PDF Page: 614; Comment from NMFS unless otherwise noted: Please elaborate on the cumulative impacts of the proposed action. There is minimal detail offered other than relative contributions of the proposed action to general footprint metrics (i.e. percentage of area affected by scour protection percentage of wind structures etc.). More detail is needed particularly to the relevant contributions of this project to regional fishery impacts and the cumulative impacts of regional wind projects on fisheries and ports primarily affected. This provides the comprehensive evaluation of cumulative impacts required by NEPA.</p>	<p>A paragraph has been added to the <i>Cumulative Impacts of Alternative B – Proposed Action</i> subsection to discuss the impacts of fisheries displacement and revenue loss associated with the Proposed Action relative to fisheries displacement and revenue loss associated with all existing and planned OSW projects in the Greater Atlantic Region.</p>

Comment	Response
<p>Section Title: Impacts of Alternative B 3.6.1.5; Section: 3.6.1-73; PDF Page: 615; Comment from NMFS unless otherwise noted: Please revise impact conclusions associated with the connected action to "long term minor to moderate" for commercial fisheries operating out of the port of Atlantic City to be consistent with impact definitions in Table 3.6.1-33. It is incorrect and inconsistent with that table to conclude impacts of the connected action alone would be negligible based on the discussions in this section of the document.</p>	<p>The impact designation for the connected action has been revised to long-term and minor to moderate for commercial and recreational fishing vessels operating out the Port of Atlantic City.</p>
<p>Section Title: Impacts of Alternative B; Section: 3.6.1.5; Page: 3.6.1-73; PDF Page: 615; Comment from NMFS unless otherwise noted: In the discussion of cumulative impacts of Alternative B please remove reference to impacts associated with regulated fishing effort and climate change or insert a discussion of such impacts in this section. Without a discussion of the impacts of fishery regulations or climate change the DEIS cannot conclude that these factors would affect the impact conclusions listed in this section.</p>	<p>Regulated fishing effort and climate change have been removed from the discussion under the <i>Cumulative Impacts of Alternative B – Proposed Action</i> subsection.</p> <p>Impacts of regulated fishing effort and climate change are addressed in Section 3.6.1.3 under the <i>Impacts of Alternative A – No Action</i> subsection.</p>
<p>Section Title: Proposed Mitigation Measures; Section: 3.6.1.8; Page: 3.6.1-77; PDF Page: 619; Comment from NMFS unless otherwise noted: (Table 3.6.1-37) Please provide additional detail about particular mitigation measures listed in Table 3.6.1-37 and in this section to ensure the reader understands the measure and potential contributions to reducing expected impacts. For example, more detail is needed regarding incident reporting, specifically the reference to compensation thresholds. It is unclear what these thresholds are or how they would affect compensation. Such detail is needed to assess what incidents and therefore impacts would be covered by compensation measures. If incidents require responsive actions that could increase impacts to fishing operations depending on the nature of that response. Therefore, it is unclear how such a measure will reduce impacts as these measures could result in indirectly and unintentionally increasing impacts to fisheries and associated communities. Similar to comments we made on the Empire Wind FEIS additional detail is needed for the fisheries compensation/mitigation fund to enable the reader to conclude that it could reduce impacts to fisheries and affected communities.</p> <p>Basing compensation on impacts listed in Table 3.6.1-15 could underestimate realized impacts to affected entities and communities because it is based on</p>	<p>The incident reporting threshold outlined in 30 CFR 585.831 is \$25,000. The description of this mitigation measure in the table (now Table 3.6.1-39) has been updated to be clearer about this.</p> <p>BOEM expects that commercial fisheries revenue loss will primarily result from the presence of OSW structures in the Lease Area, which is entirely within federal waters. Therefore, BOEM expects that the revenue exposure values developed from GARFO-permitted vessels operating in the Lease Area will be sufficient for determining compensation for displacement of fishing activity. As provided in Table 3.6.1-39, Atlantic Shores will be required to conduct an analysis of impacts on shoreside seafood businesses in ports that are expected to be impacted by the Proposed Action. The compensation fund will be based on both the revenue exposure analysis provided in Section 3.6.1 <i>Commercial Fisheries and For-Hire Recreational Fishing</i> of the EIS (e.g., Table 3.6.1-15) and the analysis of shoreside impacts. For long-term impacts during the operation of the Proposed Action, BOEM recommends that, at minimum, lessees consider the following payment structure be available for claimants: 100 percent of revenue exposure for the first year after construction, 80 percent of revenue exposure 2 years after construction, 70 percent of revenue exposure 3 years after construction, 60 percent after four years, and</p>

Comment	Response
<p>data that is not reflective of all fisheries operations that may be affected by this project and does not include long-term impacts through the operational life of the project or contributions of this project to cumulative regional impacts.</p> <p>As we have observed in other regional wind projects, boulder relocation could result in substantive impacts to fishery operations (e.g., over 6000 boulders were relocated from one project alone). For previous projects impacts from such activities were not accounted for in associated NEPA analysis and therefore associated compensation plans. Similar to the fisheries mitigation/compensation plan until the details of the boulder relocation plan are known it is not possible to conclude that these measures would reduce impacts to fisheries.</p>	<p>50 percent after five years post construction. Compensatory mitigation beyond 5 years post-construction may be necessary and should be evaluated based on the activities proposed in the COP.</p> <p>Additional information regarding boulder relocation have been added to Section 3.6.1.5 under the "Cable emplacement and maintenance" IPF. Presence of boulders is expected to be minimal and limited to the OECs, and boulder removal would likely be performed using subsea grab, a method with minimal seabed impact. Boulders would be relocated as close as practical to their original location and only to the extent required to allow for cable installation and are anticipated to remain within the surveyed OEC.</p>
<p>Section Title: Comparison of Alternatives; Section: 3.6.1.9; Page: 3.6.1-79; PDF Page: 621; Comment from NMFS unless otherwise noted: Please include language analogous to the text from Section 3.6.1.6 indicating that the benefits to commercial fisheries from any of the alternatives reducing the number of wind turbines relative to the proposed action would outweigh any loss of benefits to party-charter fisheries from more structures in the water. This is important to convey the overall benefits to fisheries at large particularly commercial fisheries from the reduction of wind turbines in these other alternatives.</p>	<p>The following text has been added to Section 3.6.1.6:</p> <p>"Given that the presence of WTGs in the water is expected to have adverse impacts on commercial fisheries that outweigh the beneficial impacts on for-hire recreational fisheries, the reduction in WTGs under Alternatives C, D, and E is expected to result in slightly reduced overall impacts on commercial and for-hire recreational fisheries compared to the Proposed Action."</p> <p>A similar statement is already included in Section 3.6.1.7.</p>
<p>Section Title: Impacts of Alternative B – Proposed Action on Other Uses Scientific Research and Surveys Presence of Structures; Section: 3.6.7.5; Page: 3.6.7-24; PDF Page: 796; Comment from NMFS unless otherwise noted: Please remove the word 'could' as scientific surveys will be affected during the construction and operations of the proposed action.</p>	<p>Edit has been made to the text replacing "could" with "would."</p>
<p>Section Title: Impacts of Alternative B – Proposed Action on Other Uses Scientific Research and Surveys Presence of Structures; Section: 3.6.7.5; Page: 3.6.7-24; PDF Page: 796; Comment from NMFS unless otherwise noted: Please replace the term "Federal Survey Strategy" with "Federal Survey Mitigation Strategy."</p>	<p>Edit has been made to include the word "Mitigation."</p>
<p>Section Title: Impacts of Alternative B – Proposed Action on Other Uses Scientific Research and Surveys Presence of Structures; Section: 3.6.7.5; Page:</p>	<p>Edit has been made to include this language under the Cumulative Impacts of Alternative B – Proposed Action, Scientific Research and Surveys.</p>

Comment	Response
<p>3.6.7-25; PDF Page: 797; Comment from NMFS unless otherwise noted: Please state explicitly that the planned maximum-case scenario for WTG blade tip height would exceed the aerial survey altitude within the wind farm. The increased altitude necessary for safe survey operations could result in lower chance of detecting marine mammals and sea turtles.</p>	
<p>Section Title: Proposed Mitigation Measures; Section: 3.6.7.8; Page: 3.6.7-30; PDF Page: 802; Comment from NMFS unless otherwise noted: (Table 3.6.7-2.) Please include proposed Mitigation measure(s) that address both project-specific survey mitigation as well as cumulative effects of not being able to conduct long standing surveys consistent with the NMFS/BOEM Final Survey Mitigation Strategy for the Northeast U.S. Region.</p>	<p>BOEM has developed a measure to require lessees to work with NMFS on a survey mitigation agreement for individual offshore wind projects. This BOEM-proposed mitigation measure has been added to Table G-3 in Appendix G, <i>Mitigation and Monitoring</i>, and Table 3.6.1-39 in Section 3.6.1.8</p> <p>Consistent with NMFS and BOEM survey mitigation strategy actions in the NOAA Fisheries and BOEM Federal Survey Mitigation Implementation Strategy - Northeast US Region, Atlantic Shores would be required to submit to BOEM a survey mitigation agreement between NMFS and Atlantic Shores. The survey mitigation agreement would describe how Atlantic Shores would mitigate the Project impacts on NMFS surveys. At a minimum, the survey mitigation agreement would describe actions needed and the means to address impacts on the affected surveys due to the preclusion of sampling platforms and impacts on statistical designs. Other anticipated Project impacts on NMFS surveys, such as changes in habitat and increased operational costs due to loss of sampling efficiencies, may also be addressed in the agreement.</p> <p>The survey mitigation agreement would identify activities that would result in the generation of data equivalent to data generated by NMFS's affected surveys for the duration of the Project. The survey mitigation agreement would describe the implementation procedures by which Atlantic Shores would work with NMFS to generate, share, and manage the data required by NMFS for each of the surveys impacted by the Project. The survey mitigation agreement would also describe Atlantic Shores' participation in the NMFS NEFSC Northeast Survey Mitigation Program to support activities that would address regional-level impacts for the surveys listed above.</p>
<p>(D.A1-1) NMFS requests that BOEM remove the last sentence above D.A1-1: "The content of these tables has been vetted by cooperating agencies to the EIS and therefore has been included in whole for their use in impact and</p>	<p>The sentence highlighted by the commenter has been deleted from Appendix D, <i>Ongoing and Planned Activities Scenario</i>, of the Final EIS.</p>

Comment	Response
cumulative analyses and for ease in reference by the reader." The content of this table has not been "vetted" by all cooperating agencies. The content and organization are similar to a table in the Vineyard Wind EIS. However, the content and structure of this table has been changed.	
Section Title: Ongoing and Planned Activities Scenario; Section: D.1; Page: D-4; PDF Page: 10; Comment from NMFS unless otherwise noted: (Table D-1) The entry for marine mammals does not include the Gulf of Mexico LME and Canadian Scotian Shelf even though they are included in Section 3.5.6. NMFS requests it be added it to the table.	The Scotian Shelf is included in Table D-1. The Gulf of Mexico LME has been added to the table.
Section Title: Appendix D; Section: Global; Comment from NMFS unless otherwise noted: It appears the Gulf of Mexico and the Canadian Scotian Shelf are not incorporated in the discussion of planned and ongoing activities but they are part of the GAA for marine mammals as indicated in Chapter 3. NMFS requests these both be incorporated as applicable.	<p>Ongoing and planned activities within the Gulf of Mexico have been added to Appendix D, <i>Ongoing and Planned Activities Scenario</i>, of the Final EIS and are now referenced in Section 3.5.6, <i>Marine Mammals</i>, and Section 3.5.7, <i>Sea Turtles</i>.</p> <p>The Canadian Scotian Shelf lies outside the U.S. exclusive economic zone (EEZ), and thereby outside of U.S. jurisdiction. Ongoing and planned activities are within Canadian jurisdiction and are unknown to BOEM at this time.</p>
Section Title: Ongoing and Planned Activities Scenario; Section: D.1; Page: D-4; PDF Page: 10; Comment from NMFS unless otherwise noted: (Table D-1) Please edit the marine mammal text to reflect what is provided above in Appendix D-1 and requested changes to Section 3.5.6 as the definition of the GAA so it reads "This area is intended to capture the general movement range for the marine mammal species that could be affected by the Project."	The requested revision has been made to language in Table D-1.
Section Title: Mitigation and Monitoring; Page: G-50; PDF Page: 52; Comment from NMFS unless otherwise noted: (Table G-2) We recommend that BOEM revise BOEM-proposed mitigation measure 3 (fisheries compensation/mitigation fund) to ensure that all details are provided in sufficient time to facilitate meaningful public input and responsive changes to the fund well in advance of fund establishment. As proposed the lessee must develop a compensation fund within 1 year of COP approval and at least 90 days before establishing the fund during which time a 45-day review and (presumably) public comment period will occur. We are concerned that the time provided may not be sufficient time for the public to provide and the lessee to incorporate meaningful feedback that could result in revisions to	BOEM does not require a stakeholder review to be incorporated into the development of the fisheries compensation fund. However, the developer is required to have a fisheries communication plan. As described in the commercial fisheries engagement strategies for the Atlantic Shores Fisheries Communication Plan, Atlantic Shores would engage with fishermen to establish a set of guiding principles and procedures for determining any required mitigation, including fisheries compensation claims. The Atlantic Shores South Fisheries Communication Plan is available at the link below: https://www.atlanticshoreswind.com/wp-content/uploads/ASOW_FCP_Version_1.3-rev.pdf .

Comment	Response
<p>the compensation fund. Unlike previous compensation processes mostly facilitated through the Coastal Zone Management Act federal consistency review it is unclear how involved the affected public may be in developing this fund and how their participation may influence fund amounts and the associated claims process. The lack of transparency in this proposed measure could undermine the effectiveness and acceptance of this mitigation measure. Further the establishment of this fund after COP approval limits the ability of the public to evaluate the effectiveness of this measure at reducing fishery impacts as suggested in Table 3.6.1-37 of Section 3.6.1. To ensure future project EISs fully evaluate fishery impacts we strongly recommend BOEM require the development of compensation plans before finalization of the FEIS and COP approval.</p>	<p>As described in Table 3.6.1-39, Atlantic Shores must commit to establishing a fisheries compensation fund that is consistent with BOEM’s draft Guidance for Mitigating Impacts to Commercial and Recreational Fisheries and is based on the revenue exposure analysis for fisheries summarized in Section 3.6.1, <i>Commercial Fisheries and For-Hire Recreational Fishing</i> of the EIS. This BOEM-proposed mitigation measure establishes the framework that Atlantic Shores will use to develop the fisheries compensation fund.</p>
<p>Section Title: Appendix G: Mitigation and Monitoring; Page: G-5; PDF Page: 7; Comment from NWS Table G-1: OCE-01. What data is being collected from these buoys and what forum will the data be shared with the public?</p>	<p>COP Volume I, Section 2.2, <i>Physical Oceanography and Meteorology</i>, explains that the metocean buoys would monitor weather and sea state conditions. The buoy would contain various instruments measuring wind, wave, water level, currents, as well as parameters such as air and water temperature, air pressure, and conductivity. Data collected has been made public via https://www.atlanticshoreswind.com/mariners/. The link has been added to OCE-01 in Appendix G, <i>Mitigation and Monitoring</i>.</p>
<p>Section Title: Appendix G: Mitigation and Monitoring; Page: G-5; PDF Page: 7; Comment from NWS: (Table G-1: OCE-02) What are these site-specific metocean conditions and how are they determined?</p>	<p>Metocean conditions can be found in the COP Appendix II-B: Metocean Reports.</p>
<p>Section Title: Appendix G: Mitigation and Monitoring; Page: G-5; PDF Page: 7 Comment from NWS:(Table G-1: OCE-03) What qualifies as “extreme weather” and is this consistent for all past/future structures?</p>	<p>Extreme weather, such as storms and hurricanes, are described in more detail in the COP Volume II, Section 2.2.1, <i>Affected Environment</i>.</p>
<p>Section Title: Appendix G: Mitigation and Monitoring; Section: Appendix G. Table G-1.; Page: G-34; PDF Page: 36 Comment from NOS/IOOS: (Table G-1) In the row for "Measure Number/Name" AVI-11 within Table G-1 please remove "NOAA IOOS Office" from the list of "BOEM’s Identification of the Anticipated Enforcing Agency"—since as an oceanographic office the NOAA IOOS Office is not responsible for the NEXRAD WSR-88D or the FAA TDWR systems (which are meteorological radars).</p>	<p>Text in Table G-1 has been revised accordingly.</p>
<p>Section Title: Appendix G: Mitigation and Monitoring; Section: Appendix G. Table G-2; Page: G-51; PDF Page: 53 Comment from NOS/IOOS: (Table G-2)</p>	<p>Text in what is now Table G-3 has been revised accordingly.</p>

Comment	Response
<p>Updated language for NOAA IOOS oceanographic HF-radar wind turbine interference mitigation has been developed by the IOOS Surface Currents Program in consultation with NOAA's Office of General Counsel and provided to BOEM's Andrew McGuffin and team. This table needs to be updated to reflect this new language. Accordingly in the row for item #4 "Radar interference" replace the "Description of Agency-Proposed Mitigation and Monitoring Measures" with the following: 1. High-Frequency Radar Interference Analysis and Mitigation. The Lessee's Project has the potential to interfere with oceanographic high-frequency (HF) radar systems in the U.S. Integrated Ocean Observing System (IOOS) which is managed by the IOOS Office within the National Oceanic and Atmospheric Administration (NOAA) pursuant to the Integrated Coastal and Ocean Observation System Act of 2009 (Pub. L. 111-11) as amended by the Coordinated Ocean Observation and Research Act of 2020 (Public Law 116-271 Title I) codified at 33 U.S.C. 3601–3610 (referred to herein as "IOOS HF-radar"). IOOS HF-radar measures the sea state including ocean surface current velocity and waves in near real time. These data have many vital uses ("mission objectives") including tracking and predicting the movement of spills of hazardous materials or other pollutants monitoring water quality and predicting sea state for safe marine navigation. The U.S. Coast Guard also integrates IOOS HF-radar data into its Search and Rescue systems. The Lessee's Project is within the measurement range of 1 IOOS HF-radar system operated by Old Dominion University in Assateague Island MD and 14 IOOS HF-radar systems operated by Rutgers University in: Bradley Beach NJ; Brant Beach NJ; Brigantine (long-range) NJ; Brigantine (medium-Range) NJ; Cape May Point NJ; Hempstead NY; Loveladies NJ; Moriches NY; North Wildwood NJ; Sandy Hook NJ; Sea Bright NJ; Seaside Park NJ; Strathmere NJ; and Wildwood NJ.. 1.1 Coordination Due to the potential interference with IOOS HF-radar and the risk to public health safety and the environment the Lessee is obligated to mitigate unacceptable interference with IOOS HF-radar from the Lessee's Project at all times the Lessee's Project is in operation. Interference is considered unacceptable if as determined by BOEM in consultation with NOAA's IOOS Office IOOS HF-radar performance is or may become no longer within the specific radar systems' operational parameters or fails or may fail to meet IOOS's mission objectives. 1.2 Mitigation Approval After the above coordination at least 60 calendar days prior to completion of construction or initiation of commercial</p>	

Comment	Response
<p>operations (whichever is earlier) the Lessee must submit to BOEM documentation demonstrating how it will mitigate interference with IOOS HF-radar at all times during operation of Lessee’s project. If after consultation with the NOAA IOOS Office BOEM deems the mitigation acceptable the mitigation will be considered required as a term of this permit. 1.2.1 If at any time the NOAA IOOS Office or a HF-radar operator informs the Lessee that the Project will cause a HF-radar system to fall outside of its operational parameters or fail to meet mission objectives the Lessee must notify DOI of the determination as soon as possible and no later than 30 calendar days from the date on which the determination was communicated. 1.3 Mitigation Agreement. Lessee is encouraged to enter into an agreement with the NOAA IOOS Office to implement mitigation and any such Mitigation Agreement may satisfy the requirement to mitigate interference with IOOS HF-radar. The point-of-contact for development of a Mitigation Agreement with the NOAA IOOS Office is the Surface Currents Program Manager whose contact information is available at https://ioos.noaa.gov/about/meet-the-ioos-program-office/ and upon request from BOEM. A Mitigation Agreement may serve the purpose of implementing Sections 1.2. If there is any discrepancy between Section 1.2 and the terms of a Mitigation Agreement the terms of the Mitigation Agreement will prevail. 1.4 Mitigation Implementation Mitigation required under Section 1.2 must address the following: 1.4.1 Before rotor blades are installed within the Project and continuing throughout the life of the Project until the point of decommissioning where all rotor blades are removed Lessee must make publicly available via IOOS near real-time accurate numerical telemetry of surface current velocity wave height wave period wave direction and other oceanographic data measured at Project locations selected by the Lessee in coordination with the NOAA IOOS Office. 1.4.2 If requested by the NOAA IOOS Office Lessee must share with IOOS accurate numerical time-series data of blade rotation rates nacelle bearing angles and other information about the operational state of each turbine in the WDA to aid interference mitigation. 1.5 Additional Notification. If a mitigation measure other than that identified in Section 1.2 is agreed to by the Lessee and BOEM in consultation with the NOAA IOOS Office then the Lessee must submit information on the proposed mitigation measure to DOI for its review and concurrence. If after consultation with the NOAA IOOS</p>	

Comment	Response
Office BOEM deems the mitigation acceptable the mitigation will be considered required as a term of this permit.	
Section Title: Global; Comment from NMFS unless otherwise noted: Please ensure all table graphs and figures are 508 compliant in order to ensure sufficient public access and review.	BOEM will ensure all tables, graphs, and figures in the FEIS are 508 compliant.

N.4.1.2 U.S. Environmental Protection Agency

Table N.4-2. Responses to Comments from USEPA [BOEM-2023-0030-1240]

Comment	Response
<p>The U.S. Environmental Protection Agency (EPA) has reviewed the Bureau of Ocean Energy Management’s (BOEM) Draft Environmental Impact Statement (DEIS) for the Atlantic Shores Offshore Wind South Project (the Project) pursuant to the National Environmental Policy Act (NEPA) Council on Environmental Quality regulations (40 CFR Parts 1500-1508) and our NEPA review authority under Section 309 of the Clean Air Act. EPA serves as a cooperating agency for the Project and in that capacity actively coordinated with BOEM throughout the entire NEPA process. Our input to BOEM included scoping comments (October 28 2021) input on the purpose and need and alternatives considered for the Project and review of the administrative DEIS (April 13 2023).</p> <p>Atlantic Shores Offshore Wind LLC (Atlantic Shores) proposes a wind energy facility situated in federal waters located 8.7 miles (14 kilometers) from the New Jersey shoreline at its closest point. The wind energy facility would consist of two projects Project 1 having a capacity of 1510 megawatts (MW) and Project 2 having a targeted capacity of 1327 MW together known as Atlantic Shores South (The Project). The Project would consist of up to 200 wind turbine generators inter-array cables up to ten offshore substations two onshore substations and eight transmission cable routes making landfall at two New Jersey locations. The DEIS evaluates the No Build Alternative in addition to five alternative configurations including options intended to avoid potential impacts to sensitive areas or cultural and historical resources. The construction and operation of the Project could result in a wide range of impacts to resources that are within EPA’s areas of jurisdiction and expertise.</p>	Comment acknowledged.

Comment	Response
<p>Based on our review of the DEIS, EPA has identified environmental concerns and deficiencies in the analysis that should be addressed in the Final Environmental Impact Statement. We offer the attached detailed technical comments to strengthen the assessment of air quality impacts alternatives the consideration of environmental justice various marine and water quality impacts and climate resiliency. The enclosed comments are intended to be consistent with our ongoing work in the Region to support local communities and reduce environmental impacts. In addition, we recommend close coordination with federal state local agencies and tribes with relevant air water and natural resource responsibilities and interests throughout the Project implementation.</p> <p>Thank you for the opportunity to provide comments on this DEIS. EPA looks forward to the receipt and review of the Final Environmental Impact Statement and we are committed to continuing to work with BOEM throughout the NEPA process and in the future especially as full projects come to fruition.</p>	
<p>The DEIS characterizes most alternatives as causing similar impacts despite there being measurable differences in some of the alternatives (for example Alternatives C and D which attempt to minimize impacts to habitat or resources). EPA believes that this may be an artifact of the broad and generalized metrics used to classify impacts which precludes a meaningful comparison of impacts across the various alternatives presented. The DEIS should indicate how substantial a reduction in impacts would be necessary to result in any discernible difference in the impact determination given these broad evaluation metrics. Additionally, the DEIS would benefit from a clearer quantitative comparison of impacts across alternatives (when applicable) that would justify the selection of the proposed alternative.</p>	<p>BOEM believes the analysis in the EIS provided appropriate level of detail and comparative analysis among alternatives in order for the public and decision maker to distinguish the impacts between alternatives. The level of analysis and detail by alternatives is commensurate with other BOEM offshore wind EISs.</p>
<p>The DEIS includes consideration of the repair or installation of a new bulkhead and maintenance dredging in coordination with Atlantic City's dredging of the adjacent basins which are necessary for the use of the Operations and Maintenance (O&M) Facility. However, the DEIS lacks a quantitative evaluation of impacts associated with this connected action to resource areas such as water quality and air quality. EPA recommends that additional details and quantitative analyses as applicable be included in the DEIS to support the impacts determinations made for the connected action.</p>	<p>The maintenance dredging will be completed by the City of Atlantic City in conformance with permits obtained from USACE (CENAP-OPR-2021-00573-95) and NJDEP (Dredge Permit No. 0102.20.0001.1 LUP 210001). Atlantic Shores is pursuing a USACE Nationwide Permit 13 to install the bulkhead and will comply with all regulations and measures stipulated therein. Site-specific studies and models to analyze water quality and air quality impacts, if requested by USACE and/or NJDEP, would be covered under those permit applications, which is separate from this EIS.</p>

Comment	Response
<p>EPA recommends that BOEM consider distinguishing between minor and moderate air quality impact level classifications. Additionally, the impact level definitions do not appear to pertain to greenhouse gas emissions.</p>	<p>The distinction between “minor” and “moderate” is a qualitative evaluation. Because emissions levels alone do not determine concentrations, setting an impact level based on emissions is subjective. Because no project has GHG emissions large enough to make a measurable difference to climate impacts, BOEM does not assign impact ratings specifically to GHG emissions.</p>
<p>Based on the information presented in the DEIS it is unclear how a determination of minor impacts to air quality can be made. The EIS states that “construction activity would occur at different locations and could overlap temporally with activities at other locations including operational activities at previously constructed projects. As a result, air quality impacts would be minor shifting spatially and temporally across the air quality geographic analysis area”. While the location of the construction moves spatially and temporally the emissions are large and are continuous for at least 2 years for each project alone. To provide a sense of the magnitude of these emissions it is anticipated that NOx emissions during construction of the Project would be at the National Ambient Air Quality Standards (NAAQS) levels.</p>	<p>The determination of "minor" impacts is a qualitative evaluation. Because emissions levels alone do not determine concentrations, setting an impact level based on emissions is subjective. The air quality modeling performed for the project estimates that NO₂ concentrations would be within the NAAQS.</p>
<p>EPA is also very concerned with the potential adverse impacts to the Brigantine Wildlife Refuge Class I Area. Based on the information provided in Table 3.4.1-11 visibility impairments are likely to exceed the Federal Land Managers’ Air Quality Related Values (AQRV) Workgroup thresholds. Based on the information provided in Table 3.4.1-11 visibility impairments are likely to exceed the Federal Land Managers’ Air Quality Related Values (AQRV) Workgroup thresholds. We recommend that project impacts on visibility in Class I areas be stated clearly within the DEIS. EPA also encourages BOEM to consider including mitigation measures to prevent and offset emissions. Additionally, we note that these impacts outlined above are independent of the potential cumulative air quality impacts that may be expected given the overlapping construction and operation of adjacent wind farms within the geographic analysis area.</p>	<p>The visibility analysis was conducted as part of the OCS air permit application which is currently under review by EPA and USFWS. BOEM expects that the applicant will provide additional information as requested by EPA and USFWS.</p>
<p>Table 3.4.1-8. shows the maximum modeled concentrations across all construction activities and displays the modeled concentration for NO₂ is 187.6 (µg/m³) where the NAAQs is 188 (µg/m³). These modeled results do not include the emissions of subsequent or concurrent construction of other</p>	<p>Section 3.4.1.5 of the EIS assesses cumulative impacts of offshore wind development based on the predicted emissions from the projects. The determination of impact levels is a qualitative evaluation. Because emissions</p>

Comment	Response
<p>offshore wind projects. Appendix D Table D-3 indicates that in 2026 several other offshore wind projects in the New York / New Jersey area will be involved in construction activities and the DEIS states that overlapping construction activities could result in higher levels of impacts. EPA suggests BOEM justify its conclusion that the adverse impacts to air quality would be moderate and not major during construction phase of the project.</p>	<p>quantities alone do not determine concentrations, setting an impact level based on emissions is subjective.</p>
<p>Page 3.4.1 of the DEIS states “The air quality geographic analysis area as shown on Figure 3.4.1-1 includes the airshed within 25 miles (40 kilometers) of the WTA (corresponding to the [Outer Continental Shelf (OCS)]OCS permit area) and the airshed within 15.5 miles (25 kilometers) of onshore construction areas and ports that may be used for the Project. The geographic analysis area encompasses the geographic region subject to USEPA review as part of an OCS permit for the Project under the Clean Air Act(CAA).” EPA requests that BOEM remove the references to the CAA permit for the following reasons: The OCS permit does not consider the onshore construction emissions or their impacts. It only assesses air quality impacts from the OCS source related overwater emissions and existing background concentrations. The air quality impact evaluation from these emissions are expected to extend onshore at a distance where the modeled impacts from the overwater sources diminish. The OCS permit area is defined with a distance of 25 nautical miles around the overwater emission sources located on the OCS. The reference to determining the size of the air shed for the purpose of the OCS permit for the project under the CAA should be clarified. That is the size of the air quality impact analysis (or air shed) for the permit is different in each case and depends on several factors such as the size of the emissions the dispersion characteristics and the distance to Class I areas (in this case Brigantine Wildlife Refuge.)</p>	<p>References to the CAA OCS permit have been removed from the discussion of the geographic analysis area.</p>
<p>Furthermore, emissions regulated and permitted under the OCS permit are only a subset of emissions that would be expected from construction of the Project or alternatives. For the purposes of NEPA the DEIS should fully and clearly evaluate whether all air emissions from the Project including emissions not covered by the OCS permit will cause or contribute to a new violation of the NAAQS increase the frequency or severity of any existing violation of the standards or delay timely attainment of the standards.</p>	<p>The EIS fully describes and quantifies air emissions from the Project, both those emissions that are subject to Clean Air Act permitting, and those emissions not covered by the OCS permit. As stated in the Atlantic Shores South COP, Volume II Section 3.1, the maximum Project Design Envelope (PDE) analyzed to assess potential effects to air quality is the maximum offshore and onshore build-out of the Project. Air emissions calculations use an amalgam of the different options identified for each step of the construction process, and the different options for O&M. The calculations</p>

Comment	Response
<p>Alternatively, BOEM could ensure no adverse impact on the NAAQS from these emissions by demonstrating that they are contemporaneously offset.</p>	<p>apply layers of conservatism in estimating the intensity and duration of each activity, and in calculating total air emissions that are expected to be conservatively high estimates of overall Project air emissions used for air dispersion modeling. The expected actual impacts from the modeled sources and “other” emissions sources not specifically included in the modeled (e.g., onshore construction activities) are not expected to result in any exceedances or violations of the applicable NAAQS.</p>
<p>Page 3.4.1.1 Description of the Affected Environment and Future Baseline Condition references the need to meet the NAAQS. Perhaps the paragraph should also state that for the OCS permit the source must also meet the Prevention of Significant Deterioration (PSD) of Air Quality Increments for both Class I and Class II designated areas (including areas overwater). A PSD increment is the maximum allowable increase in concentrations over the baseline area. The increment values may be found in 40 CFR Part 51.21(c).</p>	<p>The PSD increments are discussed later in the section (see EIS page 3.4-20 and Table 3.4.1-9).</p>
<p>Table 3.4.1-1. National and New Jersey ambient air quality standards: Perhaps this Table should either include a column with the PSD Class I and II increments or an additional Table for the PSD Class I and II increments. (There is also a Class III classification but it is not applicable since there are no Class III areas in the country). Please note that the national 24 hour and annual SO₂ NAAQS have been revoked. However, the 24-hour and annual SO₂ PSD increments remain effective.</p>	<p>The PSD increments are discussed later in the section (see EIS page 3.4-20 and Table 3.4.1-9).</p>
<p>Please note that the averaging time in footnote 3 related to the New Jersey Suspended Particulates is incorrect. The 24-hour average is based on the Highest 2nd-highest while the annual average is based on the highest. See: https://casetext.com/regulation/new-jersey-administrative-code/title-7-environmental-protection/chapter-27-air-pollution-control/subchapter-13-ambient-air-quality-standards/section-727-133-ambient-air-quality-standards-for-suspended-particulate-matter</p>	<p>Footnotes to EIS Table 3.4.1-1 have been corrected.</p>
<p>It should be noted that the modeled air quality impacts of the NAAQS and PSD increments denoted in Table 3.4.1-8 and Table 3.4.1-9 are not final since the modeling analyses are undergoing revisions and have not yet been approved by EPA.</p>	<p>A note has been added to the EIS at page 3.4-20 explaining this.</p>
<p>Table 3.4.1-9. Estimated ambient concentration increases for construction (µg/m³) compared to PSD increments. The second column from the right lists</p>	<p>The missing values have been added to the table, which is now Table 3.4.1-10.</p>

Comment	Response
<p>the PSD Class I and II increments. The NO₂ Class I increment should be 2.5 µg/m³ rather than 2. It is also missing the annual PM₁₀ and annual PM_{2.5} Class I increment which are 4 µg/m³ and 1 µg/m³ respectively. The Table is also missing the annual PM₁₀ Class II increment which is 17 µg/m³. Further all of the 24-hour increments are based on the Highest 2nd Highest values (H₂H) rather than the H.</p>	
<p>Footnote 1 should be corrected. (i.e., Concentrations of CO and SO₂ were not modeled because USEPA has not established PSD increments for these pollutants.) EPA has indeed established increments for SO₂ but it was not modeled because currently Atlantic Shores claims that the emissions are below the significant emission rates.</p>	<p>Footnote 1 to the table, which is now Table 3.4.1-10, has been corrected.</p>
<p>EPA is supportive of the commitments by the project proponent to reduce air quality impacts including: using engines manufactured and installed to meet or exceed emission control requirements and intended to minimize emissions for vessels (AQ-01; AQ-02; AQ- 03; AQ-05) the use of low-sulfur fuels and compliance with fuel sulfur limits (AQ-04) and sulfur hexafluoride (SF₆) leak detection and monitoring (AQ-08). We also support the commitment to implement a dust control plan during construction (GEO-14).</p>	<p>Comment acknowledged.</p>
<p>EPA recommends BOEM consider mitigating adverse air quality impacts through additional measures including but not limited to: (1) diesel emission reduction activities within the project area including through replacing older model-year engines on marine vessels with newer cleaner engines; (2) requiring the project proponent to pursue procurement of the most efficient and lowest emitting vessels available during the vessel-contracting stage of the project; and (3) implementing idling restrictions and other emission reduction best practices for ports such as vessel speed reduction requirements. More information regarding air emissions reduction methods at ports can be accessed at https://www.epa.gov/ports-initiative.</p>	<p>Atlantic Shores has committed to several emission reduction measures as described in the Final EIS Appendix G, Table G-1. As described in Table G-1 under measure AQ-03, Atlantic Shores will use the best available engines. Atlantic Shores will not own or operate the vessels used during construction; although they will be under contract to the project, they will be owned and operated by independent vessel operators. Repowering or retrofitting emission controls to these vessels may not be feasible for several reasons: implementation of emission reduction measures beyond those already present on a particular construction vessel would require the independent operator of that vessel to take it out of operation for an extended period of time, either to retrofit its existing marine engines with additional add-on pollution controls, or to repower the vessel by replacing its existing marine engines with new, higher-tier engines. Retrofitting or repowering the marine engines on existing vessels would require dry docking of the vessels and potentially redesign. Dry docking would result in extensive delays and costs. Vessel schedule commitments are set several years in advance of</p>

Comment	Response
	<p>construction. Redesign may not be technically feasible due to onboard space constraints or, for older vessels, other design constraints.</p> <p>For O&M, Atlantic Shores can specify the vessel used through long-term contracting or outright purchase. Atlantic Shores is actively evaluating opportunities to use liquefied natural gas or hydrogen as the primary fuel for the main CTVs or service operations vessel (SOV) to be used for routine O&M. The primary CTV or SOV to be used for O&M will likely be newly built and will meet top-Tier EPA marine engine standards for new construction. Nonroad engine emissions will be minimized using engines compliant with 40 CFR 1039, Control of Emissions from New and In-Use Nonroad Compression-Ignition Engines, i.e., Tier 4 engines, where practicable.</p> <p>As described under measure AQ-05, Atlantic Shores will implement BMPs and investigate the use of innovative tools and/or technologies to minimize air emissions from vessel operations. BOEM will encourage Atlantic Shores to implement idling restrictions and other emission reduction best practices for ports such as vessel speed reduction requirements.</p>
<p>EPA requests that BOEM include additional information on anticipated emissions and air quality impacts associated with the connected action due to bulkhead repair or replacement and dredging activities. As currently presented, the DEIS does not include any quantitative information on these air quality impacts. Such information should be presented in the form of a table and directly incorporated into the impacts determination for the Project.</p>	<p>The maintenance dredging will be completed by the City of Atlantic City in conformance with permits obtained from USACE (CENAP-OPR-2021-00573-95) and NJDEP (Dredge Permit No. 0102.20.0001.1 LUP 210001). Atlantic Shores is pursuing a USACE Nationwide Permit 13 to install the bulkhead and will comply with all regulations and measures stipulated therein. Site-specific studies and models to analyze water quality and air quality impacts, if requested by USACE and/or NJDEP, would be covered under those permit applications, which is separate from this EIS.</p>
<p>Greenhouse Gas (GHG) Emissions Executive Order 13990 (E.O. 13990 86 FR 7037; January 20 2021) urges agencies to “consider all available tools and resources in assessing greenhouse gas (GHG) emissions and climate change effects of their proposed actions”. On January 9 2023 Council on Environmental Quality (CEQ) published interim guidance effective immediately to assist federal agencies in assessing and disclosing climate change impacts during environmental reviews. CEQ indicated that agencies should use this interim guidance to inform the NEPA review for all new proposed actions and may use it for evaluations in process as agencies deem</p>	<p>Comment acknowledged.</p>

Comment	Response
<p>appropriate such as informing the consideration of alternatives or helping address comments raised through the public comment process. EPA appreciates that the DEIS highlights the potential benefits associated with the Project with respect to GHG reductions. For example, the DEIS indicates that increases in renewable energy can lead to reduction in emissions from fossil-fuel powered plants and provides estimates of annual emissions avoided (Table 3.4.1-7).</p>	
<p>While the Project may provide beneficial impacts to air quality to the extent that energy produced by the Project may displace energy produced by fossil-fueled plants EPA emphasizes the importance of not expressing the overall project-level or cumulative GHG emissions relative to state or national GHG emissions (presented in Table 3.4.1-12) as it diminishes the significance of the climate damages caused by project-scale GHG emissions and the cumulative nature of the climate crisis. Rather we recommend a comparison of the project's life cycle emissions in the context of state GHG reduction goals.</p>	<p>Table 3.4.1-12 does not include a comparison of project-level or cumulative GHG emissions relative to state or national GHG emissions, consistent with Council on Environmental Quality guidance. Project emissions relative to New Jersey's GHG reduction goals are discussed in Section 3.4.1-5.</p>
<p>Additionally, although there are substantial avoided emissions for the operational lifespan of the Project (Table 3.4.1-7) the estimates do not include emissions from deconstruction and further do not reflect upstream emissions associated with raw material extraction processing and manufacturing of components. This information would provide the most accurate account of Project-level impacts.</p>	<p>Atlantic Shores has not estimated emissions from decommissioning. Section 3.1.2.1 of the COP states, "the decommissioning phase will likely be sequenced in the reverse order of construction, and vessels used to complete offshore decommissioning activities may resemble those used during installation. To the extent that these vessels combust fossil fuels, they will have effects associated with air emissions. Atlantic Shores is optimistic that current trends in vessel engine design will continue or accelerate; that is, vessel engines will become significantly cleaner and more efficient between now and when decommissioning will occur. Therefore, Atlantic Shores anticipates the quantities of vessel air emissions during decommissioning to be significantly lower than the quantities estimated for construction." Upstream emissions are discussed in section 3.4.1.5 of the EIS.</p>
<p>EPA appreciates the incorporation of estimations of the Social Cost of GHGs to depict potential climate benefits. EPA suggests clarifying the methodology for monetizing the avoided impacts and clearly identifying the lifetime of the project related to this analysis.</p>	<p>The methodology for monetizing impacts is described in detail in IWG (2021) and is discussed in section 3.4.1.5 of the EIS. The operating lifetime of the Project is assumed to be 30 years for purposes of estimating SC-GHG.</p>
<p>EPA recommends that BOEM consider the Project in the context of the future state of the environment in light of foreseeable climate change. Climate change can make ecosystems resources and communities more susceptible</p>	<p>Information has been added to EIS Section 3.4.1.5 on the compounding impacts of climate-related vulnerabilities.</p>

Comment	Response
<p>as well as lessen resilience to other environmental impacts apart from climate change. In some instances, this may exacerbate the environmental effects of the proposed action. The DEIS should fully consider the compounding impacts of climate-related vulnerabilities in the assessment of the Project.</p>	
<p>EPA believes that the document would benefit from a more robust consideration of climate change risks to the Project in the description of the affected environment. This should include consideration of climate resiliency measures particularly for infrastructure that may be vulnerable to the impacts associated with climate change (such as sea level rise more frequent storms etc.).</p>	<p>The U.S. Global Change Research Program Fourth National Climate Assessment provides regional assessments of predicted climate impacts for 10 different geographic areas of the United States. Focusing on the existing and potential climate change risks that could potentially affect the Projects, the Fourth National Climate Assessment notes the following climate-related impacts in the northeast region of the United States:</p> <ul style="list-style-type: none"> • Average annual temperatures in the northeast are projected to rise between 4.0°F and 5.1°F by 2050 relative to the near-present average, with an increase in the number and intensity of extreme heat events, especially in highly urbanized areas; • Rainfall intensity has increased, with monthly precipitation projected to be about 1 inch greater during December through April by the end of the century; • Sea level rise along the mid-Atlantic coast (from Cape Hatteras to Cape Cod) is occurring at three to four times the global average rate, due to land subsidence caused by rebound effects from the melting of glaciers after the last ice age, as well as shorter-term effects such as the recent slowing of the Gulf Stream current; • Average storm surge heights caused by hurricanes in the New York City area have increased by more than 3.9 feet over the last 1,000 years, which has coupled with sea level rise to contribute to storm surges that reach farther inland, as demonstrated by recent events such as Superstorm Sandy; and • Many infrastructure systems in the northeast, particularly drainage and sewer systems, flood and storm protection systems, transportation, and power supply systems, are either nearing their planned life expectancy or were not designed for projected climate variability, leading to increased risk of disruptions. <p>The WTGs will be designed according to site-specific conditions, including winter storms, hurricanes, and tropical storms, based on industry standards</p>

Comment	Response
	<p>such as American Clean Power Association (ACP), International Electrotechnical Commission (IEC), American Petroleum Institute (API), and International Organization for Standardization (ISO) standards. All WTGs in the Projects will be connected to the central supervisory control and data acquisition (SCADA) system for remote monitoring and control. An uninterruptible power supply (UPS) will power the control and protection system in case of a grid outage to enable safe shut down of the WTG and saving operational data. Additional back-up power systems (e.g., WTG self-power feature, portable generators, and/or battery systems) may be utilized to provide power for commissioning or for storm protection in the event of a longer-term grid outage. A stormwater management system will be designed for the onshore substation and/or converter station sites and will include low-impact development (LID) strategies (e.g., grass water quality swales to capture and convey site runoff, deep sump catch basin(s) to pretreat surface runoff, etc.) designed to capture, treat, and recharge stormwater runoff.</p>
<p>EPA recommends that BOEM continue to coordinate with the appropriate relevant resource agencies to ensure that water resources are protected from impacts associated with activities under the Project. As there are waterbodies within the geographic analysis area included on the state's 303(d) lists there is an increased focus on ongoing efforts to improve water quality. The DEIS should clearly indicate whether the Project would hinder or support such efforts.</p>	<p>Atlantic Shores would need to ensure that any action that would affect surface waters, including those listed as impaired under Section 303(d), would not result in exceedances of water quality standards, and would comply with any existing total maximum daily load requirements for any waters designated as impaired under CWA Section 303(d).</p>
<p>EPA appreciates that the DEIS acknowledges the Barnegat Bay Comprehensive Conservation and Management Plan (CCMP) and addresses the regulatory processes to ensure the protection of water quality and wetlands. As the potential impacts of the Project extend beyond water quality impacts EPA encourages BOEM to continue to consider the project impacts on all of the CCMP goals including water supply land use and living resources and consider mitigation measures as needed.</p>	<p>BOEM will consider the impacts on all CCMP goals beyond water quality and wetlands and consider any necessary mitigation measures.</p>
<p>Portions of the Project including export cable landfalls onshore export and interconnection cable routes onshore substations and Operation and Maintenance (O&M) facilities overlay the New Jersey Coastal Plain sole source aquifer. Potential impacts to the sole source aquifer including activities that would affect recharge to the aquifer and groundwater quality should be disclosed and addressed.</p>	<p>Atlantic Shores is aware of NJDEP water allocation requirements and will abide by all federal, state, and local laws related to ground and surface water quality standards by obtaining all applicable permits. Atlantic Shores would be required to implement the terms and conditions of the applicable permits.</p>

Comment	Response
<p>While the Water Quality section discusses the waterbodies within the geographic area and current impairments, we recommend that BOEM attempt to quantify the extent that the Project would contribute to existing impairments or cause new impairments to waterbodies.</p>	<p>BOEM has described the water quality affected environment, including all the impaired waterbodies designated under CWA Section 303(d), and the water uses are non-attaining in EIS Section 3.4.2.1. Atlantic Shores would need to ensure that any action that would affect surface waters, including those listed as impaired under Section 303(d) (e.g., Barnegat Bay), would not result in exceedances of water quality standards and would comply with any existing total maximum daily load requirements for any waters designated as impaired under CWA Section 303(d). All future projects (wind or non-wind projects) with the potential to affect surface waters would need to comply with federal and state requirements to avoid and minimize impacts on water quality</p>
<p>potential impacts related to suspended contaminated sediments should be disclosed.</p>	<p>As stated in EIS Section 3.4.2.5 under the Cable emplacement and maintenance heading, sediments disturbed during construction activities are not expected to contain contaminants considering sediments are predominantly sandy and known sources of anthropogenic contaminants such as ocean disposal sites would be avoided. In the event that sediments are contaminated, the sediment plume modeling indicates that any resuspension of contaminated sediment would be temporary and no long-term effects on water quality are expected. The modeling indicates that the Atlantic ECC and interarray cable model scenarios showed above-ambient total suspended solids (TSS) concentrations (≥ 10 mg/L) significantly dissipated within 2 to 4 hours and fully dissipated in 6 or less hours. Above-ambient TSS concentrations substantially dissipated within 2 to 6 hours but required up to 13 hours to fully dissipate for the Monmouth ECC model scenarios. The landfall approach scenarios results showed that concentrations of ≥ 10 mg/L around the HDD pits dissipated within 11 hours for the Atlantic HDD pit and 12 hours for the Monmouth HDD pit. Above-ambient TSS concentrations stemming from sandwave clearance activities considerably dissipated within 4 to 6 hours and fully dissipated in less than 12 hours for most areas.</p>
<p>With respect to the connected action EPA encourages BOEM to consider beneficial use of dredged material to the extent practicable. Any potential increases in erosion related to dredging should also be addressed. The DEIS would also benefit from a description of the disposal site identified.</p>	<p>As described in Section 2.1.2.4, all resultant dredged material at the site associated with the O&M facility would be placed at Dredged Hole (DH) #86, a subaqueous borrow pit restoration site, in Beach Thorofare in Atlantic City, New Jersey, and in accordance with the Army Permit Number NAP-2020-00059-95. Placement of dredged material into DH #86 is contingent upon</p>

Comment	Response
	<p>execution of a use agreement between Atlantic City and the New Jersey Department of Transportation, Office of Maritime Resources. BOEM and Atlantic Shores would not be parties to the agreement and are not involved in the development of said agreement.</p>
<p>EPA understands that wetland delineations were conducted to confirm the extent and presence of regulated wetlands. In evaluating temporary and permanent impacts to wetlands resulting from the Project there are inconsistencies in the information provided in Table 3.5.8-3 and the text on page 3.5.8-11 Please rectify these discrepancies.</p>	<p>The text on page 3.5.8-11 and Table 3.5.8-3 have been revised to match the wetland disturbance stated in the COP (Volume II, Section 4.1-6; Atlantic Shores 2024).</p>
<p>As permanent impacts to wetlands are anticipated the DEIS should discuss conceptual potential mitigation as well as consider any concern of the capacity of the region for compensatory mitigation of cumulative wetland impacts of ongoing and planned offshore wind development.</p>	<p>Per CWA Section 404, Atlantic Shores is required to take all appropriate and practicable steps to first avoid and minimize impacts on jurisdictional wetlands, and, for those impacts that are unavoidable, provide compensatory mitigation to replace the loss of wetlands and associated functions. This is not required for the NEPA process but this process is ongoing concurrently with BOEM's NEPA process as part of Atlantic Shores Section 404 process with USACE. BOEM notes that the EIS is not a permit document, although USACE (as a cooperating agency) will use BOEM's EIS to support its Section 404/Least Environmentally Damaging Practicable Alternative decision. Atlantic Shores will identify compensatory mitigation based on the requirements of USACE and NJDEP as part of the Section 404 permitting process; this process includes a requirement for USACE/NJDEP to provide a public notice for Atlantic Shores Section 404 application.</p> <p>BOEM cannot predict where onshore project components of future offshore wind projects may be sited and whether or not there would be permanent wetland fill requiring compensatory mitigation. However, given the developed nature of the onshore environment in the wetlands geographic analysis area (see Figure 3.8.8-1), which generally consists of urbanized and developed landscapes along the New Jersey coast, it is unlikely that there would be substantial permanent wetland fill should another future offshore wind project overlap with the Projects' wetland geographic analysis area; therefore, a significant area for compensatory mitigation is unlikely. If permanent wetland fill were to occur, the future applicant for that fill placement would be required to compensate for lost wetland functions per CWA Section 404 requirements. Methods of compensatory mitigation could</p>

Comment	Response
	include restoration, establishment (creation), enhancement, or preservation, which could be accomplished through permittee-responsible mitigation, buying credits in an existing mitigation bank, or in-lieu fee. Therefore, given the anticipated low potential for permanent wetland impacts, BOEM does not believe there is a concern for capacity of the geographic analysis area for compensatory mitigation, should it be needed.
The DEIS should also clarify the potential discrepancy between BOEM’s classification of short-term impacts as those lasting less than 3 years in duration in contrast with the definition of permanent impacts (those which persist longer than 6 months) under New Jersey Administrative Code 7:7A Freshwater Wetlands Protection Act.	BOEM, NJDEP, and USACE use different duration definitions when analyzing impacts. The NJDEP and the USACE impact duration is based on the amount of time adverse impacts are expected to persist and the time needed for an aquatic resource to recover to pre-impact conditions, if possible. The duration of wetland impacts will be identified in the Section 404 permitting process according to USACE and NJDEP permanent and temporary adverse impacts definitions and regulatory requirements.
EPA appreciates commitments made by BOEM to implement benthic monitoring surveys prior and post construction and to monitor recovery of habitats and biological communities. EPA also appreciates the applicant-proposed measure to limit the use of anchors via dynamic positioning systems and anchoring to midline buoys. We also support the development of an anchoring plan to avoid the disturbance of sensitive habitats.	Thank you for your comment. BOEM appreciates EPA’s cooperation through the NEPA process for this project.
Potential impacts to Submerged Aquatic Vegetation (SAV) are lacking in the DEIS. It is our understanding that impacts to SAV will be minimized through use of trenchless drilling (such as horizontal directional drilling) however this does not preclude the need to disclose the potential for cables or other project components to traverse SAV habitat. EPA recommends that the DEIS indicate whether there are any potential areas of interest where existing SAV beds have been mapped or previously documented within the vicinity of the Project. If applicable EPA encourages BOEM to consider developing a SAV monitoring and mitigation plan to ensure that impacts have been avoided and minimized to the greatest extent practicable.	As stated in the EIS, no SAV was observed during site-specific surveys in the Offshore Project Area (COP Volume II, Appendix II-G3: Atlantic Shores 2024). The Monmouth ECC does not traverse any known SAV resources near landfall; however, as also stated in the EIS, a 1979 NJDEP map of seagrass resources near Atlantic City shows the presence of seagrass along the Atlantic ECC route through Inner Thorofare and Great Thorofare. Atlantic Shores will use HDD to install the export cables in these back bay areas to avoid impacts to any SAV that may be present. To avoid impacts associated with the excavation of an in-water HDD pit, HDD would originate on land at Bader Field, traverse under Great Thorofare and terminate on land in one of three locations identified in the COP (COP Volume I, Section 4.8.1; Atlantic Shores 2024). Additionally, Atlantic Shores would implement an HDD Contingency Plan to minimize potential releases and inadvertent return of HDD fluids. Because Atlantic Shores has designed its route and will utilize HDD when required to avoid impacts to known areas of SAV no in-water surveys for SAV are planned, nor is the development of an SAV mitigation plan.

Comment	Response
<p>Executive Order 13175 Consultation and Coordination with Indian Tribal Governments (E.O. 13175 65 FR 67249; November 6 2000) was issued to establish regular and meaningful consultation and collaboration with tribal officials in the development of federal policies that have tribal implications and to strengthen the U.S. government-to-government relationships with Indian tribes. EPA notes the DEIS mentions ongoing consultation with tribal nations. We recommend the document describe the process and outcomes of consultations with these tribal governments including major issues raised and how those issues were addressed.</p>	<p>Appendix I, Section I.2.2, <i>Consultation and Coordination with the Parties and the Public</i>, describes the activities BOEM has undertaken with regards to coordinating with federal, tribal, state, and local government partners, particularly with regards to identifying cultural and historic properties. Appendix A, Section A.2.2.3, <i>Government-to-Government Tribal Consultation</i>, describes the process for ongoing consultation with federally recognized tribes. BOEM actively explored approaches to best address tribal concerns and incorporated them into the Final EIS as feasible.</p>
<p>Environmental Justice (EJ) and Impacted Communities. EPA has a strong commitment to promote the principles of EJ Outlined in Executive Order (E.O.) 14096 Revitalizing Our Nation’s Commitment to Environmental Justice for All (April 21 2023) which builds upon E.O. 12898 on Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations. E.O. 14096 directs federal agencies to make achieving EJ part of its mission which includes: identifying analyzing and as available and appropriate consider adopting or requiring mitigation measures to avoid minimize or mitigate disproportionate and adverse human health and environmental effects from federal activities on communities with EJ concerns. E.O. 14096 states that EPA shall “in carrying out responsibilities under section 309 of the Clean Air Act 42 U.S.C 7609 assess whether each agency analyzes and avoids or mitigates disproportionate human health and environmental effects on communities with environmental justice concerns”.</p> <p>The DEIS concludes that the Project could result in minor to moderate disproportionate impacts on communities with EJ concerns. Despite this determination the DEIS states that “no measures to mitigate impacts on environmental justice have been proposed for analysis” (Section 3.6.4.8). EPA has identified several areas of concern with respect to the conclusions reached and further provides the following recommendations to strengthen the EJ analysis.</p> <p>The DEIS should clearly state the selection of the geographic analysis area for EJ impacts. As currently presented it is unclear whether the appropriate geographic area was analyzed when assessing potential impacts. While the</p>	<p>Table 3.6.4-1 outlines the specific counties for each state which were considered as part of the affected environment for environmental justice analysis. These areas are consistent throughout the chapter, and are considered for analysis under each alternative and the cumulative impacts. Each alternative’s impact is analyzed both from the impact of the alternative alone and the cumulative impact of the alternative in the context of ongoing and reasonably foreseeable future activities in the analysis area.</p> <p>Appendix G, <i>Mitigation and Monitoring</i>, Table G-1 includes seven measures meant to minimize potential impacts to environmental justice communities. One measure, EJ-01, would involve implementing a workforce hiring program designed to benefit environmental justice and disadvantaged communities. Another measure, EJ-03, would promote workforce development initiatives to not only develop skills among environmental justice communities for this project, but develop a skilled local labor force for additional technical projects. These mitigation measures were not proposed for analysis due to the lack of quantifiable data necessary to sufficiently describe their impact.</p>

Comment	Response
<p>DEIS analyzes other ongoing and reasonably foreseeable future activities as currently written BOEM’s EJ analysis does not consider these cumulative impacts in the determination of disproportionately high and adverse impacts.</p>	
<p>In accordance with the Promising Practices for EJ Methodologies in NEPA Reviews “agencies may wish to consider factors that can amplify identified impacts (e.g., the unique exposure pathways prior exposures social determinants of health) to ensure a comprehensive review of potential disproportionately high and adverse impacts to minority populations and low- income populations.”</p> <p>CEQ’s guidance Environmental Justice: Guidance Under the National Environmental Policy Act (1997) also encourages agencies to consider relevant public health and industry data concerning the potential for multiple or cumulative exposures to human health or environmental hazards in the affected population and historical patterns of exposure to environmental hazards to the extent such information is reasonably available. . . even if certain effects are not within the control or subject to the discretion of the agency proposing the action.”</p> <p>EPA recommends that BOEM consider how relevant existing conditions in communities with EJ concerns across cumulative environmental health socioeconomic and climate stressors may ultimately lead to impacts that are disproportionately high and adverse. Please refer to a number of tools such as EPA’s EJ Screen and the Center for Disease Control and Prevention’s Environmental Justice Index to obtain information on pre-existing pollutant and health burdens that may inform the cumulative impacts analysis.</p>	<p>CDC Environmental Justice Index data for the analysis area is now included as Table 3.6.4-2 in Section 3.6.4.1 to provide additional context of pre-existing health conditions within environmental justice communities.</p>
<p>Further given that air emissions at ports were not specifically evaluated it is unclear how a determination of “negligible to minor disproportionate adverse impacts” on communities adjacent to the ports of Atlantic City Paulsboro Marine Terminal Portsmouth Marine Terminal and Port of Corpus Christi could be made.</p> <p>EPA encourages BOEM to consider localized air emissions at ports adjacent to communities with EJ concern. These communities are often disproportionately burdened by environmental hazards and stressors unhealthy land uses psychosocial stressors and historical traumas all of which drive environmental health disparities. NAAQS attainment alone may not assure there is no localized harm to populations with environmental justice</p>	<p>Offshore wind project impacts at an existing port would be an incremental increase in its activity. The COP air quality analysis (Appendix II-C) accounts for emissions from vessel transit, vessel maneuvering, and motor vehicles but does not break out the share of emissions that occurs in the port areas. These sources are likely to contribute the largest share of project-related port emissions, though port-related emissions are likely to be very small compared to offshore emissions. The assumption is that adding these emissions to a port would not cause impacts sufficient to violate the NAAQS. There are no NAAQS for VOCs and HAPS. However, if the NAAQS are met then it is unlikely that VOC and HAP levels would be high enough to be of concern. Ports are subject to the permitting requirements and other requirements of city and</p>

Comment	Response
<p>concerns due to project emissions of volatile organic compounds (VOC) hazardous air pollutants (HAP) as well as issues such as the presence of non-project related pollution sources local health risk factors disease prevalence and access (or lack thereof) to adequate health care. Additionally port expansion and modifications to support the development of offshore wind infrastructure that may lead to increased port utilization constitute a reasonably foreseeable indirect effect of the Project. Such activities and impacts to communities adjacent to identified ports should be considered in the DEIS.</p>	<p>state agencies. Implementation of Applicant-proposed environmental protection measures AQ-01 through AQ-07 and EJ-04, described in Appendix G, <i>Mitigation and Monitoring</i>, of the EIS, would help reduce impacts of emissions from onshore construction activities.</p> <p>The EIS language has been revised to incorporate the uncertainty of air quality impacts on environmental justice communities proximal to ports.</p>
<p>Additional measures that BOEM may take to minimize impacts to communities with EJ concerns include developing a Traffic Management Plan to minimize disruptions to communities in the vicinity of construction encourage the hiring of skilled and unskilled labor within the Project region.</p>	<p>BOEM acknowledges the comment and has engaged with Atlantic Shores to ensure that adequate mitigation measures are in place for environmental justice communities. EJ-04 of Appendix G, <i>Mitigation and Monitoring</i>, of the EIS states that a Traffic Management Plan will be developed.</p>
<p>We encourage BOEM to outline plans for environmental data sharing with federally recognized tribes to coordinate and solicit interest in participation.</p>	<p>BOEM has been emailing and providing hard copies of data, as requested. Appendix A, Section A.2.2.3, <i>Government-to-Government Tribal Consultation</i>, describes the process for ongoing consultation with federally recognized tribes.</p>
<p>Additionally, EPA encourages continued outreach and involvement of tribes in evaluating terrestrial and marine archaeological resources, designing marine surveys, and interpreting results. We also recommend that tribes be invited to participate in the development of an unanticipated discovery plan (UDP) for offshore and onshore construction activities.</p>	<p>BOEM has conducted outreach and involved federally recognized Tribes throughout its environmental review of the Project, including in the form of government-to-government meetings and Section 106 consultations. As part of this process, BOEM has invited Tribes to review and comment on the identification of historic properties in the Project APE; assessment of effects; and resolution of adverse effects on historic properties under Section 106 of the NHPA, including the development of the MOA. The MOA has been developed to include a stipulation for post-review discoveries as well as post-review discovery plans (PRDPs), also known as unanticipated discovery plans (UDPs), for offshore (marine) and onshore (terrestrial) construction areas; these are included as MOA Attachments 4 and 5, respectively. BOEM provided a draft of the MOA, inclusive of drafts of the PRDPs, to federally recognized Tribes and consulting parties for 60-day review and comment on May 4, 2023; versions of the MOA revised based on consultations were distributed on November 20, 2023; February 20, 2024; and April 10, 2024. The Final MOA was distributed for signatures on May 29, 2024.</p>

Comment	Response
<p>The DEIS should outline meaningful community engagement efforts in potentially affected communities with EJ concerns. As the Project proceeds we recommend that BOEM conduct targeted outreach and provide opportunities for communities to ensure (1) that people have the opportunity to participate in decision making; (2) that community feedback is effectively utilized and reflected in the decision-making process; and (3) that decision makers seek out and facilitate the involvement of those potentially affected. In order to facilitate meaningful community involvement EPA supports the development of a stakeholder engagement plan that would: Identify a single point of contact at BOEM to serve as a community liaison for communities affected by project construction and operation Detail information on planned engagement milestones and commitments to meetings with potentially impacted communities and community organizations Provide written communications in plain language that can be understood by all affected community members Identify translation and interpretation needs through screening tools such as EPA’s EJ Screen and outreach to people who live in impacted communities including local government officials and community-based non-governmental organizations Ensure that public meetings accessible to all and scheduled at times that accommodate the greatest number of participants</p>	<p>Atlantic Shores is actively engaged with local communities through a variety of ways. It partners with Turning Point Community Development Corporation, which is dedicated to improving educational attainment, economic prosperity, and recreational opportunities for environmental justice communities, and Hispanic Association of Atlantic County, which assists with sharing information with both Spanish and English communities. Atlantic Shores also invests in the Education and Community Outreach Center, which hosts open houses, informational sessions, and training opportunities. Please see response to comments BOEM-2023-0030-1439-0001 and BOEM-2023-0030-1606-0019 in Table N.6-26, with regard to BOEM’s public engagement activities.</p>

N.4.1.3 U.S. Fish and Wildlife Service

Table N.4-3. Responses to Comments from U.S. Fish and Wildlife Service [BOEM-2023-0030-0925]

Comment	Response
<p>The Service is participating in the National Environmental Policy Act (83 Stat. 852 as amended; 42 U.S.C. 4321 et seq.) (NEPA) process as a Cooperating Agency. The Service previously provided comments on the Preliminary DEIS on August 31 2022 (refer to Enclosure A). The additional comments within this letter serve as a continuation of our comments and a response to the edited DEIS. The comments below along with additional input from the Service regarding BOEM’s responses to our previous comments on the preliminary DEIS is included within the tables in Enclosure B. Our additional responses and input are displayed in red throughout those tables. Please</p>	<p>Comment noted. As indicated by the Service, the ESA Section 7 consultation is currently ongoing between BOEM and the Service. Any necessary updates will be made in the FEIS that references impact determinations, conservation measures or other information related to ESA species.</p>

Comment	Response
<p>ensure that the tables are also reviewed as the text of this letter does not include all those comments. AUTHORITY: The following comments are provided pursuant to NEPA; the Fish and Wildlife Coordination Act (48 Stat. 401; 16 U.S.C. 661 et seq.); the Endangered Species Act of 1973 (87 Stat. 884 as amended; 16 U.S.C. 1531 et seq.) (ESA); Executive Order (EO) 13186 Responsibilities of Federal Agencies to Protect Migratory Birds (January 10 2001; 66 FR 3853); the Migratory Bird Treaty Act of 1918 (40. Stat 755 as amended; 16 U.S.C. Section 703-712) (MBTA); the Clean Air Act as amended (42 U.S.C. 7401 et seq.) (CAA); the National Wildlife Refuge System Improvement Act of 1966 as amended by the National Wildlife Refuge System Improvement Act of 1997 (16 U.S.C. 668dd-33); and the Wilderness Act (78 Stat. 890; 16. U.S.C. 1131 et seq.).The following comments do not preclude additional comments on forthcoming phases of the Project including consultation on potential effects to federally listed species pursuant to Section 7 of the ESA.FEDERALLY LISTED AND CANDIDATE SPECIES. The ESA Section 7 consultation is currently ongoing between BOEM and the Service. The Service appreciates inclusions throughout the DEIS mentioning that Section 7 ESA consultation is ongoing. Please ensure that any necessary updates are made throughout the Final Environmental Impact Statement (FEIS) to the references impact determinations conservation measures or other information that is currently included throughout the DEIS and that is related to ESA species.</p>	
<p>Beneficial Use of Dredged Materials. Section 2.1.2.2 discusses the proposed operation and maintenance facility in Atlantic City and explains that “the bulkhead and dredging are necessary for the use of the operations and maintenance facility included in the Proposed Action. Therefore, the bulkhead repair/installation and dredging activities are considered to be a connected action under NEPA (Section 2.1.2.4.)”. The beneficial reuse of clean dredged material for the creation of fish and wildlife habitat has great potential to restore degraded areas and preserve wetlands threatened by accelerated sea level rise rates. Rather than dispose of dredged material associated with this project the Service recommends that BOEM, Atlantic City (since they will conduct the dredging) and Atlantic Shores Offshore Wind LLC investigate whether the materials can be beneficially used to contribute towards restoration of habitat. This should include an analysis of whether the materials are clean/do not contain hazardous materials that deem them</p>	<p>As described in Section 2.1.2.4, the City of Atlantic City obtained a USACE Approval (CENAP-OPR-2021-00573-95) and a NJDEP Dredge Permit (No. 0102.20.0001.1 LUP 210001) to perform 10-year maintenance dredging of areas, inclusive of the areas associated with the proposed O&M facility. All resultant dredged material at the site associated with the O&M facility would be placed at Dredged Hole (DH) #86, a subaqueous borrow pit restoration site, in Beach Thorofare in Atlantic City, New Jersey, and in accordance with the Army Permit Number NAP-2020-00059-95. Placement of dredged material into DH #86 is contingent upon execution of a use agreement between Atlantic City and the New Jersey Department of Transportation, Office of Maritime Resources. BOEM and Atlantic Shores would not be parties to the agreement and are not involved in the development of said agreement.</p>

Comment	Response
<p>unable to be reused. Beneficially using dredged materials and strategically placing them into areas such as marshes can restore habitat and reduce the need for increasing capacity in an upland disposal facility.</p>	
<p>Bats. The Service does not support BOEM’s analysis that cumulative impacts of the no action alternative (which considers other offshore wind projects) and the impacts of the alternatives proposed would be negligible to bats. BOEM defines negligible impacts as those that “would be so small as to be unmeasurable”. There does not appear to be enough information to support this conclusion. This appears supported by the DEIS which explains that “at this time there is some uncertainty regarding the level of bat use of the outer continental shelf and the consequences to bats if any from operating offshore wind turbine generators and associated offshore structures on the outer continental shelf”. Additionally, there are multiple data sources included in BOEM’s analysis including the 2020 and 2021 acoustic bat survey conducted for this project that support/document bat usage of the outer continental shelf and project lease area. While the relative abundance of bat species in the lease area and outer continental shelf is likely lower than on land it does not necessarily mean impacts would be so small as to be unmeasurable. The proposed action will include up to 200 wind turbine generators that will be operating all year for approximately 30 years. Additionally, BOEM explains that up to 3174 wind turbine generators may be constructed within the geographic analysis area. Migratory tree bats such as the eastern red bat (<i>Lasiurus borealis</i>) are of the greatest concern to the Service of being impacted by the proposed offshore structures since they have been documented in this area. Additionally, there are ways to measure impacts of the proposed action on bats (e.g., cameras collision detection technologies) that the Service strongly recommends using. This is further explained in the mitigation and monitoring section below. As such the Service recommends that BOEM modifies their analysis within the DEIS and considers either a minor or moderate impact level for bats. The Service included additional input and recommendations regarding our previous preliminary EIS comments on bats in Enclosure B.</p>	<p>The information presented in the EIS represents the best available science regarding bat presence in the offshore environment. Although studies have documented the presence of bats offshore, they occur in much lower numbers than in onshore areas (e.g., Lagerveld and Mostert 2023), with the number of detections decreasing with increasing distance from the coast (e.g., Brabant et al. 2021). and have been observed to exhibit micro-avoidance behaviors in the presence of WTGs (e.g., Normandeau 2022). Additionally, onshore impacts to bats due to land disturbance/loss are anticipated to be minimal. Based on these factors and the mitigation measures that will be employed by Atlantic Shores, and likely to be employed at other offshore wind farms, impacts to bats will likely be unmeasurable, resulting in an impact determination of “negligible”. This impact determination is consistent with the impact determinations for bats presented in other Atlantic OSW EISs.</p> <p>As part of the agency-proposed measures outlined in the BA, BOEM will require Atlantic Shores develop a Bird and Bat Monitoring Plan (BBMP), which will support the advancement of bat interactions with offshore wind farms, and includes provisions for the addition of additional monitoring, technical refinements, and the inclusion of new technologies as deemed appropriate. This measure is included as an applicant-proposed measure in the Final EIS (BIR-16 and BAT-13, in Table G-1 of Appendix G, <i>Mitigation and Monitoring</i>).</p>
<p>Birds. Section 3.5.3.3 explains impacts of the no action alternative (including all other offshore wind development) on the ESA listed piping plover (<i>Charadrius melodus</i> threatened) roseate tern (<i>Sterna dougalli dougalli</i></p>	<p>The discussion of ESA-listed species occurrence in the Atlantic Shores South WTA and the probability of flights through the RSZ of Atlantic Shores South’s WTGs has been moved to <i>Impacts of Alternative B – Proposed Action on ESA-</i></p>

Comment	Response
<p>endangered) eastern black rail (<i>Laterallus jamaicensis</i> ssp. <i>jamaicensis</i> threatened) and red knot (<i>Calidris canutus rufa</i> threatened). The analysis explains that “planned offshore wind development activities without the Proposed Action are not expected to have the potential to significantly impact populations of ESA-listed species...”. However, the analysis within this section appears to focus on the wind turbine area within the Atlantic Shores South lease area. The Service recommends that this analysis is expanded to include the cumulative impacts of the other offshore wind development projects as well. BOEM explains that the proposed alternatives and cumulative impacts of the proposed alternatives/other offshore wind development would have “moderate beneficial impacts” to birds. The DEIS explains that the presence of the new structures in the offshore environment could increase prey items for some birds that forage in the marine environment. However, the Service is concerned that the increased prey availability around the proposed wind turbine generators will attract birds to those areas and increase the risk of collision. Additionally, there does not appear to be data supporting that potential increases of prey availability from offshore structures would result in beneficial impacts of birds instead of increased collision. Without further information to support that increased prey availability will not result in increased collision of birds the Service does not agree with the conclusion that “moderate beneficial impacts” will occur. As such, without further data/evidence the Service recommends removing this determination from the DEIS. The Service included additional input and recommendations regarding our previous preliminary EIS comments on birds in Enclosure B.</p>	<p><i>Listed Birds</i>. The following text has been added to Impacts of Alternative A – No Action on ESA-Listed Birds: “ESA-listed birds, including the roseate tern, piping plover, red knot, eastern black rail, and saltmarsh sparrow, may occur in onshore and/or offshore project areas of planned offshore wind projects. Impacts from reasonably foreseeable offshore wind activities on ESA-listed species will be discussed in detail in subsequent project-specific analysis documents. As is the case with the proposed Atlantic Shores South project, each proposed project will be required to address ESA-listed species at the individual project scale and cumulatively. Additionally, BOEM is currently working on a programmatic framework for ESA consultation with USFWS to address the potential impacts of the anticipated development of Atlantic offshore wind energy facilities on ESA-listed species.”</p> <p>Several studies have indicated that some species, such as raptors, may be attracted to wind farms (e.g., Skov et al. 2016), and that some species such as cormorants and migratory terns (e.g., Krijgsveld et al. 2011) may forage within wind farms. Other studies have documented cormorants, falcons, and kestrels (Krijgsveld et al. 2011; Hill et al. 2014) resting on meteorological masts and wind turbine access platforms, particularly when the turbines are not in operation. Conversely, in a study by Schwemmer and others (2023), 70% of approaching Eurasian curlews (<i>Numenius arquata arquata</i>) demonstrated horizontal avoidance responses when approaching offshore wind farms in the Baltic and North Seas. Curlews and red knots are both in the Family Scolopacidae and are ecologically similar, so it is reasonable to expect that red knots would display the similar avoidance responses when encountering offshore wind farms and WTGs. BOEM acknowledges that attraction to wind farms may increase collision risk, and has considered this in its impact determinations, as stated in the Presence of Structures IPF in Section 3.5.3.3.</p>
<p>Coastal Habitat and Fauna. The Service appreciates the inclusion of temporary and permanent disturbances to the habitat types within Tables 3.5.4-1 and 3.5.4-3. The tables currently explain that 20.31 acres of forest 2.93 acres of herbaceous field and 0.06 acres of scrub-shrub are proposed to be permanently impacted by the project. The areas proposed to be permanently impacted likely contain habitat and refuge for a multitude of species that are considered federal trust resources by the Service. This</p>	<p>The description of the affected environment has been updated in Section 3.5.4 <i>Coastal Habitat and Fauna</i> of the EIS, including updated anticipated temporary and permanent disturbances proposed by the Applicant. BOEM appreciates the Service’s concerns regarding the total acreages presented in Tables 3.5.4-1 and 3.5.4-3. Please note that these have been updated and clarified with footnotes that the actual permanent and temporary impacts will be lower based upon the final selected approach the Applicant selects within its Project Design Envelope.</p>

Comment	Response
<p>includes habitat for birds, bats and other species such as pollinators whose ongoing population declines have negatively impacted ecosystems in the region. If not already required due to other regulatory conditions the Service recommends developing a mitigation plan for these resources. At a minimum the Service would request a 1:1 ratio for replacement of habitats that are not already protected by other laws/regulations (e.g., wetlands protected by the CWA and New Jersey Department of Environmental Protection Freshwater Wetlands Protection Act ESA conditions). We recommend these habitat losses are replaced to provide equal or better functions to wildlife than they are currently serving.</p>	<p>The Applicant, BOEM and the Service have proposed many measures that would avoid and reduce impacts on coastal resources in order to address temporary and permanent impacts to wildlife and habitat, outside of those that may be required by other regulatory conditions. Those measures are cited throughout the Proposed Action analysis in Draft EIS Section 3.5.4 <i>Coastal Habitat and Fauna</i>. If BOEM decides to approve the Project, BOEM may include additional measures that would be conditions of the Project approval.</p>
<p>Appendix G: Mitigation and Monitoring. The Service had previously recommended incorporating or considering multiple measures into the project design and alternatives to help monitor and reduce the risks to birds and bats from the proposed project. In response BOEM explained that they do not plan to require usage of recommended protective measures at this time since they have not been developed or tested in an offshore environment or that the measures will be developed during future consultation. The Service continues to strongly recommend that available technologies are used to monitor and mitigate for impacts that are likely to occur to birds and bats. Any future developed bird and bat mitigation and monitoring plans should include these measures. While many of these technologies are new they are likely some of the best available tools for understanding interactions of bird and bat activity with offshore wind structures (e.g. turbines substations). The knowledge of interactions of bats and birds with operating offshore wind structures is limited in nature. Opportunities government agencies and the wind industry have available to further this understanding are helpful when implemented. As such the Service recommends that bird and bat detection and collision monitoring technologies are utilized.</p> <p>Multiple bird and bat mitigation and monitoring technologies are currently available or are in development and have been tested in offshore environments. Usage of these technologies may be the best way to understand where improvements can be made to help further the protection of these species while also ensuring that offshore wind structures are operating effectively. It would also collect data that would help to provide a</p>	<p>BOEM notes the Services recommendations on the Bird and Bat Monitoring Program. The Applicant is required to develop and implement a Bird and Bat Monitoring Plan (BBMP) in coordination with USFWS and other relevant regulatory agencies. This measure is included as an applicant-proposed measure in the Final EIS (BIR-16 and BAT-13, in Table G-1 of Appendix G, <i>Mitigation and Monitoring</i>).</p> <p>Prior to commencing offshore construction activities, Atlantic Shores must submit the BBMP for BOEM, BSEE, and USFWS review. BOEM, BSEE, and USFWS will review the BBMP and provide any comments. The Applicant must resolve all comments on the BBMP to BOEM and BSEE’s satisfaction before implementing the plan.</p> <p>Annual monitoring reports will be used to determine the need for adjustments to monitoring approaches, consideration of new monitoring technologies, and/or additional periods of monitoring.</p> <p>BOEM looks forward to reviewing many of these technologies and their appropriateness to incorporate into the initial BBMP as part of our collective initial review.</p>

Comment	Response
<p>better understanding of the interactions of birds and bats with offshore wind structures. In addition to the measures mentioned in our preliminary DEIS comments the service recommends review consideration and incorporation into project design of technologies displayed at the Tethys Wind Energy Monitoring and Mitigation Technologies Tool website located at: https://tethys.pnnl.gov/wind-energy-monitoringmitigation-technologies-tool. Many of these technologies are commercially available have been tested or implemented and can be used to measure understand and deter/prevent bird and bat collisions with the proposed offshore structures.</p>	
<p>The Service also recommends that Atlantic Shores LLC and BOEM utilizes this project as an opportunity to coordinate with and work with companies in testing new or emerging bird and bat monitoring and mitigation technologies so that the industry government and others can further understand the best tools available in the future. Bird and bat mortality is anticipated to occur from the offshore wind activities proposed on the outer continental shelf. BOEM and offshore wind developers (e.g., Atlantic Shores LLC) have the opportunity and capacity to apply the best available tools and technologies to minimize these mortality events and improve understanding for future conservation efforts. The Service believes the conservation of species is pivotal to the future planning of offshore wind projects. The usage of the best available tools technologies and testing of emerging technologies will all help to ensure that this conservation occurs.</p>	<p>BOEM is in agreement that protective measures and practices will need to evolve as our knowledge base and technology continues to advance. It is BOEM's expectation that will be the case, and in many instances are requiring the Applicant to do so. The Applicant is required to develop and implement a Bird and Bat Monitoring Plan (BBMP) in coordination with USFWS and other relevant regulatory agencies. This measure is included as an applicant-proposed measure in the Final EIS (BIR-16 and BAT-13, in Table G-1 of Appendix G, <i>Mitigation and Monitoring</i>). Annual monitoring reports will be used to determine the need for adjustments to monitoring approaches, consideration of new monitoring technologies, and/or additional periods of monitoring. Prior to commencing offshore construction activities, Atlantic Shores must submit the BBMP for BOEM, BSEE, and USFWS review and the Applicant must resolve all comments on the BBMP to BOEM and BSEE's satisfaction before implementing the plan.</p>
<p>Edwin B. Forsythe National Wildlife Refuge and Air Quality. The project is in proximity to the Edwin B. Forsythe National Wildlife Refuge. Portions of the refuge identified as the Brigantine National Wilderness Area are designated as a Class 1 Wilderness Area. The Service is concerned about the potential air quality impacts to the wilderness area due to emissions and construction activities that will occur because of the proposed project. Class 1 Wilderness Areas are afforded by Congress Air Quality Related Value protections under the CAA and are also protected by the Wilderness Act. The Service is the Federal land manager of the Brigantine National Wilderness Area and as such is evaluating the project for air quality-related concerns. Please ensure that the FEIS reflects any issues or concerns that may be raised by the Service on Air Quality and Air Quality Related Values.</p>	<p>Air quality modeling was conducted to estimate impacts on air quality and AQRVs at the Brigantine National Wilderness Area. The modeling was conducted as part of the OCS air permit application which is currently under review by EPA and USFWS. The EIS describes the modeling and results.</p>

Comment	Response
<p>REFERENCES:*Includes those mentioned in additional comments within Enclosure B</p> <p>Desholm M. 2009. Avian Sensitivity to Mortality: Prioritizing Migratory Bird Species for Assessment at Proposed Wind Farms. <i>Journal of Environmental Management</i>. 90: 2672- 2679.</p> <p>Furness B. and H. Wade. 2012. Vulnerability of Scottish Seabirds to Offshore Wind Turbines. Marine Scotland Report. Available at: https://tethys.pnnl.gov/sites/default/files/publications/Furness%20and%20Wade%202012.pdf.</p> <p>Furness R. W. H. M. Wade and E. Masden. 2013. Assessing Vulnerability of Marine Bird Populations to Offshore Wind Farms. <i>Journal of Environmental Management</i>. 119: 56-66.</p> <p>Garthe S. and O. Hüppop. 2004. Scaling Possible Adverse Effects of Marine Wind Farms on Seabirds: Developing and Applying a Vulnerability Index. <i>Journal of Applied Ecology</i>. 41: 724–734.</p> <p>Masden E.A. R. Reeve M. Desholm A.D. Fox R.W. Furness D.T. Haydon. 2012. Assessing the Impact of Marine Wind Farms on Birds Through Movement Modelling. <i>Journal of the Royal Society Interface</i>. 9: 2120–2130.</p> <p>Willmott J. R. G. Forcey and A. Kent. 2013. The Relative Vulnerability of Migratory Bird Species to Offshore Wind Energy Projects on the Atlantic Outer Continental Shelf: An Assessment Method and Database. Final report to the U.S. Department of the Interior Bureau of Ocean Energy Management Office of Renewable Energy Programs. OCS Study BOEM 2013-207. Available at: https://epis.boem.gov/final%20reports/5319.pdf.</p>	<p>All of the references have been included in the EIS.</p>

N.4.1.4 National Park Service

Table N.4-4. Responses to Comments from National Park Service [BOEM-2023-0030-1813]

Comment	Response
<p>The National Park Service (NPS) provides these comments in response to the Bureau of Ocean Energy Management’s (BOEM) “Notice of Availability of a Draft Environmental Impact Statement for Atlantic Shores Offshore Wind Project 1, LLC and Atlantic Shores Offshore Wind Project 2, LLC’s Proposed Wind Energy Facilities Offshore New Jersey” (aka Atlantic Shores South). NPS is a Participating Agency in the review of the Atlantic Shores South Project under Title 41 of Fixing America’s Surface Transportation Act of 2015 (FAST-</p>	<p>Comment acknowledged.</p>

Comment	Response
<p>41) (42 U.S.C. § 4370m), and under the National Environmental Policy Act of 1969 (NEPA) (42 U.S.C. § 4321 et seq.). NPS is also a consulting party under Sections 106 and 110(f) of the National Historic Preservation Act of 1966 (NHPA) (54 U.S.C. § 300101 et seq.). As we detailed in our previous reviews of the Atlantic Shores South Project, NPS has program responsibilities for National Historic Landmarks (NHLs) in view of the offshore project area as well as any land-based infrastructure.</p> <p>NPS has a few comments, mostly centered on Appendix I – Finding of Adverse Effects and Appendix G – Mitigation and Monitoring.</p>	
<p>“The total number of theoretically visible WTGs (up to blade tip) from the NHLs properties is up to 876; 200 theoretically visible WTGs (22.8 percent) would be from the proposed Project. As such, BOEM determined the Project would add to the cumulative visual effects on this property when combined with the effects of other past, ongoing, or planned actions (BOEM 2023).”</p> <p>Due to the close proximity to the shore of the Atlantic Shores South project and the adjacent wind projects, the level of magnitude of the visual effect will perhaps be the largest of any currently proposed offshore wind project areas to date in the U.S. Accordingly, particular attention should be paid to appropriate avoidance, minimization, and mitigation (AMM) strategies in addressing the visual effect on the NHLs’ and other historic properties’ settings.</p>	<p>BOEM has fulfilled its responsibilities to give a higher level of consideration to minimizing harm to NHLs, as required by NHPA Section 110(f), through implementation of the special requirements outlined at 36 CFR 800.10 (see Appendix I, Section I.4.1.1, <i>Minimization of Adverse Effects on National Historic Landmarks for additional information</i>). BOEM has considered various factors in minimizing adverse effects on the two adversely affected NHLs (i.e., the Atlantic City Convention Hall [Jim Whelan Boardwalk Hall] and Lucy, The Margate Elephant), in addition to proposing mitigation measures in the MOA. BOEM has taken into account all prudent and feasible measures proposed by consulting parties to avoid, minimize, and mitigate adverse effects on NHLs. Please refer to the response to comment BOEM-2023-0030-1812-0002 for additional information on BOEM’s Section 106/110(f) assessment of NEPA Alternative D (No Surface Occupancy at Select Locations to Reduce Visual Impacts).</p> <p>Through fulfillment of its NEPA and NHPA obligations, BOEM has identified avoidance, minimization, and mitigation measures for historic properties, including NHLs, that would be adversely affected by the Project. BOEM has consulted with federally recognized Tribes, NJHPO, NPS, and consulting parties on the identification of historic properties in the Project APE; assessment of effects; and development and implementation of avoidance, minimization, and mitigation measures for resolving adverse effects on historic properties under Section 106 of the NHPA. BOEM provided federally recognized Tribes, NJHPO, NPS, and consulting parties with drafts of the MOA and historic property treatment plans (HPTPs) describing mitigation for adversely affected historic properties on May 4, 2023; November 20, 2023; February 20, 2024; and April 10, 2024, for periods of review and comment.</p>

Comment	Response
	<p>BOEM also held NHPA Section 106 Consultation Meetings #3 and #4, respectively, on December 4, 2023, and February 27, 2024, to provide an overview of the MOA and solicit feedback from federally recognized Tribes and consulting parties, including on potential avoidance, minimization, and mitigation measures; and Meeting #5 on April 25, 2024, to finalize the MOA. Mitigation measures and HPTPs, developed through consultations for the adversely affected historic properties and stipulated in the MOA, will be implemented by the Project to resolve adverse effects in accordance with Section 106 and Section 110(f) of the NHPA.</p>
<p>In this vein, on pg I-29 (31 of 732), please clarify footnote 1: “BOEM anticipates that all adverse effects have the potential to be alleviated through the adoption of AMM measures. Additionally, BOEM anticipates that the number of adversely affected historic properties may be refined through ongoing Section 106 consultations.” Does this mean the list of affected historic properties will grow shorter?</p>	<p>At the time of Draft EIS publication, NHPA Section 106 consultations with consulting parties on historic property identification and effects assessment were ongoing; BOEM was in the process of consulting with consulting parties on its initial findings of adverse effect on specific historic properties and the development and implementation of avoidance, minimization, and mitigation measures to be stipulated in the MOA. Additionally, any historic properties that the lessee was unable to commit to avoiding at the time of Draft EIS publication were identified as adversely affected by the Project. However, the lessee was continuing to develop potential avoidance or minimization measures, such as micro-siting, for some of the identified historic properties that could potentially be subject to adverse effects from the Project. As a result, BOEM acknowledged in the Draft EIS that the number and list of adversely affected historic properties could change as Section 106 review and consultations continued.</p> <p>BOEM’s <i>Finding of Adverse Effect</i> in the Final EIS (Appendix I) reflects the final list of adversely affected historic properties based on Section 106 review and consultations that occurred between the Draft EIS and Final EIS.</p>
<p>Appendix G – Mitigation and Monitoring contains a proposed mitigation / environmental protection measure we do not agree with: “The Project will be located in a designated offshore wind development area that has been identified by BOEM as suitable for development” (pg G-19). Siting the project in the lease area is not a mitigation measure; it’s the starting point for analysis of the impacts of such siting on the multitude of resources. As such this measure should be removed from the places where it appears in Appendix G.</p>	<p>The referenced proposed mitigation measure (CUL-02) was identified as an applicant-proposed environmental protection measure in the Draft EIS (Appendix G, Table G-1). BOEM recognizes that the Project’s adherence to the PDE—inclusive of use of the designated offshore wind development area—ensures that the Project will result in adverse effects only on those historic properties specified in BOEM’s <i>Finding of Adverse Effect</i> (Appendix I) and no effect or no adverse effect on any other historic properties. This proposed measure (CUL-02) is not included in the final avoidance,</p>

Comment	Response
	<p>minimization, mitigation, and monitoring measures developed through BOEM’s NEPA and NHPA consultations with federally recognized Tribes, NJHPO, NPS, and consulting parties (see Appendix G, Table G-2, <i>NHPA Section 106 Mitigation Measures</i>). However, BOEM continues to expect that the Project will be constructed with adherence to the PDE. All the final avoidance, minimization, mitigation, and monitoring measures developed through NHPA consultations are stipulated in the MOA. Refer to Appendix I, Attachment A, for a draft of the MOA (Draft 4) as of April 10, 2024. The executed MOA will be posted on BOEM’s website following issuance of the Record of Decision (ROD) at: https://www.boem.gov/renewable-energy/state-activities/atlantic-shores-south.</p>
<p>Please include context map(s) showing historic properties in relationship to the project and at different scales. Placement early in Appendix I would be beneficial.</p>	<p>BOEM has incorporated maps into Appendix I, <i>Finding of Adverse Effect</i>, depicting locations of the adversely affected aboveground historic properties in relation to the Project and visual APE; see Figure I-2. Maps depicting other historic properties in the visual APE that would not be adversely affected by the Project are provided in HRVEA; see Figure 3.3-1 (Sheets 1–20).</p>
<p>As noted above, NPS is a consulting party for the Atlantic Shores South project. We and the other consulting parties are awaiting the summary of the Second Consulting Parties meeting (June 8th) which we believe will include BOEM’s responses to questions raised during this meeting and may also inform our comments on the Preliminary Final EIS (PFEIS) as well as any revised Technical Reports.</p>	<p>BOEM distributed the meeting summary for NHPA Section 106 Consultation Meeting #2 to NPS, federally recognized Tribes, NJHPO, Advisory Council on Historic Preservation (ACHP), and consulting parties on July 24, 2023. The meeting summary contains responses to all questions raised during the meeting.</p>
<p>Overall, the visual impact assessment (VIA) contained useful summary tables. We note the Scenic and Visual Resources Section 3.6.9 in the DEIS as an example. The evaluation of the impacts on the visual resources was well done. We also appreciate the various proposals to reduce the impacts of night lighting and the inclusion of an ADLS pending FAA approval.</p>	<p>Thank you for your comment.</p>
<p>NPS looks forward to further discussion of this project particularly in the Section 106 process where more targeted and meaningful AMM measures are likely to be developed to reduce the impact on NHLs and historic properties.</p>	<p>BOEM provided NPS, federally recognized Tribes, NJHPO, ACHP, and consulting parties with drafts of the MOA and HPTPs describing mitigation for adversely affected historic properties on May 4, 2023, November 20, 2023; February 20, 2024; and April 10, 2024, for periods of review and comment. BOEM also held NHPA Section 106 Consultation Meetings #3 and #4 on December 4, 2023, and February 27, 2024, to provide an overview of the MOA and solicit feedback from federally recognized Tribes and consulting</p>

Comment	Response
	parties, including on potential avoidance, minimization, and mitigation measures; and Meeting #5 on April 25, 2024, to finalize the MOA. Mitigation measures and HPTPs are developed through consultations for the adversely affected historic properties, inclusive of National Historic Landmarks (NHLs). Mitigation measures stipulated in the MOA will be implemented by the Project to resolve adverse effects in accordance with Section 106 and Section 110(f) of the NHPA.
The NPS has been an active participant in the Atlantic Shores South Project from its inception. We appreciate the opportunity to comment on “Notice of Availability of a Draft Environmental Impact Statement for Atlantic Shores Offshore Wind Project 1 LLC and Atlantic Shores Offshore Wind Project 2 LLC’s Proposed Wind Energy Facilities Offshore New Jersey.”	Thank you for your comment.

N.4.2 Cooperating State Agencies

N.4.2.1 New Jersey Department of Environmental Protection

Table N.4-5. Responses to Comments from New Jersey Department of Environmental Protection [BOEM-2023-0030-1538; BOEM-2023-0030-2015]

Comment	Response
The New Jersey Department of Environmental Protection (NJDEP or Department) appreciates the opportunity to provide comments on the June 2023 Draft Environmental Impact Statement (DEIS) for Atlantic Shores Offshore Wind Project 1, LLC and Atlantic Shores Offshore Wind Project 2, LLC’s Proposed Wind Energy Facilities Offshore New Jersey. Atlantic Shores Offshore Wind Project 1, LLC and Atlantic Shores Offshore Wind Project 2, LLC (collectively Atlantic Shores) seek approval to construct, own, operate, and maintain the Project, which would consist of two wind energy facilities (Project 1 and Project 2) and their associated export cables on the Outer Continental Shelf (OCS) offshore New Jersey. The Project would be located at the closest point, 8.7 statute miles (14 kilometers (km)) offshore New Jersey in the area defined in BOEM’s renewable energy lease OCS–A 0499 (Lease Area) and include accompanying electric transmission cables from the Lease Area to two landfall points in Atlantic and Monmouth counties, respectively.	Comment acknowledged.

Comment	Response
<p>NJDEP is a cooperating agency, pursuant to a Memorandum of Understanding with the Bureau of Ocean Energy Management (BOEM), and therefore has had the opportunity to review supporting information and provide feedback to BOEM as the draft EIS was developed and alternatives were considered. NJDEP hereby provides the following program specific comments upon review of the DEIS:</p>	
<p>Land Resource Protection The Atlantic Shores South DEIS discusses a series of alternatives including a “no action” alternative to the construction operation maintenance and decommissioning of two offshore wind energy generation projects (Projects 1 and 2) including up to 200 wind turbine generators that will be located in federal offshore waters beginning approximately 8.7 miles from the New Jersey shoreline. The Department’s Division of Land Resource Protection (DLRP) advises Atlantic Shores to select a proposal and/or alternative which results in the least impact to regulated areas and/or environmentally sensitive areas and which is consistent with all applicable land use regulations including but not limited to the Coastal Zone Management Rules at N.J.A.C. 7:7. A detailed review of the impacts from the proposed project will be conducted during DLRP’s review of the pending Federal Consistency Certification for Atlantic Shores South Construction and Operations Plan (COP) including the DEIS.</p>	<p>BOEM acknowledges the New Jersey Department’s Division of Land Resource Protection’s recommendations for a preferred alternative.</p>
<p>Historic Preservation The New Jersey Historic Preservation Office (HPO) is in receipt of the documentation provided by BOEM in support of the identification of historic properties under Section 106 of the National Historic Preservation Act. This information is currently under review by the HPO. The HPO has not provided feedback to BOEM regarding the assessment of effects or proposed mitigation measures; however, we expect to do so once the identification of historic resources is complete. As a result, the HPO cannot concur with the findings of the DEIS regarding the project’s potential impacts on cultural resources at this time.</p>	<p>BOEM received comments from NJHPO on Section 106 cultural technical reports and documents distributed to NJHPO and other consulting parties on May 4, 2023. For BOEM’s responses to NJHPO’s comments, please refer to comments identified as BOEM-2023-0030-2015 throughout this document.</p> <p>BOEM provided NJHPO and other consulting parties with revised Section 106 cultural technical reports and documents, including BOEM’s Finding of Adverse Effect, on November 20, 2023; February 20, 2024; and April 10, 2024, for periods of review and comment.</p>
<p>Benthic Habitat The MRA supports Alternatives C 1 2 and 3 to minimize impacts to the slough and sand ridge complex which provide habitat for a variety of fish species and benthic infauna. Alteration of these bathymetric features would not be temporary; sand waves may be many thousands of years old and the potential impact of removing this habitat type is not</p>	<p>Table 3.5.2-5 Comparison of alternatives has been added to Section 3.5.2, <i>Benthic Resources</i>, which compares each of the alternatives, including Alternative C-4. This table details the number of WTGs, the benthic footprint of foundations and associated scour protection, and the interarray cable</p>

Comment	Response
<p>documented in scientific literature. There is no clear evidence that the habitat created by turbine foundations provides similar ecosystem services. The avoidance of altering the morphology of the seabed to the extent practicable is a reasonable measure for mitigation. However, there is not enough information provided for Alternative C-4 to determine whether the extent of mitigation is equivalent to C 1-3.</p>	<p>length for each alternative, allowing for a direct comparison of benthic impacts within the Lease Area.</p>
<p>For Port Utilization Section 3.5.2 BOEM notes that water column total suspended sediment levels greatly exceed the desirable submerged aquatic vegetation (SAV) habitat limit of <15 mg/L (Page 281 of Volume 1). Although SAV is mapped for 1979 BOEM states that no SAV was observed within or surrounding DH #86 throughout 2016-2018 (Page 281 of Volume 1). BOEM should consider the necessity of mitigation for dredging operations required for port utilization and include that mitigation in Appendix G.</p>	<p>The total suspended sediment levels described in the Port Utilization section are the ambient levels measured at DH #86 during the 2016-2018 survey and were not a result of Project-related dredging operations (because no Project-related dredging operations have occurred). DH #86 is a subaqueous borrow pit restoration site with degraded habitat. As discussed in Section 3.5.2, <i>Benthic Resources</i>, the addition of Project-related dredged material would help to bring the bottom depth in line with that of the surrounding seabed (6 feet [1.83 meters]) which may help increase current flow over the area, minimize accumulation of detritus and decaying macroalgae, and alleviate seasonal anoxia, all of which would improve the habitat quality of the area (McKenna et al. 2018).</p> <p>The area to be dredged as part of the Connected Action will occur in historically dredged areas that are a part of Atlantic City’s maintenance dredging program and covered by the existing Section 404(b)(1) permit (NAP-2021-00573-95) and Atlantic Shores will conduct all dredging operations associated with the Connected Action in accordance with the permit conditions and mitigation measures identified in this existing permit. This small marina area lacks SAV resources, and its sediments are primarily sandy silt/clay. Dredging is not expected to alter the sediment composition compared to the existing substrate in the dredge area.</p>
<p>Additionally, more information is needed to understand why the benthic impacts are similar for each Alternative. A table that summarizes the differences in numbers of turbines benthic impacts (in acres square km etc.) distance between turbine foundations at the surface and the width of lanes of unobstructed bottom foundation type and surface area for colonizing organisms among the alternatives should be included in the DEIS.</p>	<p>Table 3.5.2-5 Comparison of alternatives has been added to Section 3.5.2, <i>Benthic Resources</i>. This table details the number of WTGs, the benthic footprint of foundations and associated scour protection, and the interarray cable length for each Alternative. The distance between turbines and lane width will be the same for each of the alternatives, with the exception of Alternative E, which would establish a 0.81-nautical-mile (1,500-meter) to 1.08-nautical-mile (2,000-meter) setback range between WTGs in the Atlantic</p>

Comment	Response
	Shores South Lease Area (OCS-A 0499) and WTGs in the Ocean Wind 1 Lease Area (OCS-A 0498).
<p>Commercial Fisheries. The commercial and recreational fishing community has consistently expressed concerns about the impacts they anticipate experiencing due to the construction and operation of the Atlantic Shores projects. It is important to acknowledge the anticipated impacts as well as the success of fisheries management in the US. Only stocks that are overfished are negatively impacted by fishing and in 2022 that was ten percent of stocks.[Footnote 1: NOAA Fisheries. 2023. Status of Stocks 2022. Available from https://www.fisheries.noaa.gov/sustainable-fisheries/status-stocks-2022#ending-overfishing-under-effective-laws]. Therefore ninety percent of all stocks are sustainably fished.</p>	<p>Section 3.6.1 of the EIS, <i>Commercial Fisheries and For-Hire Recreational Fishing</i>, discusses potential impacts on commercial fisheries and recreational fishing from the Proposed Action, alternatives, and ongoing and planned activities in the geographic analysis area. Impacts that are discussed in this section include loss of access to fishing grounds, loss of fisheries revenue, vessel traffic, navigational hazards, gear entanglement, disruptions to fisheries independent surveys, habitat loss, and changes in fish behavior. More detailed discussion of impacts on marine fish and invertebrates are provided in Section 3.5.5 of the EIS, Finfish, Invertebrates, and Essential Fish Habitat. More detailed discussion of navigational impacts is provided in Section 3.6.6 of the EIS, Navigation and Vessel Traffic.</p> <p>Included in the analysis for the Proposed Action are Applicant Proposed Measures (APMs) intended to avoid and minimize impacts on commercial fisheries and for-hire recreational fishing. A table summarizing all APMs is provided in Appendix G, Mitigation and Monitoring, of the EIS. Additional mitigation measures identified by BOEM and cooperating agencies as a condition of state and federal permitting, or through agency-to-agency negotiations, are described in Section 3.6.1.8. These measures include an artificial reef buffer for turbines, cable maintenance plan, incident reporting for property or equipment damage, an analysis of shoreside seafood businesses, a fisheries compensation fund, and a boulder relocation plan.</p>
<p>Recreational Fisheries. New Jersey’s Artificial Reef Program has been under the stewardship of the MRA since 1984. The MRA is permitted to deploy materials which might include ships barges and construction materials at 17 artificial reef sites and deployments are ongoing to create and connect patch reefs within reef areas. Deployments are planned carefully to increase productivity attract marine life and provide opportunities for fishing and scuba diving at accessible locations for New Jersey residents and visitors. Artificial Reefs are identified as Special Areas in the New Jersey Coastal Zone Management Rules. Acceptable uses are designated in N.J.A.C. 7:7-9.13 2. (b) as “finfishing shellfishing and scuba diving” and (c) “Any use except archeological research which would significantly adversely affect the</p>	<p>Additional information from this comment regarding New Jersey’s Artificial Reef Program has been incorporated into the description of for-hire recreational fishing in Section 3.6.1.1. As shown on Figure 3.6.1-12, none of the 17 artificial reef sites are within the Project area, such that the Proposed Action is expected to have negligible impacts on these sites. Additional text has been added to Section 3.6.1.1 to note that several artificial reefs are located near the Project area and that recreational fishermen targeting these reefs may need to transit through the Project area.</p>

Comment	Response
<p>usefulness of this special area as a fish habitat is prohibited.” Installation and operation of offshore wind transmission cables are not compatible with New Jersey’s Artificial Reef areas. Construction maintenance and repair of transmission cables would alter these protected habitats and prevent future deployments. Note that while deployments are carefully planned it is not possible to precisely determine the final location of these large objects as they settle on the ocean floor.</p>	
<p>Compensatory Mitigation. NJDEP encourages a robust transparent and manageable process for engagement with the fishing industry on compensation. The commercial fishing industry should be involved at all stages of the compensatory mitigation process. The industry can provide unique insight into planning effective engagement valuation and distribution that includes secondary industries that will also have economic losses. Additionally, the Responsible Offshore Development Alliance (RODA) December 2021 Report Impact Fees for Commercial Fishing from Offshore Wind Development: Considerations for National Framework should be leveraged by BOEM to the greatest extent possible as the compensation guidance is developed. The MRA highly recommends that compensatory mitigation be informed by an expert third party economic analysis and include consideration for shoreside impacts. NJDEP will coordinate further with Atlantic Shores on the proposed fisheries compensation plan.</p>	<p>BOEM does not require a stakeholder review to be incorporated into the development of the fisheries compensation fund. However, the developer is required to have a fisheries communication plan. As described in the commercial fisheries engagement strategies for the Atlantic Shores Fisheries Communication Plan, Atlantic Shores would engage with fishermen to establish a set of guiding principles and procedures for determining any required mitigation, including fisheries compensation claims. The Atlantic Shores South Fisheries Communication Plan is available at the link below: https://www.atlanticshoreswind.com/wp-content/uploads/ASOW_FCP_Version_1.3-rev.pdf.</p> <p>As described in Table 3.6.1-39, Atlantic Shores must commit to establishing a fisheries compensation fund that is consistent with BOEM’s draft Guidance for Mitigating Impacts to Commercial and Recreational Fisheries and is based on the revenue exposure analysis for fisheries summarized in Section 3.6.1, <i>Commercial Fisheries and For-Hire Recreational Fishing</i> of the EIS. This BOEM-proposed mitigation measure establishes the framework that Atlantic Shores will use to develop the fisheries compensation fund.</p> <p>As provided in Table 3.6.1-39, Atlantic Shores will be required to conduct an analysis of impacts on shoreside seafood businesses in ports that are expected to be impacted by the Proposed Action.</p>
<p>Submarine Cables. The DEIS should include the Cable Burial Risk Assessment so that the potential benthic impacts of scour protection (if cables can’t be buried) can be assessed. The placement of cable protection measures necessarily may result in greater disturbance to benthic habitats and access to mobile gear fishing areas. Further the complete removal of submarine cables and scour protection at decommissioning should be required in the</p>	<p>Additional information from the CBRA has been added to Section 3.5.2.5 and Section 3.6.1.5 under the Presence of Structures IPF. This information summarizes the results of the cable burial assessment, which indicates that a greater percentage of the Monmouth ECC would require cable protection compared to the Atlantic ECC. However, the CBRA only provides an assessment of cable burial risk, which is not sufficient to estimate the amount</p>

Comment	Response
<p>absence of compelling evidence that leaving structures in place would reduce potential impacts. Also, Table 3.1-1 Primary IPFs should include submarine cables in the “Presence of structures” row. Stakeholders have consistently stated that cables will become exposed over time and that in the event that fishing gear or anchors cause damage to a cable the owner or operator of the vessel would be responsible.</p>	<p>of cable protection that would be required along each ECC. Therefore, the analysis of impacts of the Proposed Action relies on BOEM’s general assumption of 10% of each cable corridor requiring protection. In addition, Section 3.6.1.5 notes that the target cable burial depth of 5 to 6.6 feet is sufficient to minimize risks to regional commercial fisheries.</p> <p>During the O&M phase, cable surveys would be performed at regular intervals to identify any issues associated with potential scour and depth of burial. Additional surveys would be performed as appropriate in response to abnormal conditions or significant events, which include major storms, marine incidents in the area, and major maintenance activities. Impacts to commercial fisheries and for-hire recreational fishing are discussed in Section 3.6.1, <i>Commercial Fisheries and For-Hire Recreational Fishing</i>.</p> <p>The EIS examines the maximum impacts of the PDE, which includes full removal of Project components at decommissioning, which are expected to be the same as or similar to impacts during Project construction. Prior to decommissioning, Atlantic Shores will submit a Decommissioning Plan that will be subject to environmental review through the NEPA process. The NEPA review of the Decommissioning Plan will examine the impacts of various decommissioning scenarios and will include EFH and ESA consultations.</p> <p>Submarine cables have been added to the “Presence of structures” row in Table 3.1-1.</p>
<p>Mitigation and Monitoring Plans. The DEIS states that BOEM may select alternatives and require additional mitigation or monitoring measures to further protect and monitor marine resources (Page G-1 of Appendix G). It is also noted that BOEM plans to update the Environmental Protection Plan and Fisheries Protection Plan to ensure New Jersey’s natural resources including finfish and shellfish are protected throughout the life of the project (Page G-4 of Appendix G). This is a requirement of New Jersey’s 2nd Offshore Wind Solicitation as part of the Best Management Practices coordination. The MRA recommends that these plans are stakeholdered with NOAA Fisheries and that the Regional Wildlife Science Collaborative (RWSC) Regional Offshore</p>	<p>BOEM does not have a role in developing or updating the Environmental Protection Plan or Fisheries Protection Plan. As part of its application for ORECs, Atlantic Shores is required to develop these plans and submit them to NJDEP and BPU. The updates to the plans described in Appendix G, <i>Mitigation and Monitoring</i>, would be made by Atlantic Shores.</p> <p>Atlantic Shores has engaged with representatives of the New Jersey fishing industry throughout the process. This includes regular outreach from Atlantic Shores’ Fisheries Representatives and Atlantic Shores’ Fisheries Liaison to the recreational and commercial fishing industries. Atlantic Shores organized workshops covering transit corridors and row orientation as the wind farm layout was developed. In addition, NMFS has reviewed Atlantic Shores’ COP</p>

Comment	Response
<p>Science Alliance (ROSA) and the fishing industry have the opportunity to comment.</p>	<p>and Fisheries Monitoring Plans (Appendix II-K of the COP). Atlantic Shores' Fisheries Communication Plan is a living document and posted on the Atlantic Shores' website and as an appendix to the COP (Appendix II-R). Atlantic Shores has not received any comments from stakeholders on this document, but are open to updating the document, if appropriate.</p>
<p>Safety. In July 2021 Atlantic Shores conducted a Search and Rescue (SAR) Risk Assessment Workshop to methodically review the potential impacts of the proposed projects on the United States Coast Guard (USCG)'s SAR operations and to identify recommended mitigations. The workshop included attendees from Atlantic Shores the USCG and BOEM along with other relevant stakeholders; MRA staff attended this workshop and were provided with a copy of the report [Footnote 2: October 2021. Atlantic Shores SAR Risk Assessment Workshop Summary Report.] by Atlantic Shores. The workshop identified and evaluated 13 hazardous scenarios in 4 hazard categories including Marine Hazards Wind Farm Infrastructure Helicopter Operations and SAR Operations. Attendees made recommendations to support the reduction of overall risk to USCG missions resulting from the project and the report stated that "Atlantic Shores will review these recommendations in coordination with the USCG and key stakeholders and may elect to implement recommendations that are found to meaningfully reduce risk and meet other project criteria." The EIS should include this report and a description of how the recommendations were evaluated and included in the EIS.</p>	<p>The SAR Risk Assessment Workshop Summary Report is part of the COP, Volume II Appendix II-T4, and recommendations from this workshop that will be adopted will be included in Atlantic Shores' Emergency Response Plan. Reference to the Workshop Summary Report has been added to Section 3.6.6.1 of the EIS.</p>
<p>The MRA supports Alternative E which creates a buffer zone between Ocean Wind and Atlantic Shores. In 2020 the NJDEP facilitated stakeholder meetings regarding transit through the two lease areas and there was a clear and consistent request for undeveloped space between the leases. Alternative E is also consistent with the new lease stipulation in the NY Bight that requires a setback between projects that don't have consistent turbine alignments.</p>	<p>The commenter's support of Alternative E is noted.</p>
<p>We also urge caution in relying exclusively on a navigation risk assessment that does not involve extensive engagement with the fishing industry. The industry has consistently expressed concerns regarding safe transit through the array and fishing within the array.</p>	<p>Atlantic Shores has engaged all maritime partner agencies, industry groups and stakeholders throughout this process. The concerns regarding safe transit and fishing operations in the vicinity of the project have been heavily studied and a reasonable course of action has been agreed upon that seeks to ensure the safety of all concerned.</p>

Comment	Response
<p>The MRA supports the proposed use of AIS to mark each WTG OSS and met tower position (virtually or using physical transponders) and consultation with the USCG regarding number location and type of AIS transponders.</p>	<p>Section 3.6.6.5 of the EIS, under the “presence of structures” IPF, states that, “All structures will be appropriately lit, marked, and charted with a requirement that each structure receives a valid PATON from USCG.”</p>
<p>Protected Species The MRA recognizes NOAA as the lead agency for the protection of marine mammals and marine endangered species and supports recommendations made by that agency regarding potential impacts and mitigation measures. Post construction fishing activity will change in the project area. It’s reasonable to anticipate more recreational traffic and possibly more traffic by fixed gear operators. Potential impacts from increased vessel traffic should be evaluated for transiting vessels and potential for ship strikes and entanglement on marine mammals and turtles.</p>	<p>The EIS recognizes the potential for increased recreational fishing activity in the Project area following construction. Though the Project may result in increased recreational fishing activity in the Project area, there is no anticipated increase in overall recreational fishing traffic in the geographic analysis area. The effects associated with increased entanglement risk due to increased recreational fishing in the Project area coincident with potential attraction of marine mammals and sea turtles to the same area is evaluated in Sections 3.5.6 and 3.5.7 of the EIS, respectively.</p>
<p>Also, timing restrictions for sturgeon should be included in BOEM’s assessment and ESA-listed fish should be included in the Injured protected species reporting section. All injuries to ESA-fish (sturgeon) should be reported.</p>	<p>Project construction and reporting activities would adhere to seasonal work window restrictions and reporting requirements resulting from agency consultations. As mentioned in the EIS, cable installation would be subject to seasonal work window restrictions which would likely include work restrictions during the Atlantic sturgeon spawning migration period.</p> <p>The Project proposed mitigation measures for finfish, invertebrates, and EFH listed in Section 3.5.5.9 include measures outlining the identification, safe handling, resuscitation, and reporting of Atlantic sturgeon according to federal laws under the ESA.</p>
<p>State and Federal Fisheries Surveys in Project Area. Several long-running fisheries research surveys have sampling locations inside the project area. Therefore the list of notification recipients for surveys in the project area should include agencies responsible for other survey activities such as NOAA VIMS (NEAMAP survey) Virginia Tech (horseshoe crab survey) and NJDEP’s (Ocean Trawl). Mitigation for research surveys should include NJDEP’s Ocean Trawl Survey. This 30+ year old survey supplies data for stock assessment for many of the species managed by ASMFC and regional management councils such as the New England Fishery Management Council and the Mid-Atlantic Fishery Management Council. The loss of survey sampling areas will have a direct impact on the precision and accuracy of future stock assessments with potential for to impacts to fisheries for both monitoring and access. Mitigating impacts to the survey and additional costs incurred post</p>	<p>BOEM has developed a measure to require lessees to work with NMFS on a survey mitigation agreement for individual offshore wind projects. This BOEM-proposed mitigation measure has been added to Table G-3 in Appendix G, <i>Mitigation and Monitoring</i>, and Table 3.6.1-39 in Section 3.6.1.8. within Section 3.6.8, <i>Commercial Fisheries and For-Hire Recreational Fishing</i>.</p> <p>Consistent with NMFS and BOEM survey mitigation strategy actions in the NOAA Fisheries and BOEM Federal Survey Mitigation Implementation Strategy - Northeast US Region, Atlantic Shores will be required to submit to BOEM a survey mitigation agreement between NMFS and Atlantic Shores. The survey mitigation agreement will describe how Atlantic Shores will mitigate the Project impacts on NMFS surveys. At a minimum, the survey mitigation agreement will describe actions needed and the means to address impacts on the affected surveys due to the preclusion of sampling platforms</p>

Comment	Response
<p>construction to collect essential data by other methods should be considered by BOEM.</p>	<p>and impacts on statistical designs. Other anticipated Project impacts on NMFS surveys, such as changes in habitat and increased operational costs resulting from the loss of sampling efficiencies, may also be addressed in the agreement.</p> <p>The survey mitigation agreement will identify activities that will result in the generation of data equivalent to data generated by NMFS's affected surveys for the duration of the Project. The survey mitigation agreement will describe the implementation procedures by which Atlantic Shores will work with NMFS to generate, share, and manage the data required by NMFS for each of the surveys impacted by the Project. The survey mitigation agreement must also describe Atlantic Shores' participation in the NMFS NEFSC Northeast Survey Mitigation Program to support activities that address regional-level impacts on fisheries independent surveys.</p>
<p>Endangered and Nongame Species Program. Table ES-2 (Summary and comparison of impacts among alternatives with no mitigation measures on page ES-13) and Table 2-7 (Summary and comparison of impacts by action alternative with no mitigation measures on page 2-64) describe impacts to Bats as "Negligible" for all Alternatives even for Cumulative Impacts. (In comparison impacts to Birds are described as Minor to Moderate or minor-moderate beneficial.) For Bats Table 2-7 anticipates that under the Proposed Action bat mortality from operation of the offshore WTGs will be "rare because offshore occurrence of bats is low." While acoustics-based studies make up most of the limited available science on bats offshore (as cited in section 3.5.1.1 etc.) this method likely underestimates offshore bat activity because of bats' reduced use of echolocation in open environments. The definition of "Minor" adverse impact level for bats in Table 3.5.1-3 (page 3.5.1-8) states "the loss of one or a few individuals...could represent a minor impact" and it is certainly feasible and even likely - based on extensive bat mortality findings at land-based wind farms and studies confirming bat presence far offshore during migration - that at least a small number of bats will be lost. The measurability of that impact depends as much on adequate monitoring efforts & technologies as on whether bats will actually encounter the WTGs and be harmed. This should be acknowledged with at least a "Minor" impact level for the proposed activity. The definition of "Minor"</p>	<p>The information presented in the EIS represents the best available science regarding bat presence in the offshore environment. BOEM will continue to collect information on bat presence in the offshore environment to help inform the assessment of potential impacts on bats from construction and operation off offshore wind farms. Although studies have documented the presence of bats offshore, they occur in much lower numbers than in onshore areas (e.g., Lagerveld and Mostert 2023), with the number of detections decreasing with increasing distance from the coast (e.g., Brabant et al. 2021). and have been observed to exhibit micro-avoidance behaviors in the presence of WTGs (e.g., Normandeau 2022). Additionally, onshore impacts to bats due to land disturbance/loss are anticipated to be minimal. Based on these factors and the mitigation measures that will be employed by Atlantic Shores, and likely to be employed at other offshore wind farms, impacts to bats will likely be unmeasurable, resulting in an impact determination of "negligible". This impact determination is consistent with the impact determinations for bats presented in other Atlantic OSW EISs.</p> <p>The state and federal status of the species listed, as well as those proposed, have been updated in Table 3.5.1-1.</p>

Comment	Response
<p>impact level includes that “Most impacts would be avoided;” this may depend on mitigation measures put into practice perhaps including future curtailments if found to be warranted based on monitoring. Table 3.5.1-1 (Bats present in New Jersey and their conservation status on page 3.5.1-3) should be updated as described below. Northern long-eared bat is federally Endangered – as of the effective date of March 31 2023 – which gives the species automatic State Endangered status as well. All nine of NJ’s resident bat species are on NJDEP’s Species of Greatest Conservation Need list (see Appendix B of New Jersey’s Wildlife Action Plan March 2018) and all except the big brown bat are now RSGCN (Regional Species of Greatest Conservation Need) see https://northeastwildlifediversity.org/rsgcn which further confirms the importance of cumulative impacts to bat species. Additionally, the eastern small-footed little brown and tricolored bat are proposed State Endangered in New Jersey and big brown eastern red hoary and silver-haired bats are proposed Special Concern with rules which will promulgate these changes expected to be effective in 2024.</p>	
<p>Public Lands Administration. The proposed parking structure for the Atlantic Shores O&M Facility is located at the Senator Frank S. Farley State Marina which is owned by NJDEP and currently leased to another entity. The current term of the lease is in effect until November 14 2025 and there are 3 remaining renewal terms each 5 years in length. There are numerous complicating factors involved in opening a lease. Also, the deed by which the NJDEP acquired a portion of this site requires NJDEP to use it only as a marina.</p> <p>Additionally, a Land and Water Conservation funding restriction covers the area in question and construction of a parking deck for the private and non-recreational use would result in the need for a conversion from the National Parks Service.</p>	<p>Atlantic Shores is working internally and with NJDEP to determine if this location remains a suitable candidate. If it is not determined to be suitable for development, Atlantic Shores will identify an alternate parking location and acknowledges that this may have impacts on both federal and state permitting processes.</p>
<p>Public Lands Compliance. The NJDEP Office of Transactions and Public Land Administration Public Lands Compliance Section is responsible for the stewardship of all State county municipal and non-profit owned land and easements that have been purchased with Green Acres bond funds or are otherwise encumbered under Green Acres Program regulations. Any conveyance disposal or diversion from a recreation or conservation use of</p>	<p>Atlantic Shores is actively working with NJDEP and other relevant State and Local entities to ensure compliance with all applicable guidelines and regulations relevant to land use. Atlantic Shores recognizes that construction of the Project is contingent of the receipt of all required State and Local permits and approvals. In the event that a change to the Proposed Action becomes necessary as a result of the process associated with any of these</p>

Comment	Response
<p>Green Acres encumbered lands would require an application to the Public Lands Compliance Section. In addition, under the New Jersey Conservation Restriction and Historic Preservation Restriction Act the Public Lands Compliance Section processes requests for the release of conservation restrictions that are not directly associated with other DEP permitting programs.</p> <p>The disposal/diversion application process includes a public need/public benefit analysis alternatives analysis and compensation and mitigation requirements. The Green Acres rules require that every effort should be made to avoid the disposal or diversion of parkland. In order for a disposal or diversion to be approved the Public Lands Compliance Section would have to find that there were no feasible non-parkland alternatives for the proposed project that there is a significant public need or benefit associated with the project and that the project would not significantly interfere with the public's use of the parkland or adversely impact environmentally sensitive areas or other significant parkland attributes. These applications are evaluated thoroughly by NJDEP as well as the public through required public hearings.</p> <p>An application for a disposal or diversion can only be submitted by the landowner. If approved by the Commissioner Green Acres disposal/diversion applications also require the approval of the State House Commission. Conveyances of State land in an amount greater than one acre or leases of more than 25 years are subject to additional procedural requirements under the "Ogden Rooney" statute.</p> <p>The State land conveyance and conservation easement release process includes a similar review of alternatives public need/public benefit analysis and compensation and mitigation requirements. Easements are released through the issuance of a certificate from the NJDEP Commissioner which is recorded in the same manner as the original easement.</p>	<p>permits or approvals, Atlantic Shores will work with the relevant State or Local entities, BOEM, and any relevant Federal agencies to ensure the change is appropriately incorporated into the Federal review process. Atlantic Shores acknowledges that a change to the Proposed Action may result in the need for a Supplemental EIS.</p>
<p>Coastal Engineering. The DEIS mentions that "offshore wind developers are expected to coordinate with the maritime community and USCG to avoid laying export cables through any traditional or designated lightering/anchorage areas meaning that any risk of impacts for deep-draft vessels would come from anchoring in an emergency scenario. Generally</p>	<p>Section 3.6.6.5 of the EIS, under the "cable emplacement and maintenance" IPF, states that "Atlantic Shores intends to bury offshore cables to a target depth of 5 to 6.6 feet (1.5 to 2 meters) to avoid interference with existing marine uses (e.g., some anchoring and commercial fishing) and protect the</p>

Comment	Response
<p>larger vessels accidentally dropping anchor on top of an export cable (buried or otherwise protected) to prevent drifting in the event of vessel power failure would result in damage to the export cable damage to the vessel anchor or anchor chain and risks associated with an anchor contacting an electrified cable.” NJDEP requests that the DEIS contain additional discussion about the risks that are associated with an anchor contacting an electrified cable.</p>	<p>cable (GEO-07; Appendix G, Table G-1).” Discussion on the potential impacts of accidental contact with the cable was added to this section.</p>
<p>Further during the construction phase of the project if any cofferdams are utilized for the placement of HDD conduit and cables the cofferdam should be removed completely. Throughout the DEIS it is mentioned that additional hard structure or surface cable protection may be installed for cable protection where cable burial is not feasible or the depth cannot be met. It should be noted that this will not be acceptable for the HDD cable placement within the Federal Beachfill template as per the guidelines previously provided by the United States Army Corps of Engineers and the NJDEP-Office of Coastal Engineering. Also if Atlantic Shores encounters any State Aids to Navigation within the state channels that may be impacted or need to be relocated NJDEP’s Office of Coastal Engineering should be contacted.</p>	<p>Atlantic Shores is actively working with NJDEP and other relevant State and Local entities to ensure compliance with all applicable guidelines and regulations.</p>
<p>Air Quality. Evaluation and Planning. On October 7 2022 the U.S. Environmental Protection Agency (USEPA) issued two final rules that reclassified New Jersey’s nonattainment areas. 87 FR 60926 reclassified the NY-NJ-CT nonattainment area from “serious” to “severe” nonattainment for the 75 ppb 2008 8-hour ozone National Ambient Air Quality Standard (NAAQS) and 87 FR 60897 reclassified the PA-NJ-MD-DE nonattainment area from “marginal” to “moderate” for the 70 ppb 2015 8-hour ozone NAAQS. In the Federal General Conformity regulation (40 CFR 93.153) the corresponding de minimis level for a “severe” nonattainment area is 25 tons per year (tpy) for NOx or VOC and 100 tpy for NOx and 50 tpy for VOC for a “moderate” nonattainment area. The effective date of these rules is November 7 2022.Counties in the PA-NJ-MD-DE ozone nonattainment area include Atlantic Burlington Camden Cape May Cumberland Gloucester Mercer Ocean Salem. Counties in the NY-NJ-CT ozone nonattainment area include Bergen Essex Hudson Hunterdon Middlesex Monmouth Morris Passaic Somerset Sussex Union Warren. Monmouth County is in maintenance for the 2006 PM2.5 standards. BOEM should ensure that the correct classifications and thresholds are included in the DEIS and used to determine compliance with</p>	<p>BOEM has confirmed the nonattainment/maintenance status of the counties discussed in Section 3.4.1.1 of the EIS.</p>

Comment	Response
<p>General Conformity regulations. More information on the reclassification of the NY-NJ-CT nonattainment area for the 2008 8-hour ozone standard can be found here: https://www.govinfo.gov/content/pkg/FR-2022-10-07/pdf/2022-20458.pdf. More information on the reclassification of the PA-NJ-MD-DE nonattainment area for the 2015 8-hour ozone standard can be found here: https://www.govinfo.gov/content/pkg/FR-2022-10-07/pdf/2022-20460.pdf.</p>	
<p>If a federal department or agency is supporting the project through financial assistance licensing permitting approvals or any other way a General Conformity Applicability Analysis and possibly a Conformity Determination may be required pursuant to the USEPA Federal General Conformity regulation for any portions of the emissions from activities taking place in the nonattainment areas. Clarification of compliance with the General conformity regulations should be updated in the final EIS. If applicable General Conformity requirements should be evaluated and addressed.</p>	<p>The activities for which BOEM has authority are outside of any nonattainment or maintenance area and therefore not subject to the requirement to show conformity. Other agencies that are supporting the project would be responsible for making their own General Conformity evaluations or determinations.</p>
<p>Mobile Sources. The construction of ten offshore substations 200 wind turbine generators one meteorological tower up to four temporary meteorological and oceanographic buoys and one operations and maintenance facility will necessitate an array of construction vehicles operating simultaneously during both the building and decommissioning of vessels phases. These construction vehicles must be monitored constantly prior during and after use to ensure that no oil gasoline hydraulic and windshield wiper fluid is leaking into soils. Additionally, while construction vehicles may idle in operation, idling should not occur for periods of time longer than 15 consecutive minutes without operation.</p> <p>To reduce pollutant emissions during the construction process NJDEP recommends that all diesel-fueled construction equipment vessels and commercial vehicles involved in the process must monitor their idling in times of operation.</p>	<p>Applicant-proposed environmental protection measures include a Spill Prevention, Control, and Countermeasure (SPCC) Plan with NJDEP listed as an enforcing agency as seen in Appendix G, <i>Mitigation and Monitoring</i>, Table G-1, GEO-16, WAT-11, and PUB-19.</p>
<p>Additionally, diesel exhaust contributes the highest cancer risk of all air toxics in New Jersey and is a major source of NOx within the state. Therefore, NJDEP recommends that construction projects involving non-road diesel construction equipment operating in a small geographic area over an extended period of time implement the following measures to minimize the impact of diesel exhaust: All on-road vehicles and non-road construction</p>	<p>Volume II, Section 3.1.2.7 of the COP states, “Clean fuels will be used to the maximum extent practicable. Marine diesel fuel will comply with the fuel sulfur limit of 15 ppm per 40 CFR Part 80, which is the same limit as onshore Ultra Low Sulfur Diesel (ULSD). For heavier residual fuel oils used in Category 2 and Category 3 engines, and for engines on foreign vessels, the Projects will comply with the fuel oil sulfur content limit of 1,000 ppm set in MARPOL VI</p>

Comment	Response
<p>equipment operating at or visiting the construction site shall comply with the three-minute idling limit pursuant to N.J.A.C. 7:27-14 and N.J.A.C. 7:27-15. Consider purchasing “No Idling” signs to post at the site to remind contractors to comply with the idling limits. Signs are available for purchase from the Bureau of Mobile Sources at 609/292-7953 or http://www.stopthesoot.org/sts-no-idle-sign.htm. All non-road diesel construction equipment greater than 100 horsepower used on the project for more than ten days should have engines that meet the USEPA Tier 4 non-road emission standards or the best available emission control technology that is technologically feasible for that application and is verified by the USEPA or the CARB as a diesel emission control strategy for reducing particulate matter and/or Nox emissions. All on-road diesel vehicles used to haul materials or traveling to and from the construction site should use designated truck routes that are designed to minimize impacts on residential areas and sensitive receptors such as hospitals, schools, daycare facilities, senior citizen housing, and convalescent facilities. In accordance with N.J.A.C. 7:27-14 and 15 diesel vehicles should not idle for more than 15 consecutive minutes when the vehicle has been stopped for 3 or more hours and only if the temperature is <25 deg. F. In accordance with N.J.A.C. 7:27-14 and 15 diesel vehicles can idle if the engine provides power for mechanical operations such as: refrigeration units for perishable goods hydraulic lifts “cherry pickers” or similar equipment.</p>	<p>and corresponding EPA regulations.” This mitigation measure is included as AQ-04 in Table G-1, Appendix G, <i>Mitigation and Monitoring</i>.</p>
<p>Office of Environmental Justice (OEJ) Section 3.4.1 identifies nonattainment areas (i.e., ports and facilities) that the Project may use including the Paulsboro Marine Terminal, the Repauno Port and Rail Terminal, and the future New Jersey Wind Port for construction and Atlantic City for O&M. These nonattainment facilities are located in or adjacent to environmental justice and overburdened communities. OEJ agrees with the comparative air quality analysis described in Section 3.4.1. and notes that although cumulative impacts associated with the proposed action will result in both moderate adverse impacts and moderate beneficial impacts BOEM anticipates cumulative moderate beneficial impacts. This comparative analysis considers regional air quality standards of the project but does not highlight hyper-local areas particularly residential areas surrounding non-attainment areas (ports and facilities) that may be used for project</p>	<p>BOEM incorporated additional context in Section 3.6.4.1 relating to pre-existing health conditions around port locations where air quality impacts may produce disproportionate and adverse cumulative impacts.</p>

Comment	Response
<p>construction staging and planning. OEJ recommends that the project address issues of possible increased truck traffic from identified ports and facilities and possible impacts to hyper-local air quality This has health implications especially as environmental justice and overburdened communities typically residential neighborhoods adjacent to ports and facilities are noted to have increased exposure to diesel truck emissions and possible increased asthma-related issues.</p>	
<p>As a minor correction to terminology NJ’s Environmental Justice Law N.J.S.A 12:1D-157 defines “overburdened communities (OBCs)” and that criteria is used to target environmental justice policies often in conjunction with an analysis of 26 environmental and public health stressors impacting those OBCs which are available in the Environmental Justice Mapping Assessment and Planning Tool (EJMAP).</p>	<p>New Jersey’s definition has been revised to correctly reference OBCs in Section 3.6.4.1.</p>
<p>The Atlantic City facility that may be used for the project is in an area with OBCs and high commercial and recreational fishing engagement, low commercial fishing reliance, and moderate recreational fishing reliance. Because of overall low fishing reliance and the presence of multiple substitute saltwater fishing sites nearby, OEJ agrees that the economic or food security impact to the OBCs in NJ may be low. However due to a pattern of low access to environmental benefits such as recreational fishing among environmental justice communities the adverse impacts to recreational fishing in an area with high OBCs could be a cause for concern for the community. Moreover, an accurate understanding of potential economic and recreational impacts should augment the data analysis with consultations with the impacted populations. Potential negative impacts on low-income employment in fishing and related industries should be accounted for and emphasis placed on hiring and training locally for new jobs created.</p>	<p>Analysis of patterns of access to environmental benefits, such as recreational fishing, is beyond the scope of the EIS.</p> <p>Section 3.6.3 <i>Demographics, Employment and Economics</i> discusses potential impacts to employment. As stated in the EIS, “Atlantic Shores is committed to maximizing the hiring and recruiting of its Project workforce from programs targeted at training and providing talent to the offshore wind industry from local New Jersey communities (COP Volume II; Atlantic Shores 2024).” According to the COP, Atlantic Shores is committed to recruiting, training, and hiring a diverse workforce that will enable the needs of New Jersey’s offshore wind workforce to be met by local communities.”</p> <p>For more discussion of potential impacts to fishing see Section 3.6.1, <i>Commercial Fisheries and For-Hire Recreational Fishing</i> of the EIS. Impacts on recreation and tourism are discussed in Section 3.6.8, <i>Recreation and Tourism</i>.</p>
<p>The analysis of gentrification pressures indicates that Atlantic City the main OBC area in NJ that will be impacted potentially faces medium-high to high housing disruption pressures and low retiree migration and urban sprawl pressures. Provisions should be made to mitigate any housing disruption for EJ communities such as ensuring adequate affordable housing in the area.</p>	<p>Atlantic Shores is working with the Hispanic Association of Atlantic County to identify environmental justice community needs and concerns, as well as targeted stakeholder meetings to engage local communities. In addition, Atlantic Shores is supporting numerous local hiring and workforce development initiatives and programs to localize the positive economic impacts of the Project.</p>

Comment	Response
<p>Potential irreversible impacts to submerged landforms have been identified. OEJ agrees with the strategy of consulting with impacted parties particularly tribal communities to avoid and minimize impacts.</p>	<p>BOEM acknowledges the comment.</p>
<p>Other than potential increased air pollution impacts to port adjacent communities which should be accounted for and mitigated the proposed action will likely bring overall benefit to EJ communities through displacing fossil fuel power sector emissions which tend to have a higher impact on low-income and minority populations. However, the anticipated short-term moderate impacts to EJ communities during construction activities as well as ongoing noise pollution from increased port utilization should be well communicated to the impacted communities with consideration to language barriers so communities can take appropriate measures.</p>	<p>BOEM acknowledges the comment and will continue to engage with communities, as well as publish notices in Spanish (and other languages) going forward.</p>
<p>Finally, measures to mitigate impacts on environmental justice have not been proposed for analysis. OEJ recommends considering strategies to reduce adverse environmental justice impacts such as community engagement education about environmental impacts maintaining affordable housing and local hiring and training for new jobs created.</p>	<p>Appendix G, <i>Mitigation and Monitoring</i>, Table G-1 includes seven measures meant to minimize potential impacts to environmental justice communities. One measure, EJ-01, would involve implementing a workforce hiring program designed to benefit environmental justice and disadvantaged communities. Another measure, EJ-03, would promote workforce development initiatives to not only develop skills among environmental justice communities for this project, but develop a skilled local labor force for additional technical projects. These mitigation measures were not proposed for analysis due to the lack of quantifiable data necessary to sufficiently describe their impact.</p>
<p>Water Allocation and Well Permitting. The DEIS describes the installation of between 9.8 to 23 miles of cable in both Atlantic and Monmouth Counties in New Jersey. The cable route will cross numerous municipalities and has the potential to require dewatering activities and road openings in all impacted municipalities. Dewatering authorizations would be reviewed on a municipality basis and the Atlantic Shores project may require the applicant to apply for numerous authorizations. Further discussions regarding NJDEP's water allocation requirements are recommended.</p>	<p>Atlantic Shores is aware of NJDEP water allocation requirements and will abide by all federal, state, and local laws related to ground and surface water quality standards by obtaining all applicable permits. Atlantic Shores would be required to implement the terms and conditions of the applicable permits.</p>
<p>Surface Water & Pretreatment Permitting. Based on the information provided in the DEIS a NJPDES Discharge to Surface Water General Permit will be needed for a surface water discharge from construction related dewatering. If the discharge will be uncontaminated groundwater generated during construction activities the appropriate NJPDES Discharge to Surface</p>	<p>Atlantic Shores is aware of NJPDES permitting requirements and will abide by all federal, state, and local laws related to ground and surface water quality standards.</p>

Comment	Response
<p>Water General Permit is the B7 - Short Term De Minimis General Permit (http://www.nj.gov/dep/dwq/gp-b7.htm). As per the B7 application checklist, analytical lab data of all the parameters specified in Attachment 1 must be submitted and the results must demonstrate that they are below the effluent standards. If the discharge will be treated groundwater from remediations and dewaterings the appropriate NJPDES Discharge to Surface Water General Permit is the BGR – General Groundwater Remediation Clean-up Permit (http://www.nj.gov/dep/dwq/gp_bgr.htm). As per the BGR permit application a summary of the contaminants of concern must be submitted where the data was collected no more than 12 months prior to the submittal of the application. In addition, a Treatment Works Approval (TWA) from the Bureau of Environmental Engineering and Permitting may be needed for the construction of the treatment system.</p>	
<p>Recreational Fisheries. New Jersey’s Artificial Reef Program has been under the stewardship of the MRA since 1984. The MRA is permitted to deploy materials which might include ships barges and construction materials at 17 artificial reef sites and deployments are ongoing to create and connect patch reefs within reef areas. Deployments are planned carefully to increase productivity attract marine life and provide opportunities for fishing and scuba diving at accessible locations for New Jersey residents and visitors. Artificial Reefs are identified as Special Areas in the New Jersey Coastal Zone Management Rules. Acceptable uses are designated in N.J.A.C. 7:7-9.13 2. (b) as “finfishing shellfishing and scuba diving” and (c) “Any use except archeological research which would significantly adversely affect the usefulness of this special area as a fish habitat is prohibited.” Installation and operation of offshore wind transmission cables are not compatible with New Jersey’s Artificial Reef areas. Construction maintenance and repair of transmission cables would alter these protected habitats and prevent future deployments. Note that while deployments are carefully planned it is not possible to precisely determine the final location of these large objects as they settle on the ocean floor.</p>	<p>Additional information from this comment regarding New Jersey’s Artificial Reef Program has been incorporated into the description of for-hire recreational fishing in Section 3.6.1.1. As shown on Figure 3.6.1-12, none of the 17 artificial reef sites are within the Project area, such that the Proposed Action is expected to have negligible impacts on these sites. Additional text has been added to Section 3.6.1.1 to note that several artificial reefs are located near the Project area and that recreational fishermen targeting these reefs may need to transit through the Project area.</p>
<p>The DEIS does not adequately describe impacts to or describe mitigation measures required to account for the potential diversion/disposal of Green Acres encumbered parkland. If alternate routes around encumbered parkland are determined to be not feasible or reasonable or are unavoidable</p>	<p>Atlantic Shores will work with the Green Acres Program, State House Commission, and NJDEP to establish these details as required by state regulations in order to ensure compliance with all applicable regulations.</p>

Comment	Response
<p>replacement land will be required pursuant to Table 1 of the Green Acres rules for county municipal and non-profit owned parklands.</p> <p>When analyzing impacts to Green Acres encumbered parkland in the DEIS the following issues should be addressed: Replacement land and/or monetary compensation will be required for State Parkland Conservation Easements and Green Acres encumbered county municipal and non-profit owned parklands. Please provide details regarding proposed replacement lands. The potential for impacts to and fragmentation of habitat for known occurrences of endangered threatened and species of special concern on parkland must be analyzed by the applicant and will be reviewed for all Green Acres encumbered parkland pursuant to N.J.A.C. 7:36-26.1(e)6. The potential for adverse consequences as outlined in N.J.A.C. 7:36-26.1(e). Tree replacement will be required pursuant to N.J.A.C. 7:36-26 and will be based on a square inch for square inch basis. Expected impacts to forested areas on parkland parcels should be noted in the DEIS including the total number of trees to be removed. Alternative construction techniques such as Horizontal Directional Drilling (HDD) should be utilized to the extent practicable to avoid/reduce parkland impacts. Temporary impacts to parkland will need to be restored to preexisting conditions and forest impacts will need to be mitigated for based on the same tree replacement requirements as disposals/diversions.</p>	
<p>Further if Atlantic Shores intends to use NJDEP property for any portion of the project it must enter into the appropriate land based agreement(s) for that use with NJDEP. While NJDEP enters into such agreements at its sole discretion State House Commission (SHC) approval is necessary for any such agreement. To pursue an agreement for either a temporary use such as for staging or access during initial construction or a long-term use such as for the laying of any lines or conduits Atlantic Shores must complete the Request for Use of NJDEP Property Form as a preliminary step and submit shapefiles that show both the temporary and permanent construction area(s). An alternatives analysis must be submitted that examines why the use of NJDEP property could not be avoided. If based on the information submitted NJDEP decides that it is willing to consider an agreement(s) for the proposed use additional coordination with NJDEP will be necessary. It should be noted that any temporary use of NJDEP property will require monetary compensation</p>	<p>Atlantic Shores is actively working with NJDEP and other relevant State and Local entities to ensure compliance with all applicable guidelines and regulations relevant to land use. Atlantic Shores recognizes that construction of the Project is contingent of the receipt of all required State and Local permits and approvals. In the event that a change to the Proposed Action becomes necessary as a result of the process associated with any of these permits or approvals, Atlantic Shores will work with the relevant State or Local entities, BOEM, and any relevant Federal agencies to ensure the change is appropriately incorporated into the Federal review process. Atlantic Shores acknowledges that a change to the Proposed Action may result in the need for a Supplemental EIS.</p>

Comment	Response
<p>and any permanent use of NJDEP property will require monetary compensation and associated mitigation projects.</p>	
<p>The Bureau of Ocean Energy Management (BOEM) previously notified the HPO of its intention to use National Environmental Policy Act (NEPA) substitution for this project pursuant to 36 CFR 800.8 on October 14, 2021.</p> <p>Based on the information provided, it is unclear whether the New Jersey Parks, Forests, and Historic Sites program has been consulted regarding this project. The New Jersey Parks, Forests, and Historic Sites program owns multiple historic properties within the area of potential effects and therefore should be consulted directly regarding the potential for the project to adversely affect State parks and historic sites. It is our understanding that the following contacts will be representing New Jersey Parks Forests and Historic Sites in consultation: Robin Madden ([redacted email address]); Mark Texel [redacted email address]; Jenifer Clayton [redacted email address]; and Judeth Yeany [redacted email address].</p>	<p>BOEM thanks the NJHPO for this information. The referred representatives from NJDEP New Jersey Parks, Forests, and Historic Sites were added to the NHPA Section 106 consulting parties contact list as indicated in the Appendix A, <i>Required Environmental Permits and Consultations</i>, and Appendix I, <i>Finding of Adverse Effect for the Atlantic Shores Offshore Wind South Project Construction and Operations Plan</i>. BOEM included these representatives in communications beginning July 24, 2023, with the distribution of the Section 106 Consultation Meeting #2 meeting summary to consulting parties. BOEM also consulted with New Jersey Parks, Forests, and Historic Sites on the development of the MOA, including mitigation measures for historic properties which it owns (i.e., Absecon Lighthouse, Barnegat Lighthouse, Forked River Coast Guard Station No. 112, and Island Beach State Park Historic District).</p>
<p>The HPO would like to note for the purposes of this review, that the Phase IA archaeological investigation failed to identify at least one historic property within the PAPE. Specifically, archaeological site [terrestrial archaeological resource identification number and name redacted]. The [resource name redacted] is located at the [location redacted] and has been determined eligible for listing in the New Jersey and National Registers of Historic Places. The [resource name redacted] is eligible for inclusion on the National Register of Historic Places under Criterion D, for the potential to yield new important information in history regarding the historic occupation and early settlement of Monmouth County shore communities. Please ensure that this historic property is included as part of future analysis related to the identification of historic properties for this undertaking.</p>	<p>In response to this comment, BOEM requested EDR (the preparer of the TARA) to ensure the referenced terrestrial archaeological resource was considered in the TARA report. EDR revised the TARA report accordingly by integrating summaries and results of previous surveys encompassing the resource as well as NJHPO opinions. Based on NJHPO's mapped boundaries of this archaeological resource, EDR determined it is outside of the terrestrial APE at a distance of 75 meters at its nearest, separated by a flat grass lawn, some of which are used as athletic fields. The existing resource boundaries were found to be well defined by previous Phase IB and II archaeological investigations conducted at the resource. As such, BOEM found the Project would have no effect on this historic property.</p>
<p>Based on a review of the documentation submitted, the current TARA report does not meet the HPO's Guidelines for Preparing Cultural Resources Management Archaeological Reports Submitted to the Historic Preservation Office. Specifically, all figures and photos provided must be incorporated into the text on the page(s) following their citation. They should not be appended at the end of the report. Please revise the report to include this information</p>	<p>In response to this comment, BOEM requested EDR (the preparer of the TARA) to ensure the TARA report complies with the NJHPO report guidelines. EDR revised the report as requested. BOEM distributed a revised version of the TARA report to NJHPO, federally recognized Tribes, and other consulting parties on November 20, 2023.</p>

Comment	Response
and please ensure that all future archaeological reporting conforms to these standards.	
<p>Based on a review of the information provided and the overlap of the APE for the current project with that of the Ocean Wind project, it appears that the following 11 additional known historic resources were omitted from the identification effort:</p> <ul style="list-style-type: none"> • Haddon Hall (Resorts Casino Hotel), Atlantic City, Atlantic County (SHPO Opinion 5/19/2023) • Raphael-Gordon House, Atlantic City, Atlantic County (SHPO Opinion 4/11/1997) • Great Egg Coast Guard Station, Longport Borough, Atlantic County (NR 10/31/2005; SR 1/4/2005) • Ventnor City Hall, Ventnor City, Atlantic County (NR 10/10/1996; SR 8/20/1996) • Alante Motel, 515 East 8th Avenue, North Wildwood, Cape May County (SHPO Opinion May 31, 2022) • Lou Booth II Motel, 510 East 14th Avenue, North Wildwood, Cape May County (SHPO Opinion May 31, 2022) • Matador Motel, 511 East 16th Avenue, North Wildwood, Cape May County (SHPO Opinion May 31, 2022) • The Flanders Hotel, Ocean City, Cape May County (NR 11/20/2009; SR 8/20/2009) • Great Channel Bridge, Stone Harbor Borough, Cape May County (SHPO Opinion 3/8/1983) • U.S. Lifesaving Station #35, Stone Harbor Borough, Cape May County (NR 10/8/2008; SR 7/24/2008) • Forked River Coast Guard Station No. 112, Berkeley Township, Ocean County (SHPO Opinion 5/9/1996) <p>The HPO requests clarification on the exclusion of the above-named properties from the identification of historic properties and assessment of project effects for the current project.</p>	Please refer to the response to comment BOEM-2023-0030-2015-0011.
The above-referenced intensive-level historic architectural survey misidentified 14 resources within the APE as having previous SHPO Opinions of Eligibility. Six of the misidentified properties were properties for which the	BOEM thanks NJHPO for this comment. BOEM continued to treat these six historic properties as eligible for the NRHP for the purposes of Section 106 review for this Project.

Comment	Response
<p>HPO previously requested additional survey and/or contextual information during the consultation for the Ocean Wind project, as follows:</p> <ul style="list-style-type: none"> • 114 South Osborne Avenue, Margate City, Atlantic County • Vassar Square Condominiums, Ventnor City, Atlantic County • 13 47th Street, Sea Isle City, Cape May County • Atlantic City Boardwalk Historic District, Atlantic City, Atlantic County • Ocean City Boardwalk, Ocean City, Cape May County • Wildwood Boardwalk, North Wildwood, Cape May County <p>The intensive-level historic architectural survey for the current project does not address the HPO’s previous request for additional information for any of these resources. However, the HPO acknowledges that BOEM elected to treat the above-referenced six properties as historic for the purposes of the Ocean Wind consultation and has done the same for the current consultation.</p>	
<p>An additional 11 properties were misidentified as eligible for the National Register:</p> <ul style="list-style-type: none"> • Woodmansee Estate, Hamilton and Egg Harbor Townships, Atlantic County • Shore Road Historic District, Northfield City, Atlantic County • Beach Hugger Motel, 210 Ocean Avenue, North Wildwood City, Cape May County • Le Sabre Condominiums, 510 East 8th Avenue, North Wildwood City, Cape May County • 22 54th Street, Sea Isle City, Cape May County • 24 53rd Street, Sea Isle City, Cape May County • 12 50th Street, Sea Isle City, Cape May County • 26 46th Street, Sea Isle City, Cape May County • 20 46th Street, Sea Isle City, Cape May County • Braca Café, Sea Isle City, Cape May County • European Motel, 300 Ocean Avenue, Wildwood City, Cape May County <p>With the exception of the European Motel, all of these properties are labeled in the HPO’s GIS database (LUCY) as identified resources, meaning that they have been included in one or more previous survey efforts but have not been formally evaluated for eligibility. The majority of these properties were</p>	<p>In response to this comment, BOEM requested EDR (the preparer of the HRVEA) to revisit its evaluations of the referenced historic aboveground resources. The following revisions were made:</p> <ul style="list-style-type: none"> • The <i>HRVEA Intensive-Level Architectural Survey Report (COP Volume II, Appendix II-W)</i> was updated to include intensive-level survey for the 11 properties identified in this comment. Survey forms were updated to include eligibility worksheets consistent with NJHPO’s Guidelines for Architectural Survey. • As a result of this additional evaluation, the <i>HRVEA Intensive-Level Architectural Survey Report</i> was revised from stating ten of these properties were determined eligible for listing in the NRHP by NJHPO to stating these properties are not eligible for listing in the NRHP (as recommended by EDR). The following properties were removed from the <i>Offshore HRVEA (COP Volume II, Appendix II-O)</i> as they are no longer considered potential historic properties requiring effects assessments. <ul style="list-style-type: none"> ○ Woodmansee Estate, Hamilton and Egg Harbor Townships, Atlantic County ○ Beach Hugger Motel, 210 Ocean Avenue, North Wildwood City, Cape May County

Comment	Response
<p>surveyed more than 10 years ago and therefore should have been surveyed at the intensive level for the current project, in accordance with the HPO's Guidelines for Architectural Survey (referred to herein as Guidelines). Without an intensive-level survey of these resources, the HPO cannot evaluate the eligibility of these properties due to a lack of information. The HPO does not have any record of a previously identified property by the name of European Motel, or at the location 300 Ocean Avenue, Wildwood.</p>	<ul style="list-style-type: none"> ○ Le Sabre Condominiums, 510 East 8th Avenue, North Wildwood City, Cape May County ○ 22 54th Street, Sea Isle City, Cape May County ○ 24 53rd Street, Sea Isle City, Cape May County ○ 12 50th Street, Sea Isle City, Cape May County ○ 26 46th Street, Sea Isle City, Cape May County ○ 20 46th Street, Sea Isle City, Cape May County ○ Braca Café, Sea Isle City, Cape May County ○ European Motel, 300 Ocean Avenue, Wildwood City, Cape May County (Although the European Motel is identified in the inventory of the Motels of Wildwood, Multiple Property Listing, which is listed in the NRHP, upon further research and review, EDR recommended that this resource is not individually eligible for listing in the NRHP). <ul style="list-style-type: none"> ● For the Shore Road Historic District, Northfield City, Atlantic County, the <i>Offshore HRVEA</i> (COP Volume II, Appendix II-O) was revised from stating this resource <i>was determined eligible for listing in the NRHP by NJHPO</i> to stating this resource is <i>recommended to be eligible by EDR</i>. An intensive-level inventory form has been added to the updated <i>HRVEA Intensive-Level Architectural Survey Report</i> (COP Volume II, Appendix II-W). ● Additionally, EDR identified one additional property (i.e., 13 47th Street, Sea Isle City, Cape May County) for which its NRHP eligibility indicated in the <i>Offshore HRVEA</i> needed to be revised; the <i>Offshore HRVEA</i> and <i>HRVEA Intensive-Level Architectural Survey Report</i> (COP Volume II, Appendices II-O and II-W) were revised from stating this property was <i>determined eligible for listing in the NRHP by NJHPO</i> to stating this resource is <i>not eligible for listing in the NRHP (as recommended by EDR)</i>. <p>Additionally, the analyses in the Final EIS and <i>Finding of Adverse Effect</i> (Appendix I) were updated accordingly and where applicable.</p>
<p>According to the above-referenced survey report, parcel data was used to identify resources constructed 40 years of age or older at the time of the survey within the visual APE for the onshore and offshore project components. A total of 2,112 properties were identified within the Wind Turbine Area (WTA) APE; 66 properties within the Onshore Facilities APE; and 275 properties within the Operations and Maintenance Facility APE. As a</p>	<p>In response to this comment, BOEM requested EDR to revise the HRVEA (COP Volume II, Appendices II-O and II-W) to reflect NJHPO's Opinions of Eligibility for each of these historic properties as a result of recommendations and consultations on this Project. Additionally, the analyses in the Final EIS and <i>Finding of Adverse Effect</i> (Appendix I) were updated accordingly and where applicable.</p>

Comment	Response
<p>result of the intensive-level survey, 42 of these resources were recommended eligible for listing on the New Jersey and National Registers of Historic Places. It is my opinion as the Deputy State Historic Preservation Officer that the following properties are eligible for listing on the New Jersey and National Registers of Historic Places:</p> <p>[Note from BOEM: Descriptions of the following historic properties have been withdrawn for conciseness; however, full descriptions provided in the original comment are available on Regulations.gov at https://www.regulations.gov/comment/BOEM-2023-0030-2015]</p> <ul style="list-style-type: none"> • Atlantic City Free Public Library, 35 S. Dr. Martin Luther King Jr. Drive (Block 154, Lot 11), Atlantic City, Atlantic County. [...] • 1425 Boardwalk (Block 52, Lot 24), Atlantic City, Atlantic County. [...] • Elwood Hotel, 164 St. James Place (Block 52, Lot 26), Atlantic City, Atlantic County. [...] • 108 South Raleigh Avenue (Block 11, Lot 10), Atlantic City, Atlantic County. [...] • Sahara Motel, 510 East 18th Street (Block 315.01, Lot 5), North Wildwood City, Cape May County. [...] • Aloha Motel, 210 John F. Kennedy Boulevard (Block 424, Lot 5), North Wildwood City, Cape May County. [...] • Island Beach State Park Historic District (Block 1750, Lot 1), Berkeley Township, Ocean County. [...] • Stevens House, 906 Ocean Front (Block 10, Lots 3-4), Lavallette Borough, Ocean County. [...] <p>These all represent new SHPO Opinions of Eligibility.</p>	
<p>The HPO respectfully disagrees with the recommendations of eligibility for the remaining 34 properties due to a lack of sufficient historic and/or architectural contexts. Future research may reveal significance for one or more of these properties.</p>	<p>The HRVEA identified historic properties potentially eligible for listing in the NRHP consistent with the <i>Programmatic Agreement among the U.S. Department of the Interior, Bureau of Ocean Energy Management, the State Historic Preservation Officers of New Jersey and New York, The Shinnecock Indian Nation, and the Advisory Council on Historic Preservation Regarding Review of Outer Continental Shelf Renewable Energy Activities Offshore New Jersey and New York Under Section 106 of the National Historic Preservation Act (PA)</i>. The HRVEA applies PA Stipulation I.D. which treats all identified potential historic properties as eligible for listing in the NRHP unless BOEM determines, and the SHPOs agree, that a property is ineligible.</p>

Comment	Response
	<p>In response to this comment, BOEM requested EDR to revisit the HRVEA (COP Volume II, Appendices II-O and II-W) to provide additional information to support the recommendations of NRHP eligibility. The revised HRVEA and BOEM's <i>Finding of Adverse Effect</i> (Appendix I), as distributed to NJHPO and consulting parties on November 20, 2023, reflected revised and current recommendations of NRHP eligibility for aboveground resources in the APE based on Section 106 consultations and additional review.</p> <p>Please refer to the responses to comments BOEM-2023-0030-2015-0044 through 0051 for detailed information on reassessments of eligibility for individual residences, historic districts, and specific resources named by NJHPO.</p> <p>Several other resources were not listed in the NJHPO letter as historic properties receiving concurrence on the determination of NRHP eligibility. The survey forms for these properties, located in the <i>HRVEA Intensive-Level Architectural Survey Report</i> (COP Volume II, Appendix II-W) were updated to provide additional information, and BOEM will consider these properties to be NRHP-eligible for the purposes of this consultation:</p> <ul style="list-style-type: none"> • Central School/Brigantine Library, Brigantine City • St. Thomas Catholic Church, Brigantine City • Wesley Methodist Episcopal Church, Pleasantville City • New York Avenue School, Somer's Point <p>In addition to the resources discussed in the above-mentioned responses to comments, reassessment of the following aboveground resources resulted in revised recommendations that they are not eligible for listing in the NRHP. As such, the HRVEA no longer indicates these to be historic properties identified in the visual APE for Offshore Project components:</p> <ul style="list-style-type: none"> • Germania Gunning Club, Galloway Township • Acacia Beachfront Resort, Wildwood Crest Borough • Athens II Motor Inn

Comment	Response
	Analyses in the Final EIS and <i>Finding of Adverse Effect</i> (Appendix I) were updated accordingly and where applicable to reflect these HRVEA revisions.
<p>In addition to the above issues regarding eligibility assessments, the photographs provided on the survey forms are generally inadequate to assess the integrity of the surveyed properties. Many of the photos are not close enough to the subject to provide an adequate level of detail, and portrait orientated images were reduced in size rather than rotated to fill the entire box on the form. The HPO also respectfully requests that future reports be organized by county, then municipality, rather than solely by municipality. We believe this structure facilitates understanding of the distribution of historic properties, in particular for those consulting parties whose area of interest is at the county or regional level. Finally, the HPO notes that most, if not all, of the resources identified as located in Wildwood are, in fact, located in the City of North Wildwood.</p>	<p>BOEM thanks the NJHPO for this comment. In response to this comment, BOEM requested EDR (the preparer of the HRVEA) to review the <i>HRVEA Intensive-Level Architectural Survey Report</i> (COP Volume II, Appendix II-W) and revise relevant survey forms and photographs to ensure they comply with NJHPO guidelines and as specified. EDR conducted photography from available public vantage points and revised the forms to update and reorient photos to fill the photo box as appropriate and. EDR also reorganized Appendix II-W by municipality and county as requested and revised locational information in the <i>Offshore HRVEA</i> (COP Volume II, Appendix II-O) to reflect the correct list of historic properties located within the City of North Wildwood.</p> <p>BOEM will incorporate this feedback from NJHPO into its guidance to Lessees on future projects.</p>
<p>As indicated above, the HPO has identified a number of historic properties located within the APE for the current project, for which no assessment of effects was provided. The HPO requests an assessment of effects for the following properties, or a justification for why the property(s) were omitted from the APE:</p> <ul style="list-style-type: none"> • Haddon Hall (Resorts Casino Hotel), Atlantic City, Atlantic County • Raphael-Gordon House, Atlantic City, Atlantic County • Great Egg Coast Guard Station, Longport Borough, Atlantic County • Ventnor City Hall, Ventnor City, Atlantic County • Alante Motel, 515 East 8th Avenue, North Wildwood, Cape May County • Lou Booth II Motel, 510 East 14th Avenue, North Wildwood, Cape May County • Matador Motel, 511 East 16th Avenue, North Wildwood, Cape May County • Flanders Hotel, Ocean City, Cape May County • Great Channel Bridge, Stone Harbor Borough, Cape May County • U.S. Lifesaving Station #35, Stone Harbor Borough, Cape May County 	<p>In response to this comment and subsequent comments from NJHPO and NJDEP, BOEM requested EDR (the preparer of the HRVEA) to revisit its identification of historic properties to determine whether these 11 historic properties are in the Project APE and conduct the requisite assessment of Project effects. EDR revisited the identification and recommendations and found that the Project would be visible from elevated vantages from eight of the 11 referenced historic properties, and therefore, these eight historic properties and the requisite effects assessments were added to the HRVEA report:</p> <ul style="list-style-type: none"> • Haddon Hall (Resorts Casino Hotel), Atlantic City, Atlantic County • Great Egg Coast Guard Station, Longport Borough, Atlantic County • Alante Motel, 515 East 8th Avenue, North Wildwood, Cape May County • Lou Booth II Motel, 510 East 14th Avenue, North Wildwood, Cape May County • Matador Motel, 511 East 16th Avenue, North Wildwood, Cape May County • The Flanders Hotel, Ocean City, Cape May County • U.S. Lifesaving Station #35, Stone Harbor Borough, Cape May County

Comment	Response
<ul style="list-style-type: none"> Forked River Coast Guard Station No. 112, Berkeley Township, Ocean County 	<ul style="list-style-type: none"> Forked River Coast Guard Station No. 112, Berkeley Township, Ocean County <p>The remaining three historic properties were found to be outside of the visual APE, would not have elevated views of the Project, and therefore, were not added to the HRVEA:</p> <ul style="list-style-type: none"> Raphael-Gordon House, Atlantic City, Atlantic County Ventnor City Hall, Ventnor City, Atlantic County Great Channel Bridge, Stone Harbor Borough, Cape May County <p>As a result of this and subsequent assessments of effects, BOEM found Forked River Coast Guard Station No. 112, Great Egg Coast Guard Station, Haddon Hall (Resorts Casino Hotel), and The Flanders Hotel would be adversely affected by the Project; the four other historic properties in the visual APE as listed above would not be adversely affected. Please refer to the <i>Offshore HRVEA</i> report (COP Volume II, Appendix II-O) for the complete effects assessments for each of these historic properties; and response to comment BOEM-2023-0030-2015-0004 for related information.</p>
<p>The HPO notes that four of these resources – Haddon Hall, Great Egg Coast Guard Station, Flanders Hotel, and U.S. Lifesaving Station #35 – were adversely affected by the Ocean Wind project. An additional three resources that were subject to adverse effects as a result of the Ocean Wind project were not identified as adversely affected by the current project:</p> <ul style="list-style-type: none"> Absecon Lighthouse, Atlantic City, Atlantic County Hereford Lighthouse, North Wildwood, Cape May County North Wildwood Life Saving Station, North Wildwood, Cape May County <p>Given that the Ocean Wind consultation determined that these properties would also be subject to cumulative effects from other offshore wind projects, including Atlantic Shores, the HPO is concerned by the inconsistency in the findings of effect between the two projects for the above-named properties.</p>	<p>Since the Ocean Wind 1 CHRVEA was conducted and finalized, BOEM has continued consultations with NJHPO and other consulting parties to refine its identification of and assessment of effects on historic properties in the APES of offshore wind projects in the Atlantic region. Ocean Wind 1 and the Project are separate projects, in different locations, with different configurations and numbers of WTGs. The viewsheds of each project and the distance to each historic property vary; therefore, potential effects caused by each individual project are appropriately assessed independently based on their specific characteristics.</p> <p>For the Project, appropriate and good-faith assessments were made in the Project HRVEA to support BOEM’s initial finding of no adverse effect on Absecon Lighthouse, Hereford Lighthouse, and North Wildwood Life Saving Station. In response to this and other consulting party comments, BOEM requested EDR (the preparer of the HRVEA) to revisit its assessment of Project effects on each of these historic properties. EDR’s reassessments continued to support the finding that Hereford Lighthouse and North</p>

Comment	Response
	<p>Wildwood Life Saving Station would not be adversely affected by the Project. However, reassessments supported the revised finding that Absecon Lighthouse would be adversely affected by the Project. Analyses in the Final EIS and <i>Finding of Adverse Effect</i> (Appendix I) were updated accordingly and where applicable to reflect these HRVEA revisions.</p> <p>Please refer to the <i>Offshore HRVEA</i> report (COP Volume II, Appendix II-O) for the complete effects assessments for each of these historic properties.</p>
<p>The HPO has also identified inconsistencies in the findings between the two projects for the following resources, which were not adversely affected by Ocean Wind but will be adversely affected by the current project:</p> <ul style="list-style-type: none"> • Central Pier, Atlantic City, Atlantic County • USCG Station Atlantic City, Atlantic City, Atlantic County • 108 South Gladstone Avenue, Margate City, Atlantic County • John Stafford Historic District, Ventnor City, Atlantic County • Saint Leonard’s Tract Historic District, Ventnor City, Atlantic County • Gillian’s Wonderland Pier, Ocean City, Cape May County <p>This discrepancy is of particular concern, given that some of these historic properties are located in closer proximity to the Ocean Wind development than to the Atlantic Shores project.</p>	<p>In response to this comment, BOEM requested EDR (the preparer of the HRVEA) to revisit its assessment of Project effects on each of these six referenced historic properties. EDR’s reassessments continued to support the finding that five of these historic properties would be adversely affected by the Project. However, reassessments supported the revised finding that Gillian’s Wonderland Pier would not be adversely affected by the Project.</p> <p>The distances from each of these historic properties to the Ocean Wind 1 (OW1) and Atlantic Shores South (Project) projects are as follows:</p> <ul style="list-style-type: none"> • Central Pier <ul style="list-style-type: none"> ○ OW1: 15.1 miles ○ Project: 10.8 miles • USCG Station Atlantic City <ul style="list-style-type: none"> ○ OW1: 16.5 miles ○ Project: 11.5 miles • 108 South Gladstone Avenue <ul style="list-style-type: none"> ○ OW1: 15.9 miles ○ Project: 13.8 miles • John Stafford Historic District <ul style="list-style-type: none"> ○ OW1: 15.6 miles ○ Project: 12.5 miles • Saint Leonard’s Tract Historic District <ul style="list-style-type: none"> ○ OW1: 15.6 miles ○ Project: 12.7 miles • Gillian’s Wonderland Pier <ul style="list-style-type: none"> ○ OW1: 15.6 miles ○ Project: 17 miles

Comment	Response
	<p>Please refer to the <i>Offshore HRVEA</i> report (COP Volume II, Appendix II-O) for the complete effects assessments for each of these historic properties; and response to comment BOEM-2023-0030-2015-0012 for additional information.</p>
<p>Furthermore, the HPO respectfully disagrees that the following historic properties will not be adversely affected by the current project:</p> <ul style="list-style-type: none"> • Brigantine Lighthouse, Brigantine City, Atlantic County. • Barnegat Lighthouse, Barnegat Light Borough, Ocean County. • Island Beach State Park Historic District, Berkeley Township, Ocean County • U.S. Lifesaving Station Number 14, Berkeley Township, Ocean County • U.S. Life Saving Station No. 13, Seaside Park Borough, Ocean County <p>In our opinion, ocean views are character-defining features of each of these historic properties, and their use as publicly-accessible and interpreted historic sites further compounds the effects of changes to the ocean view on the properties. The photo simulations for Barnegat Lighthouse clearly illustrate the visibility of the proposed wind farm, which will demonstrably alter the integrity of setting and feeling of this historic property. Similarly, the photo simulations for Island Beach State Park indicate that the proposed wind farm will be highly visible from this location. Given that the significance of Island Beach State Park Historic District is tied to its associations with conservation, it is the opinion of the HPO that the wind farm will adversely affect its integrity of setting and feeling. Furthermore, the no adverse effect finding for the lighthouses and lifesaving stations is inconsistent with BOEM’s effects findings for similar resource types in the Ocean Wind project.</p>	<p>In response to this comment, BOEM requested EDR (the preparer of the HRVEA) to revisit its assessment of Project effects on each of these five historic properties. EDR revisited the recommendations and found the following:</p> <ul style="list-style-type: none"> • Brigantine Lighthouse, Brigantine City, Atlantic County, located 10.66 miles from the Offshore Project. The Brigantine Lighthouse was constructed in 1926 as a tourist attraction to encourage visitors to Brigantine from Atlantic City and not a functioning lighthouse. The interior and lantern of the structure are not open to the public, and visibility of the Project is limited due to the historic property’s location on the bay side of the barrier island and the density of the intervening structures, land, and vegetation. In addition, historic uses of the property were not dependent on ocean views and the limited visibility of the Project would not diminish the important associations of the Brigantine Lighthouse with the surrounding community’s history. As such, BOEM still found the Project would have no adverse effect on this historic property. • Barnegat Lighthouse, Barnegat Light Borough, Ocean County, located 27.31 miles from the Offshore Project. The Barnegat Lighthouse was constructed between 1855 and 1857 to guide ships navigating Barnegat Inlet. Due to its location on the bay side of Long Beach Island, as well as the intervening land and structures, the Project would not be visible from the ground-level vantages at the lighthouse. However, the Project would be visible from elevated viewpoints atop the lighthouse. Unobstructed ocean views contribute to the lighthouse’s historic significance and integrity of location, setting, feeling, and association. As such, BOEM found the Project would have an adverse effect on this historic property. • Island Beach State Park Historic District, Berkeley Township, Ocean County, located 27.3 miles from the Offshore Project. The Island Beach

Comment	Response
	<p>State Park Historic District encompasses the barrier island and State Park from its northern boundary south of 24th Avenue to Barnegat Inlet. Based on BOEM’s consultations with NJHPO and NJDEP, which occurred between the Draft EIS and Final EIS, BOEM found the Project would have an adverse effect on this historic property.</p> <ul style="list-style-type: none"> <p>U.S. Lifesaving Station Number 14, Berkeley Township, Ocean County, located 36.5 miles from the Offshore Project. The U.S. Lifesaving Station No. 14 was constructed in 1894 as a rescue station by the United States Life Saving Service. The Project will not be visible from viewer height level; however, it may be visible from within the upper stories and lookout tower of the lifesaving station. Although the Project will be visible from the U.S. Lifesaving Station No. 14, visibility of the Project will be diminished due to the significant distance between the Project and the historic property. In addition, due to the location of the Project, when viewing the Atlantic Ocean from the historic property, the Project will occupy only approximately 14.6% of the ocean horizon. The majority of the view of the ocean will be unobstructed by the Project. As such, BOEM still found the Project would have no adverse effect on this historic property.</p> <p>U.S. Life Saving Station No. 13, Seaside Park Borough, Ocean County, located 38.94 miles from the Offshore Project. The U.S. Life Saving Station No. 13 is a former lifesaving station which now functions as borough offices for Seaside Park and the historic-era garage is used as storage for lifeguard equipment. At its distance from the Offshore Project, the WTGs will be difficult to discern under even clear atmospheric conditions when viewed from the lantern deck, as indicated in the photosimulation SPB01. In addition, due to the distance and orientation between the Project and the U.S. Life Saving Station No. 13, the Project will occupy a small portion of the ocean horizon, with the majority of the ocean views unobstructed by the Project. As such, BOEM still found the Project would have no adverse effect on this historic property.</p>
<p>Finally, the HPO notes that one of the properties identified as adversely affected, Brighton Park, was recommended eligible as a contributing resource to the Atlantic City Boardwalk Historic District. As the historic district is the</p>	<p>In response to this comment, EDR (the preparer of the HRVEA) revised the <i>Offshore HRVEA</i> and <i>HRVEA Intensive-Level Architectural Survey Report</i> (COP Volume II, Appendices II-O and II-W) to indicate Brighton Park as a</p>

Comment	Response
<p>eligible property, not the park, a separate assessment of effects for this resource is redundant.</p>	<p>contributing feature to the Atlantic City Boardwalk Historic District rather than an individually eligible historic property. BOEM revised the MOA and associated HPTPs and the Final EIS to reflect this change in total number of adversely affected historic properties.</p>
<p>The documentation provided by BOEM includes a draft Memorandum of Agreement (MOA) to resolve the project’s adverse effects. As indicated above, it is the opinion of the HPO that the identification of historic properties and assessment of project effects is incomplete at this time. However, we offer the following comments regarding the draft MOA for BOEM’s reference.</p> <p>Archaeology</p> <p>According to BOEM, the full extent of potential adverse effects associated with the proposed undertaking cannot be fully enumerated at this time. As a result, BOEM is recommending a phased program of identification and evaluation, in consultation with the consulting parties. The purpose of the phased program of identification and evaluation is to address the consideration of historic properties, in accordance with 36 CFR Part 800, at a later date in the development of this undertaking. While the HPO concurs with the recommendation to continue consultation regarding the identification and evaluation of historic properties, the HPO has significant concerns regarding the procedures detailed in the MOA regarding the treatment of historic properties.</p> <p>According to information in the MOA, avoidance is recommended as the appropriate treatment for historic properties, where feasible. BOEM has determined that specific resources shall be avoided as part of this undertaking. However, at the same time, BOEM also identifies that the undertaking has not been developed to the level to determine that the resources identified can be avoided. As a result, the HPO does not believe that BOEM can adequately reach the conclusions about the treatment of historic properties that it has outlined in the MOA.</p>	<p>In response to this comment and Project developments occurring since the first draft of the MOA was published in the Draft EIS, BOEM revised the phased identification measures and avoidance stipulations (Stipulations IV and I, respectively) in the MOA.</p> <p>Due to Atlantic Shores’ inability to gain the necessary landowner permissions and access to fully complete Phase IB archaeological surveys in all areas of the terrestrial APE, BOEM subsequently determined Atlantic Shores must complete the remaining surveys as phased identification after BOEM issues its ROD. On November 20, 2023, BOEM distributed a revised TARA report, Phased Identification Plan (PIP), and Draft MOA to NJHPO and consulting parties reflecting a process of post-ROD phased identification and evaluation of historic properties for terrestrial archaeological resources. The phased identification stipulation (Stipulation IV) in the Final MOA reflects this post-ROD phased identification process.</p> <p>BOEM has determined the Project would have no effect on any of the 22 marine archaeological resources but would have adverse effects on all 59 ASLFs in the marine APE. The proposed avoidance, minimization, and mitigation stipulations (Stipulation I, II, and III) in the MOA reflect these findings of effect.</p> <p>Refer to Appendix I, Attachment A, for a draft of the MOA (Draft 4) as of April 10, 2024. The executed MOA will be posted on BOEM’s website following issuance of the ROD at: https://www.boem.gov/renewable-energy/state-activities/atlantic-shores-south.</p>
<p>For those properties where avoidance is not feasible, Phase III archaeological data recovery is stipulated to mitigate any adverse effects on the historic</p>	<p>BOEM revised the MOA to reflect that other forms of mitigation—in addition to or aside from Phase III archaeological data recovery—can be identified</p>

Comment	Response
<p>property. The HPO’s concern with this approach is twofold; 1) that the automatic default to Phase III archaeological data recovery does not afford for an adequate evaluation of alternatives for the treatment of the historic property; and 2) that BOEM’s presumption that properties are eligible for listing in the NRHP without proceeding through the formal evaluation process does not allow for the appropriate development of datasets and historic contexts to develop an appropriate archaeological mitigation investigation. In addition, the presumption of eligibility of certain resources may result in the execution of archaeological data recovery level investigation on resources that otherwise would not be eligible for listing in the National Register of Historic Places.</p>	<p>through consultations as measures appropriate for resolving adverse effects on archaeological resources and ASLFs. Please refer to the response to comment BOEM-2023-0030-2015-0016 for additional information on the protocol for avoidance and additional investigations of archaeological resources stipulated in the MOA.</p>
<p>Furthermore, while BOEM is recommending the completion of a phased program of identification and evaluation to address the consideration of historic properties, BOEM is also recommending the completion of archaeological monitoring in “areas identified as having high or moderate archaeological sensitivity (including “medium-high” or “medium” archaeological sensitivity as described in Attachment 3), including undisturbed, paved areas within 1,000 feet of a previously identified archaeological site.” The HPO questions this approach. If there are areas of the PAPE that BOEM determines rise to the level of needing further consideration, as outlined in the archaeological monitoring stipulation, then these areas should be considered as part of the phased program of identification and evaluation, and not left for archaeological monitoring during construction. Archaeological monitoring is not an appropriate methodology for archaeological documentation when standard phased archaeological survey and documentation is possible. Archaeological monitoring is a means of last resort, when no other feasible means of archaeological documentation are possible. Therefore, formal archaeological testing will be necessary to identify the presence of archaeological resources in all areas of identified sensitivity.</p>	<p>BOEM agrees that archaeological monitoring is not an appropriate methodology for the identification and documentation of archaeological resources. Since the first distribution of the TARA report to consulting parties on May 4, 2023, and the publication of the Draft EIS on May 19, 2023, Atlantic Shores made additional progress on the TARA. As part of the TARA (COP Volume II, Appendix P), Atlantic Shores conducted Phase I archaeological survey in accordance with NJHPO’s standards for archaeological resource identification and documentation efforts. Phase IA archaeological desktop assessments identified previously recorded resources in the APE as well as areas of potential archaeological sensitivity. The Phase IB subsurface archaeological testing regime focused on areas of high or moderate sensitivity identified in the desktop assessments. As indicated in responses to comments BOEM-2023-0030-2015-0016 and 0035, Atlantic Shores will continue to complete additional subsurface testing as post-ROD phased identification using the methods and protocol stipulated in the MOA (refer to Appendix I, Attachment A, for a draft of the MOA as of April 10, 2024).</p> <p>Due to the nature of the APE for the proposed cable routes, some areas identified as having medium-high sensitivity for archaeological resources (due to being within 1,000 feet of a previously recorded archaeological sites) cannot undergo subsurface testing as those areas are covered in pavement. As such, the <i>Cultural Resources Avoidance, Minimization, and Mitigation (AMM) Plan</i> (MOA, Attachment 3) recommended archaeological monitoring for these specific areas. This archaeological monitoring does not replace the</p>

Comment	Response
	<p>need for Phase I investigations to be conducted within the APE for areas determined to be of high or moderate sensitivity where otherwise feasible. Specific areas for which archaeological monitoring would be conducted due to the infeasibility of subsurface testing are stipulated in the MOA per the AMM Plan, Terrestrial Archaeological Monitoring and PRDP (MOA, Attachment 5), and PIP (refer to MOA, Stipulation IV).</p>
<p>BOEM has developed HPTPs to address the adverse effects of the project on 27 identified historic properties. A total of 13 HPTPs have been provided, proposing a variety of treatment options for the adversely affected properties. It is unclear from the information provided to what extent, if any, the owners of the affected historic properties were consulted regarding the proposed mitigation measures. The HPO strongly encourages BOEM to secure feedback from the property owners in order to ensure that the proposed mitigation measures are feasible and appropriate.</p>	<p>BOEM has consulted with property owners and representatives of adversely affected historic properties to refine mitigation measures stipulated in the MOA and HPTPs. BOEM identified these property owners and representatives through research of publicly available data and consultations with other consulting parties and invited them to consult on the Project under NHPA Section 106. Property owners/representatives of historic properties determined to be adversely affected in the <i>Finding of Adverse Effect</i> (Appendix I), distributed to consulting parties on May 4, 2023, were invited to consult on that same date. On September 13, 2023, and January 29, 2024, property owners/representatives of additional historic properties that were subsequently determined to be adversely affected via BOEM’s consultations were invited to consult. Additionally, any consulting parties that were found to be the property owner or representative of an adversely affected historic property were sent additional reminders and requests to consult on May 4, 2023; November 28, 2024; and April 10, 2024.</p> <p>BOEM also coordinated with Atlantic Shores to ensure the mitigation measures in HPTPs were developed based on feedback received from these property owners/representatives. BOEM provided Atlantic Shores with relevant requests from consulting parties received on drafts of the MOA and HPTPs as well as any relevant contact information it had, and Atlantic Shores held several coordination meetings with the property owners/representatives in further developing mitigation measures to facilitate development of the MOA.</p> <p>BOEM held NHPA Section 106 Consultation Meetings #3 and #4, respectively, on December 4, 2023, and February 27, 2024, to provide an overview of the MOA and solicit feedback from these property owners or representatives, federally recognized Tribes, and other consulting parties, including on potential avoidance, minimization, and mitigation measures; and Meeting #5</p>

Comment	Response
	<p>on April 25, 2024, to finalize the MOA. Mitigation measures and HPTPs, developed through consultations for the adversely affected historic properties and stipulated in the MOA, will be implemented by the Project to resolve adverse effects in accordance with Section 106 and Section 110(f) of the NHPA.</p>
<p>The MOA proposes the establishment of a façade improvement grant program managed by the Casino Reinvestment Development Authority (CRDA; incorrectly identified in the MOA as the Casino Redevelopment Authority) for five historic properties in Atlantic City. According to the information provided, “this program would be based on the past program using the existing guidelines.” The HPO is unfamiliar with the guidelines for the program, in particular, whether the program requires that any improvements meet the Secretary of the Interior’s Standards for Rehabilitation (Standards). Given that the proposed mitigation is intended to mitigate for adverse effects to historic properties, it is imperative that any proposed mitigation meet the Standards, and that appropriately qualified staff are evaluating the grant applications. Therefore, the HPO requests additional information regarding the grant program and its administration in order to determine whether the proposed mitigation is acceptable.</p>	<p>Following the distribution of the first draft of the MOA to consulting parties on May 4, 2023, BOEM and Atlantic Shores conducted additional consultations and outreach to finalize mitigation measures and HPTPs stipulated in the MOA. Refer to BOEM’s <i>Finding of Adverse Effect</i> (Appendix I) and a draft of the MOA as of April 10, 2024, (Draft 4; Appendix I, Attachment A) for more details. The executed MOA will be posted on BOEM’s website following issuance of the ROD at: https://www.boem.gov/renewable-energy/state-activities/atlantic-shores-south.</p>
<p>The proposed mitigation also includes development of a Cultural Resources Hazard Mitigation Plan for five historic properties in Ventnor City. The HPO requests additional information regarding the involvement of the City of Ventnor and the affected property owners in the development of this mitigation strategy, as well as additional details regarding the content of the proposed plan.</p>	<p>Following the distribution of the first draft of the MOA to consulting parties on May 4, 2023, BOEM and Atlantic Shores conducted additional consultations and outreach to finalize mitigation measures and HPTPs stipulated in the MOA. Refer to BOEM’s <i>Finding of Adverse Effect</i> (Appendix I) and a draft of the MOA as of April 10, 2024, (Draft 4; Appendix I, Attachment A) for more details. The executed MOA will be posted on BOEM’s website following issuance of the ROD at: https://www.boem.gov/renewable-energy/state-activities/atlantic-shores-south.</p>
<p>For the Seaview Golf Club, BOEM proposes to “develop a cultural landscape and management plan to assist with the changing environment of competitive golf.” The meaning and intent of this plan is unclear. As indicated above, the HPO does not concur with the recommendation of eligibility for the property based on the limited information provided. Therefore, we cannot concur that a cultural landscape plan is necessary for this property, or that it would be an appropriate mitigation strategy for this resource.</p>	<p>Following the distribution of the first draft of the MOA to consulting parties on May 4, 2023, BOEM and Atlantic Shores conducted additional consultations and outreach to finalize mitigation measures and HPTPs stipulated in the MOA. Refer to BOEM’s <i>Finding of Adverse Effect</i> (Appendix I) and a draft of the MOA as of April 10, 2024 (Draft 4; Appendix I, Attachment A) for more details. The executed MOA will be posted on BOEM’s website following issuance of the ROD at: https://www.boem.gov/renewable-energy/state-activities/atlantic-shores-south.</p>

Comment	Response
<p>Finally, BOEM proposes “funding for the planning or implementation of preservation, restoration, rehabilitation, cyclical maintenance, resiliency planning, disaster recovery, or other associated activities to ensure the long-term preservation” of the remaining adversely affected properties. In several cases, the potential use of funding to update the existing architectural surveys of Atlantic City and Margate are also proposed. Although the HPO generally supports the types of activities described, lacking documentation of property owner input on these measures, it is the opinion of the HPO that contributions to a mitigation fund would be more appropriate to mitigate the adverse effects of the project on these resources.</p>	<p>Contributions to a mitigation fund to resolve visual adverse effects on historic properties have been stipulated for specified historic properties in the MOA. Refer to Appendix I, Attachment A, for a draft of the MOA (Draft 4) as of April 10, 2024. The executed MOA will be posted on BOEM’s website following issuance of the ROD at: https://www.boem.gov/renewable-energy/state-activities/atlantic-shores-south.</p>
<p>Attachment 7 was omitted from the draft MOA.</p>	<p>At the time of Draft EIS publication, the Mitigation Funding Amounts document (MOA, then Attachment 7) had not yet been prepared for inclusion in the Draft MOA. As NHPA Section 106 consultations proceeded and mitigation measures were further developed, this document was prepared and first distributed to consulting parties as MOA Attachment 6 on November 20, 2023. The final version of this document is included in the Final MOA as Attachment 6. Refer to Appendix I, Attachment A, for a draft of the MOA (Draft 4) as of April 10, 2024. The executed MOA will be posted on BOEM’s website following issuance of the ROD at: https://www.boem.gov/renewable-energy/state-activities/atlantic-shores-south.</p>
<p>The body of the MOA contains multiple incorrect references to the numbered attachments.</p>	<p>BOEM has made editorial revisions throughout the MOA document as reflected in the Final MOA. Refer to Appendix I, Attachment A, for a draft of the MOA (Draft 4) as of April 10, 2024. The executed MOA will be posted on BOEM’s website following issuance of the ROD at: https://www.boem.gov/renewable-energy/state-activities/atlantic-shores-south.</p>
<p>Section VI. The HPO requests that the review process for documents produced in accordance with the MOA stipulations include a longer review period for consulting parties. We would prefer a 90-day review period but request a minimum of 60 days to accommodate the significant workload that these documents in particular, and BOEM projects as a whole, place on HPO staff and the other consulting parties involved.</p>	<p>BOEM revised Stipulation VI, <i>Review Process for Documents Produced Under MOA Stipulations</i>, in the MOA to include a 60-day review period for consulting parties.</p>

Comment	Response
<p>The HPO requests geographic information systems (GIS) data pertaining to all historic and archaeological resources surveyed and identified as part of the current marine archaeological, terrestrial archaeological, and historic architectural survey efforts, so that these data can be incorporated into the HPO’s cultural resources GIS mapping. GIS data should include locations of surveyed properties, as well as the extent of surveyed areas. If there are any questions, the HPO would be happy to put BOEM or its consultants in contact with our office’s data management staff to facilitate the exchange of data.</p>	<p>Per BOEM’s request and Atlantic Shores’ discussions with NJHPO, Atlantic Shores submitted a final GIS data package to NJHPO when the final COP, including final cultural resources technical reports, was submitted for the Final EIS.</p>
<p>Terrestrial Archaeological Resources Assessments (TARA) According to information in the above-referenced TARA reports, Phase IA archaeological investigations included background research and pedestrian reconnaissance within the PAPE to assess the potential for the project site to contain historic and archaeological resources. According to EDR, Atlantic Shores has proposed Onshore Facilities be primarily located within previously disturbed lots, paved roadways, railroad rights-of-way, and bike paths, where disturbance during construction and installation of the existing infrastructure likely exceeded the depth of potential archaeological deposits. The results of background research, archaeological reconnaissance, and desktop assessment indicate that the proposed Onshore Facility Sites have been significantly disturbed due to transportation infrastructure development (principally roadways, railroads, and bike paths) and adjoining business and residential neighborhoods. According to EDR, there is a very low likelihood of intact or potentially significant archaeological resources to be located within those portions of the PAPE categorized as “Disturbed” in the Archaeological Reconnaissance and Desktop Assessment Results, and they have been excluded from further field survey consideration. According to information in the above-referenced TARA report, the proposed Atlantic Shores Operations and Maintenance (O&M) Facility in Atlantic City, Atlantic County was subjected to its own individual Phase IA archaeological analysis. Based on the results of the background research, EDR recommends that the PAPE for the O&M facility possesses a low likelihood for the presence of intact Native American and historic-period archaeological resources. According to EDR, this determination is largely dependent on the lack of stable soil units, extent of made land, and well documented history of disturbance. The entire O&M Facility Site is located on made-made reclaimed land that was formerly</p>	<p>BOEM thanks NJHPO for its concurrence with recommendations for archaeological monitoring of borings as provided in the versions of the TARA report (COP Volume II, Appendix II-P; Atlantic Shores 2024) and PIP (refer to MOA, Stipulation IV) distributed to NJHPO and consulting parties on May 4, 2023.</p>

Comment	Response
<p>undeveloped tidal marshland. The O&M Facility Site is mapped within unstable tidal mudflat (PstAt) soil, while geotechnical evidence near the PAPE indicates man-made fill and/or dredged material between 6 and 18 feet deep. Atlantic Shores anticipates conducting geotechnical investigations within the PAPE prior to construction. EDR recommends archaeological monitoring of those borings to determine the presence or absence of potentially intact soil deposits below the fill material. <i>The HPO concurs with this recommendation.</i></p>	
<p>According to EDR, identification-level archaeological investigations could not be completed prior to the completion of the Environmental Impact Statement for the Atlantic Shores project. As a result, EDR is recommending targeted archaeological shovel testing within those portions of the proposed Onshore Facilities that are sited within areas of the PAPE categorized as Medium and Medium-High sensitivity and “Potentially Undisturbed.” This includes portions of the Monmouth Landfall Site, targeted areas of the Larrabee and Cardiff Onshore Routes, and portions of the proposed Onshore Substation and/or Converter station locations. Pedestrian survey (with judgmental shovel testing if deemed appropriate based on observed field conditions) is recommended in any Low sensitivity, “Potentially Undisturbed” areas adjacent to paved roadways (within which the onshore cables are actually sited) where depth to culturally sterile subsoil is less than approximately 2.0 feet as well as in any wetlands or areas of steep slope. <i>The HPO concurs with this assessment.</i></p>	<p>BOEM thanks NJHPO for its concurrence with the proposed methodology for Phase IB archaeological investigations described in the TARA report (COP Volume II, Appendix II-P; Atlantic Shores 2024) and version of the PIP distributed to NJHPO and consulting parties on May 4, 2023. On November 20, 2023, BOEM distributed a revised TARA which included findings from Phase IB archaeological investigations conducted following this previously proposed methodology. Refer to Appendix I, Attachment A, for a draft of the MOA as of April 10, 2024; Stipulation IV of the MOA describes the process for phased identification and evaluation of historic properties, inclusive of the protocol established in the PIP.</p>
<p>Phase IB archaeological investigations were conducted at the Fire Road Site portion of the PAPE. According to EDR, 187 shovel test pits were excavated within the Fire Road Site. No artifacts were encountered during Phase IB testing and no archaeological sites were identified at the Fire Road Site. As a result, EDR recommends no further archeological consideration of the Fire Road Site portion of the PAPE. <i>The HPO concurs with this assessment.</i></p>	<p>BOEM thanks NJHPO for its concurrence on the archaeological investigations conducted in the Fire Road Site portion of the terrestrial APE and the resulting recommendations.</p>
<p><u>Historic Architecture</u> <i>Known Historic Properties</i> The above-referenced intensive-level architectural survey identified, and the HPO concurs, that the following historic properties previously listed on or determined eligible for the New Jersey and National Registers of Historic</p>	<p>BOEM thanks NJHPO for its concurrence on the identification of historic properties in the visual APE as described in the Intensive-Level Architectural Survey Report (COP Volume II, Appendix II-W; Atlantic Shores 2024).</p>

Comment	Response
<p>Places are located within the APE for the combined offshore and onshore project components:</p> <p><u>Atlantic County</u></p> <ul style="list-style-type: none"> • North Shore Road Historic District, Absecon City, Atlantic County (SHPO Opinion 2/14/1996) • Dr. Jonathan Pitney House, Absecon City, Atlantic County (NR 3/5/2002; SR 12/20/2001) • South Shore Road Historic District, Absecon City, Atlantic County (SHPO Opinion 2/14/1996) • Absecon Lighthouse, Atlantic City, Atlantic County (NR 1/25/1971; SR 9/11/1970) • Administration Building for the Board of Education, Atlantic City, Atlantic County (SHPO Opinion 3/17/2006) • Atlantic City Beautiful Historic District, Atlantic City, Atlantic County (SHPO Opinion 10/27/2014) • Atlantic City Convention Hall, Atlantic City, Atlantic County (NR 2/27/1987; SR 3/2/1993; NHL; 2/27/1987) • 419 Carson Avenue, Atlantic City, Atlantic County (SHPO Opinion 5/19/2017) • Central Pier, 1400 Boardwalk, Atlantic City, Atlantic County (SHPO Opinion May 31, 2022) • Claridge Hotel, 120 South Indiana Ave, Atlantic City, Atlantic County (SHPO Opinion May 31, 2022) • Fire Station #9, Atlantic City, Atlantic County (DOE 4/22/1981; SHPO Opinion 3/29/1981) • Knife and Fork Restaurant, Atlantic City, Atlantic County (SHPO Opinion 7/30/2008) • Ritz Carlton Hotel, Atlantic City, Atlantic County (COE 2/16/2011) • Riviera Apartments, 116 South Raleigh Avenue, Atlantic City, Atlantic County (SHPO Opinion May 31, 2022) • USCG Station Atlantic City, Atlantic City, Atlantic County (SHPO Opinion 7/16/2007) • U.S. Route 30 Bridge over Beach Thoroughfare, Atlantic City, Atlantic County (SHPO Opinion 6/24/2020) 	

Comment	Response
<ul style="list-style-type: none"> • Warner Theatre (façade), Atlantic City Boardwalk between Michigan and Arkansas Avenues, Atlantic City, Atlantic County (SHPO Opinion 6/22/2005) • Brigantine Lighthouse, Brigantine City, Atlantic County (SHPO Opinion 4/21/2014) • North and South Tuckahoe Historic District, Corbin City, Atlantic County (SHPO Opinion 8/28/1996) • Studebaker Showroom, Egg Harbor Township, Atlantic County (SHPO Opinion 12/18/1995) • Conovertown Historic District, Galloway Township, Atlantic County (SHPO Opinion 8/5/1992) • L.N. Renault and Sons Winery, Galloway Township, Atlantic County (SHPO Opinion 6/15/1973) • Oceanville/Leeds Point/Moss Mill Historic District, Galloway Township, Atlantic County (SHPO Opinion 8/5/1992) • Abbott’s Modern Cabins, Hamilton Township, Atlantic County (SR 9/7/1982; DOE 10/26/1982) • Linwood Historic District, Linwood City, Atlantic County (NR 7/13/1989; SR 4/27/1989) • 108 South Gladstone Avenue, Margate City, Atlantic County (SHPO Opinion May 31, 2022) • Lucy, The Margate Elephant, Margate City, Atlantic County (NR 8/12/1971; SR 4/7/1971; NHL 5/11/1976) • Gulf Service Station, Port Republic City, Atlantic County (SHPO Opinion 9/28/2004) • Bay Front Historic District (NR 3/23/1989; SR 2/9/1989) and Bay Front Historic District (Boundary Increase; COE 4/25/2016), Somers Point City, Atlantic County • Somers Mansion, Somers Point City, Atlantic County (NR 12/18/1970; SR 9/11/1970) • John Stafford Historic District, Ventnor City, Atlantic County (NR 5/9/1988; SR 4/26/1988) • Saint Leonard’s Historic District, Ventnor City, Atlantic County (SHPO Opinion 12/30/1993) 	

Comment	Response
<ul style="list-style-type: none"> • 114 South Harvard Avenue, Ventnor City, Atlantic County (SHPO Opinion May 31, 2022) <p><u>Burlington County</u></p> <ul style="list-style-type: none"> • Green Bank Historic District, Washington Township, Burlington County (SHPO Opinion 12/3/1997) <p><u>Cape May County</u></p> <ul style="list-style-type: none"> • Cape May Lighthouse, Lower Township, Cape May County (NR 11/12/1973; SR 6/15/1973) • Grassy Sound Bridge, Middle Township, Cape May County (SHPO Opinion 11/13/2008) • Grassy Sound Historic District, Middle Township, Cape May County (SHPO Opinion 12/24/2014) • Hereford Lighthouse, North Wildwood, Cape May County (NR 3/25/1004; SR 1/16/2004) • Lou Booth Motel, 510 East 13th Avenue, North Wildwood City, Cape May County (SHPO Opinion May 31, 2022) • North Wildwood Life Saving Station, North Wildwood City, Cape May County (COE 7/26/2001) • Trylon Motel, 1200 JFK Drive, North Wildwood City, Cape May County (SHPO Opinion May 31, 2022) • Gillian’s Wonderland Pier, 600-640 Boardwalk, Ocean City, Cape May County (SHPO Opinion May 31, 2022) • Ocean City Music Pier, Ocean City, Cape May County (COE 1/17/1990) • Townsend Inlet Bridge, Sea Isle City, Cape May County (SHPO Opinion 10/30/2008) • Corson’s Inlet Bridge, Upper Township, Cape May County (SHPO Opinion 11/13/2008) • Marshallville Historic District, Upper Township, Cape May County (NR 11/28/1989; SR 8/14/1989) • South Tuckahoe Historic District, Upper Township, Cape May County (NR 3/7/1997; SR 1/8/1997; SHPO Opinion 8/28/1996) • George A. Redding Bridge, Wildwood City, Cape May County (SHPO Opinion 4/12/2018) 	

Comment	Response
<ul style="list-style-type: none"> • Wildwoods Shore Resort Historic District, Wildwood City and Wildwood Crest Borough, Cape May County (SHPO Opinion 7/23/2003) <p><u>Ocean County</u></p> <ul style="list-style-type: none"> • Barnegat Lighthouse, Barnegat Light Borough, Ocean County (NR 1/25/1971; SR 9/11/1970) • Beach Haven Historic District (NR 7/14/1983; SR 4/20/1983) and Beach Haven Historic District (Boundary Increase and Additional Documentation; NR 11/19/2014; SR 9/12/2014), Beach Haven Borough, Ocean County • AT&T Transmitter Building and Antenna Field, Berkeley Township, Ocean County (SHPO Opinion 11/13/2015; COE 7/30/2007) • Midway Camps Historic District, Berkeley Township, Ocean County (SHPO Opinion 10/15/2001) • The Judge’s Shack, Berkeley Township, Ocean County (COE 3/9/2015) • U.S. Lifesaving Station Number 14, Berkeley Township, Ocean County (NR 1/30/1978; SR 3/7/1977) • Bass River State Forest Historic District, Little Egg Harbor Township, Ocean County (SHPO Opinion 9/28/2004) • Little Egg Harbor U.S. Life Saving Station #23 (U.S. Coast Guard Station #119), Little Egg Harbor Township, Ocean County (SHPO Opinion 3/10/2014) • Mantoloking Historic District, Mantoloking Borough, Ocean County (SHPO Opinion 12/5/2003) • U.S. Life Saving Station No. 13, Seaside Park Borough, Ocean County (COE: 9/17/2012) • Tuckerton Historic District, Tuckerton Borough, Ocean County (SHPO Opinion 7/10/1991) • Ocean Beach Historic District (Units 1, 2, and 3), Toms River Township, Ocean County (SHPO Opinion 2/7/2019) <p><u>Multiple Counties/Municipalities</u></p> <ul style="list-style-type: none"> • Atlantic City Railroad Cape May Division Historic District, Cape May County (SHPO Opinion 6/22/2005) 	

Comment	Response
<ul style="list-style-type: none"> Camden and Atlantic Railroad Historic District, Atlantic County (SHPO Opinion 9/17/2001; COE 10/25/2012) Garden State Parkway Historic District, Atlantic and Cape May Counties (SHPO Opinion 10/21/2001) New Jersey Southern Railroad Historic District, Ocean County (SHPO Opinion 6/30/2008) West Jersey and Atlantic Railroad Historic District, Atlantic County (SHPO Opinion 8/28/1996) 	
<p>According to BOEM, the undertaking will have no effect on the 21 marine archaeological resources in the marine APE due to Atlantic Shores' commitment to avoidance of these historic properties. However, the undertaking will have adverse effects on the 37 identified ancient submerged landforms (ASLFs) that have been determined to represent historic properties within the marine APE. Development of the final Project design is ongoing, and it is currently unclear whether Atlantic Shores would be able to avoid adverse effects on the ASLFs. Therefore, BOEM has determined the undertaking will have adverse effects on historic properties in the marine APE. BOEM anticipates that the number of adversely affected historic properties in the marine APE may be refined through ongoing Section 106 consultations. <i>The HPO concurs with this assessment.</i></p>	<p>BOEM thanks NJHPO for its concurrence on BOEM's <i>Finding of Adverse Effect</i> on historic properties located in the marine APE.</p>
<p>According to BOEM, the undertaking will have adverse effects on known historic properties in the terrestrial APE: one terrestrial archaeological resource and one historic-period aboveground resource. According to BOEM, additional investigations and consultation with the HPO may enable a conclusive determination of whether the terrestrial archaeological resource is a historic property eligible for listing in the National Register of Historic Places (NRHP) subject to adverse effects and whether archaeological elements contributing to the NRHP eligibility of the historic aboveground resource are present in the terrestrial APE. However, at present, BOEM is assuming, for the purposes of this undertaking, that these two resources are historic properties in the terrestrial APE on which the undertaking will have adverse effects.</p> <p>According to BOEM, since identification-level archaeological investigations could not be completed prior to the completion of the Environmental Impact</p>	<p>BOEM thanks NJHPO for its concurrence on the version of the PIP developed for the completion of remaining terrestrial archaeological survey and analysis and distributed to NJHPO and consulting parties on May 4, 2023. Due to Atlantic Shores' inability to gain the necessary landowner permissions and access to fully complete Phase IB archaeological surveys in all areas of the terrestrial APE, BOEM subsequently determined Atlantic Shores must complete remaining surveys as phased identification after BOEM issues its ROD. On November 20, 2023, BOEM distributed a revised TARA report, PIP, and Draft MOA to NJHPO and consulting parties reflecting a process of post-ROD phased identification and evaluation of historic properties for terrestrial archaeological resources. The phased identification stipulation (Stipulation IV) in the Final MOA reflects this post-ROD phased identification process. Refer to Appendix I, Attachment A, for a draft of the MOA (Draft 4) as of April 10, 2024. The executed MOA will be posted on BOEM's website following</p>

Comment	Response
<p>Statement for the Atlantic Shores project, a process of phased identification and evaluation of historic properties is recommended. Additional terrestrial archaeological resources subject to adverse effects from the proposed undertaking may be identified during Atlantic Shores' process of phased identification and evaluation of historic properties. According to BOEM, Atlantic Shores has developed a Phased Identification Plan (PIP) for the proposed undertaking. The PIP details that resource-specific avoidance, minimization, and mitigation (AMM) measures will be determined or refined following the completion of the remaining terrestrial archaeological survey and analysis. BOEM will use the proposed Memorandum of Agreement (MOA) for this undertaking to establish commitments for reviewing the sufficiency of any supplemental terrestrial archaeological investigations as phased identification; assessing effects; and implementing measures to avoid, minimize, or mitigate effects in these areas prior to construction. BOEM anticipates that the number of adversely affected historic properties in the terrestrial APE may be refined through the phased process and ongoing Section 106 consultations. <i>The HPO concurs with this assessment.</i></p>	<p>issuance of the ROD at: https://www.boem.gov/renewable-energy/state-activities/atlantic-shores-south.</p>
<p>According to Appendix I, Finding of Adverse Effect for the Atlantic Shores Offshore Wind South Project Construction and Operation Plan, BOEM has determined that the project will result in an adverse effect on historic properties, specifically:</p> <ul style="list-style-type: none"> • Ancient submerged landforms ([resource identification numbers redacted]) • [Terrestrial archaeological resource identification number redacted] • 120 Atlantic Avenue, Atlantic City, Atlantic County • 124 Atlantic Avenue, Atlantic City, Atlantic County • Atlantic City Boardwalk Historic District, Atlantic City, Atlantic County • Atlantic City Convention Hall, Atlantic City, Atlantic County • Brighton Park, Atlantic City, Atlantic County • Central Pier, Atlantic City, Atlantic County • Missouri Avenue Beach (Chicken Bone Beach), Atlantic City, Atlantic County • 125 South Montgomery Avenue, Atlantic City, Atlantic County • USCG Station Atlantic City, Atlantic City, Atlantic County • Brigantine Hotel, Brigantine, Atlantic County 	<p>BOEM thanks NJHPO for this comment. NHPA Section 106 review and consultations occurring after the publication of the Draft EIS enabled BOEM to refine its <i>Finding of Adverse Effect</i> (Appendix I) in the Final EIS. As such, BOEM has determined that the Project would result in adverse effects on a revised list of historic properties:</p> <ul style="list-style-type: none"> • 59 ancient submerged landform features (ASLFs): [Resource identification numbers redacted] • Absecon Lighthouse, Atlantic City, New Jersey • Atlantic City Boardwalk Historic District, Atlantic City, Atlantic County • Atlantic City Convention Hall (Jim Whelan Boardwalk Hall), Atlantic City, Atlantic County • Barnegat Lighthouse, Barnegat Light, Ocean County • Brigantine Hotel, Brigantine, Atlantic County • Central Pier, Atlantic City, Atlantic County • The Flanders Hotel, Ocean City, Cape May County • Forked River Coast Guard Station No. 112, Berkeley Township, Ocean County • Great Egg Coast Guard Station, Longport Borough, Atlantic County

Comment	Response
<ul style="list-style-type: none"> • Ritz-Carlton Hotel, Atlantic City, Atlantic County • Riviera Apartments, 116 South Raleigh Avenue, Atlantic City, Atlantic County • Lucy, The Margate Elephant, Margate City, Atlantic County • Margate Fishing Pier, Margate City, Atlantic County • 108 South Gladstone Avenue, Margate City, Atlantic County • 114 South Osborne Avenue, Margate City, Atlantic County • John Stafford Historic District, Ventnor City, Atlantic County • Vassar Square Condominiums, Ventnor, Atlantic County • Saint Leonard’s Tract Historic District, Ventnor City, Atlantic County • 114 South Harvard Avenue, Ventnor City, Atlantic County • Ventnor City Fishing Pier, Ventnor City, Atlantic County • 5231-5229 Central Avenue, Ocean City, Cape May County • Gillian’s Wonderland Pier, Ocean City, Cape May County • Ocean City Boardwalk, Ocean City, Cape May County • Ocean City Music Pier, Ocean City, Cape May County • Seaview Golf Club, Clarence Geist Pavilion, Galloway Township, Ocean County • Little Egg Harbor U.S. Life Saving Station #23 (U.S. Coast Guard Station #119), Little Egg Harbor Township, Ocean County <p>The HPO has not concurred that all of the above-named resources meet the definition of a historic property pursuant to 36 CFR 800.4. However, it is our understanding that BOEM will treat all such properties as historic for the purposes of this consultation.</p>	<ul style="list-style-type: none"> • Haddon Hall (Resorts Casino Hotel), Atlantic City, Atlantic County • Island Beach State Park Historic District, Berkeley Township, Ocean County • John Stafford Historic District, Ventnor City, Atlantic County • Little Egg Harbor U.S. Life Saving Station #23, Little Egg Harbor Township, Ocean County • Lucy, The Margate Elephant, Margate City, Atlantic County • Margate Fishing Pier, Margate City, Atlantic County • Missouri Avenue Beach (Chicken Bone Beach), Atlantic City, Atlantic County • [Ocean City] Music Pier, Ocean City, Cape May County • Ocean City Boardwalk, Ocean City, Cape May County • Ritz-Carlton Hotel, Atlantic City, Atlantic County • Riviera Apartments, 116 South Raleigh Avenue, Atlantic City, Atlantic County • Saint Leonard’s Tract Historic District, Ventnor City, Atlantic County • Seaview Golf Club, Clarence Geist Pavilion, Galloway Township, Ocean County • U.S. Coast Guard Station, Atlantic City, Atlantic County • Vassar Square Condominiums, Ventnor City, Atlantic County • Ventnor City Fishing Pier, Ventnor City, Atlantic County • 108 South Gladstone Avenue, Margate City, Atlantic County • 114 South Harvard Avenue, Ventnor City, Atlantic County • 114 South Osborne Avenue, Margate City, Atlantic County • 120 Atlantic Avenue, Atlantic City, Atlantic County <p>As the above list indicates, BOEM identified seven additional aboveground historic properties that would be adversely affected and removed one terrestrial archaeological resource and five aboveground historic properties that had been previously anticipated to be adversely affected based on NHPA Section 106 review and consultations.</p> <p>Please refer to the response to comment BOEM-2023-0030-2015-0008 and BOEM-2023-0030-2015-0011 for related information.</p>

Comment	Response
<p>Given the aforementioned considerations the HPO cannot concur with the stipulations outlined in the MOA and requests further clarification from BOEM regarding these issues.</p>	<p>NHPA Section 106 review and consultations with federally recognized Tribes, NJHPO, and other consulting parties occurring after the publication of the Draft EIS led to revisions in the MOA. BOEM provided consulting parties with drafts of the MOA and HPTPs describing mitigation for adversely affected historic properties on May 4, 2023, November 20, 2023; February 20, 2024; and April 10, 2024, for periods of review and comment. BOEM also held NHPA Section 106 Consultation Meetings #3 and #4, respectively, on December 4, 2023, and February 27, 2024, to provide an overview of the MOA and solicit feedback from NJHPO and consulting parties, including on potential avoidance, minimization, and mitigation measures; and Meeting #5 on April 25, 2024, to finalize the MOA. Avoidance, minimization, and mitigation measures developed through consultations and stipulated in the MOA, will be implemented by the Project to resolve adverse effects in accordance with Sections 106 and 110(f) of the NHPA. Refer to Appendix I, Attachment A, for a draft of the MOA (Draft 4) as of April 10, 2024. The executed MOA will be posted on BOEM’s website following issuance of the ROD at: https://www.boem.gov/renewable-energy/state-activities/atlantic-shores-south.</p>
<p>According to BOEM the proposed mitigation includes contribution to a mitigation fund and/or funding and implementation of Historic Property Treatment Plans (HPTPs) to resolve the project’s adverse effects on historic architectural properties. The HPO has recommended and BOEM has agreed that the establishment of a mitigation fund for historic preservation and resiliency projects provides a flexible approach to addressing the adverse effects of the current project as well as the cumulative adverse effects of future projects on historic properties. We therefore strongly support the establishment of a mitigation fund for the current undertaking.</p>	<p>BOEM thanks NJHPO for this comment. Contributions to a mitigation fund for resolving adverse effects on specified adversely affected historic properties have been stipulated in the MOA, and funding amounts have been identified in MOA (Attachment 6). Refer to Appendix I, Attachment A, for a draft of the MOA (Draft 4) as of April 10, 2024. The executed MOA will be posted on BOEM’s website following issuance of the ROD at: https://www.boem.gov/renewable-energy/state-activities/atlantic-shores-south.</p>
<p>Area of Potential Effects According to the above-referenced memorandum dated May 2, 2023, ICF and BOEM reviewed and confirmed that the preliminary Area of Potential Effects (APE) identified in the cultural resources reports accurately delineates the APE for the project. The APE is defined as including the following: [BOEM’s definition of the APE per 36 CFR 800.16(d) as provided in Appendix I, Section I.1.3, <i>Area of Potential Effects</i>.]</p>	<p>BOEM thanks NJHPO for this comment.</p>

Comment	Response
<p>Archaeology To assess the presence of archaeological resources within the APE the survey area was bifurcated into two efforts; one examining that marine portion of the APE (conducted by SEARCH Inc.) and one examining the terrestrial portion of the APE (conducted by Environmental Design & Research Landscape Architecture Engineering & Environmental Services D.P.C. [EDR])</p>	
<p>Marine Archaeological Resources Assessment (MARA) According to information in the above-referenced MARA report, Phase I archaeological investigations of the marine portion of the APE included the review and assessment of high-resolution geophysical (HRG) survey data collected by third-party marine survey contractors in support of the proposed offshore wind project. These data were then supplemented by a review of selected archaeological geotechnical locations to inform the MARA analysis, particularly for review of the sub-bottom and ground model data. The purpose of these investigations was to identify potential submerged cultural resources, which could represent historic properties, within the Wind Turbine Area (WTA) and associated two Export Cable Corridors (ECCs), referred to as the Atlantic ECC and Monmouth ECC.</p> <p>Marine archaeological investigations identified 21 targets, consisting of magnetic anomalies, acoustic contacts, and/or buried reflectors within the HRG survey data that could represent potential submerged cultural resources (Targets 01 to 21). Eight targets are located within the WTA (six in the Project 1 Area and two in the Project 2 Area; none in the Overlap Area); four targets are located within the Atlantic ECC; and nine targets are located along the Monmouth ECC. In addition, 37 ancient submerged landforms were also identified within the Preliminary Area of Potential Effects (PAPE) (Targets 22 to 58) for the proposed undertaking. <i>The HPO concurs with this assessment.</i></p>	<p>BOEM thanks NJHPO for its concurrence on the cultural resources identified in the marine APE as described in the MARA. As indicated in BOEM’s NHPA Section 106 consultations with Tribal Nations, NJHPO, and consulting parties that occurred between Draft EIS and Final EIS, a MARA Addendum report identified one additional marine archaeological resource and 22 additional ASLFs in the marine APE. There are now a total of 22 marine archaeological resources and 59 ASLFs in the marine APE. As indicated in the Finding of Adverse Effect (Appendix I), all 22 marine archaeological resources would be avoided by the Project; however, adverse effects on all 59 ASLFs are unable to be avoided. Mitigation measures for resolving these adverse effects on the ASLFs have been developed through NHPA Section 106 consultations and stipulated in the MOA. Refer to Appendix I, Attachment A, for a draft of the MOA (Draft 4) as of April 10, 2024. The executed MOA will be posted on BOEM’s website following issuance of the ROD at: https://www.boem.gov/renewable-energy/state-activities/atlantic-shores-south.</p>
<p>BOEM additionally proposes completion of National Register of Historic Places nominations for three properties: the residence at 5231-5229 Central Avenue; Missouri Avenue Beach; and the Ocean City Boardwalk, to include Gillian’s Wonder Pier and the Ocean City Music Pier. As documented above, the HPO has not concurred on the eligibility of 5231-5229 Central Avenue or Missouri Avenue Beach. As a result, we have significant concerns regarding</p>	<p>As indicated in the response to comment BOEM-2023-0030-2015-0044, reassessment of the individual residence at 5231-5229 Central Avenue, Ocean City, Cape May County, resulted in a revised recommendation that it is not eligible for listing in the NRHP. As such, the HRVEA no longer indicates this to be a historic property identified in the visual APE for Offshore Project components, and BOEM no longer considers it to be a historic property adversely affected by the Project. In addition to this, BOEM received a</p>

Comment	Response
<p>the potential for these resources to be successfully listed on the New Jersey and National Registers.</p>	<p>request from the property owners of 5231-5229 Central Avenue to not nominate the resource for listing in the NRHP. As a result, this mitigation measure was removed from the MOA and applicable HPTP.</p> <p>As indicated in the response to comment BOEM-2023-0030-2015-0046, BOEM will continue to treat Missouri Avenue Beach (Chicken Bone Beach) as a historic property potentially eligible for listing in the NRHP. As such, BOEM, with the support of Atlantic Shores, consulted with representatives and other parties with specific interests in this historic property to develop mitigation measures to resolve adverse effects via the MOA. These mitigation measures have been stipulated in the MOA and relevant HPTP. Refer to Appendix I, Attachment A, for a draft of the MOA (Draft 4) as of April 10, 2024. The executed MOA will be posted on BOEM’s website following issuance of the ROD at: https://www.boem.gov/renewable-energy/state-activities/atlantic-shores-south.</p> <p>In review of the assessment of effects, EDR revised their effects recommendation for Gillian’s Wonderland Pier to <i>no adverse effect</i>. The Pier is located on the landward side of the boardwalk and includes a two-story façade along the boardwalk enclosing the park. Although the Projects may be visible from taller rides within the Pier and in front of the property along the boardwalk, the exterior walls will block the views of the Projects from the majority of the historic property. BOEM agrees with this assessment and revised recommendation and has determined that the Project will have <i>no adverse effect</i> on Gillian’s Wonderland Pier. Analyses in the Final EIS and <i>Finding of Adverse Effect</i> (Appendix I) were updated accordingly and where applicable to reflect these HRVEA revisions and consultation developments.</p> <p>Following the distribution of the first draft of the MOA to consulting parties on May 4, 2023, BOEM and Atlantic Shores conducted additional consultations and outreach to finalize mitigation measures and HPTPs stipulated in the MOA. Refer to BOEM’s <i>Finding of Adverse Effect</i> (Appendix I) and a draft of the MOA as of April 10, 2024 (Draft 4; Appendix I, Attachment A) for more details. The executed MOA will be posted on BOEM’s website</p>

Comment	Response
	<p>following issuance of the ROD at: https://www.boem.gov/renewable-energy/state-activities/atlantic-shores-south.</p> <p>Please refer to the response to comment BOEM-2023-0030-2015-0042 for more information on BOEM’s consultations regarding the Ocean City Boardwalk.</p>
<p>The HPO also questions the nomination of the Ocean City Boardwalk, given that the intensive-level survey and National Register evaluation, as well as the historic context for the boardwalks of the New Jersey Shore, that were agreed upon as mitigation for the Ocean Wind project have not yet been completed. Should the National Register evaluation recommend the property not eligible, then the proposed mitigation for this project would be untenable.</p>	<p>Following the distribution of the first draft of the MOA to consulting parties on May 4, 2023, BOEM and Atlantic Shores conducted additional consultations and outreach to finalize mitigation measures and HPTPs stipulated in the MOA. Refer to BOEM’s <i>Finding of Adverse Effect</i> (Appendix I) and a draft of the MOA as of April 10, 2024 (Draft 4; Appendix I, Attachment A) for more details. The executed MOA will be posted on BOEM’s website following issuance of the ROD at: https://www.boem.gov/renewable-energy/state-activities/atlantic-shores-south.</p>
<p>Furthermore, as the HPO has indicated in previous consultations on offshore wind projects, it is unclear whether any of the affected property owners are interested in having their properties listed on the National Register. Given the importance of owner consent to documenting the properties for the nomination, as well as the ultimate listing of the resources on the National Register, the HPO does not concur that the proposed mitigation is appropriate to mitigate the project’s adverse effects.</p>	<p>Please refer to the response to comment BOEM-2023-0030-2015-0041.</p>
<p>As indicated above, the HPO was unable to concur with recommendations of eligibility for 34 properties due to insufficient historic and/or architectural context. The list that follows is intended as examples of the type of contextual information required to assess eligibility and is not exhaustive: Individual residences, multiple municipalities. The majority of the properties were single-family homes recommended eligible under Criterion C in the area of Architecture as significant examples of a particular architectural style. Contextual information regarding the prevalence of the style in the local area and the significance of the subject building in relation to other examples is necessary in order to establish significance under Criterion C.</p>	<p>Reassessment of the following individual residences (sorted by municipality) resulted in revised recommendations that they are not eligible for listing in the NRHP. As such, the HRVEA no longer indicates these to be historic properties identified in the visual APE for Offshore Project components.</p> <ul style="list-style-type: none"> • 104 S. Montgomery Avenue, Atlantic City • 116 S. Ridgeway Avenue, Atlantic City • 101 Dolphin Avenue, Beach Haven Borough • 200 18th Street South, Brigantine City • 2201 Bayshore Avenue, Brigantine City • 2807 Ocean Avenue, Brigantine City • Isaac and Keziah (Abbot) Smith House, Egg Harbor Township

Comment	Response
	<ul style="list-style-type: none"> • Woodmansee Estate, Hamilton and Egg Harbor Townships (please refer to the response to comment BOEM-2023-0030-2015-0006 for additional details) • 319 W. Leeds Avenue, Pleasantville City • 25 North Bayview Drive, Upper Township • Two Residences at 1 Cove Road, Upper Township <p>Reassessment of the following individual residences resulted in revised recommendations that they are not eligible for listing in the NRHP. As such, the HRVEA no longer indicates these to be historic properties identified in the visual APE for Offshore Project components, and BOEM no longer considers these to be historic properties adversely affected by the Project.</p> <ul style="list-style-type: none"> • 124 Atlantic Avenue, Atlantic City • 125 South Montgomery Avenue, Atlantic City • 5231-5229 Central Avenue, Ocean City <p>Reassessment of the following individual resources resulted in maintaining the recommendations that they are eligible for listing in the NRHP.</p> <ul style="list-style-type: none"> • 120 Atlantic Avenue, Atlantic City • 4700 Atlantic Avenue, Atlantic City • 2707 West Brigantine Avenue, Brigantine City <p>Analyses in the Final EIS and <i>Finding of Adverse Effect</i> (Appendix I) were updated accordingly and where applicable to reflect these HRVEA revisions.</p>
<p>[As indicated above, the HPO was unable to concur with recommendations of eligibility for 34 properties due to insufficient historic and/or architectural context. The list that follows is intended as examples of the type of contextual information required to assess eligibility and is not exhaustive:] Historic district documentation, multiple municipalities. The survey of historic districts was not completed in conformance with the Guidelines, which require not only the Historic District Overlay form but also individual survey forms for properties within the boundaries of the district and an Eligibility Worksheet detailing the district’s history and significance. The historic district form must also be accompanied by a map illustrating the proposed district</p>	<p>The following four historic districts were not identified in the NJHPO letter as receiving NJHPO concurrence with the recommendations of eligibility. All other historic districts are either listed in the NRHP or have received concurrence with the recommendations of eligibility for this undertaking or other projects.</p> <ul style="list-style-type: none"> • Greater Beach Haven Historic District • Tuckerton Historic District (Local) • Shore Road Historic District, Somers Point • Shore Road Historic District, Northfield

Comment	Response
<p>boundaries. Lacking this information, the HPO cannot concur with the eligibility assessments for any of the historic districts surveyed.</p>	<p>As indicated in the response to comment BOEM-2023-0030-2015-0008, BOEM treated historic districts recommended eligible in the HRVEA as historic properties potentially eligible for listing in the NRHP. In the revised HRVEA, historic districts were reevaluated for NRHP eligibility, resulting in the changes described below.</p> <p>Reassessment of the following historic districts (sorted by municipality) resulted in revised recommendations that they are not eligible for listing in the NRHP.</p> <ul style="list-style-type: none"> • Greater Beach Haven Historic District, Beach Haven Borough • Tuckerton Historic District (local), Tuckerton Borough <p>The Beach Haven Historic District (currently listed in the NRHP) and Tuckerton Historic District (NJHPO-determined eligible for listing in the NRHP) both have boundaries that incorporate these locally designated historic districts. As such, the HRVEA no longer indicates the Greater Beach Haven Historic District and the Tuckerton Historic District (Local) to be historic properties identified in the visual APE for Offshore Project components and has removed references to these resources where applicable.</p> <p>Reassessment of the following historic districts resulted in maintaining the recommendations that they are eligible for listing in the NRHP. The survey forms for these properties, located in the <i>HRVEA Intensive-Level Architectural Survey Report</i> (COP Volume II, Appendix II-W), were updated to provide eligibility worksheets and maps of the historic district boundaries. Please also refer to the response to comment BOEM-2023-0030-2015-0006.</p> <ul style="list-style-type: none"> • Shore Road Historic District, Somers Point • Shore Road Historic District, Northfield <p>Analyses in the Final EIS and <i>Finding of Adverse Effect</i> (Appendix I) were updated accordingly and where applicable to reflect these HRVEA revisions.</p>
<p>[As indicated above, the HPO was unable to concur with recommendations of eligibility for 34 properties due to insufficient historic and/or architectural context. The list that follows is intended as examples of the type of contextual information required to assess eligibility and is not exhaustive:]</p>	<p>As indicated in the response to comment BOEM-2023-0030-2015-0008, BOEM continued to treat Missouri Avenue Beach (Chicken Bone Beach) as a historic property potentially eligible for listing in the NRHP. As such, BOEM, with the support of Atlantic Shores, consulted with representatives and other</p>

Comment	Response
<p>Missouri Avenue Beach (Chicken Bone Beach), Atlantic City, Atlantic County. Additional research and analysis is required to establish National Register eligibility for this resource. Given the lack of an associated built environment at this location, the property’s eligibility should be assessed as a Traditional Cultural Place (TCP).</p>	<p>parties with specific interests in this historic property to develop mitigation measures to resolve adverse effects via the MOA.</p> <p>In response to a request from the Chicken Bone Beach Historical Foundation, Inc. (a consulting party with specific interests in this historic property), the HPTP for Missouri Avenue Beach has been updated to provide interpretive signage for the historic property. This and other mitigation measures developed based on BOEM’s consultations have been stipulated in the MOA and relevant HPTP. Refer to Appendix I, Attachment A, for a draft of the MOA (Draft 4) as of April 10, 2024. The executed MOA will be posted on BOEM’s website following issuance of the ROD at: https://www.boem.gov/renewable-energy/state-activities/atlantic-shores-south.</p>
<p>[As indicated above, the HPO was unable to concur with recommendations of eligibility for 34 properties due to insufficient historic and/or architectural context. The list that follows is intended as examples of the type of contextual information required to assess eligibility and is not exhaustive:] Brigantine Hotel, 1400 Ocean Avenue, Brigantine, Atlantic County. In previous consultation comments regarding the Ocean Wind project, the HPO indicated that primary source research was required in order to determine the period of ownership by Sara Spencer Washington and Reverend M.J. (Father) Divine and the role of the hotel in the integration of the Jersey Shore. This information was not provided in the current survey; therefore, the HPO is unable to concur with the recommendation due to a lack of documentation.</p>	<p>As indicated in the response to comment BOEM-2023-0030-2015-0008, BOEM continued to treat Brigantine Hotel as a historic property potentially eligible for listing in the NRHP. As such, mitigation for this historic property is stipulated in the MOA (refer to Appendix I, Attachment A, for a draft of the MOA [Draft 4] as of April 10, 2024). BOEM welcomed NJHPO’s comments on other mitigation for the Brigantine Hotel that may assist with the evaluation and preservation of this resource.</p>
<p>[As indicated above, the HPO was unable to concur with recommendations of eligibility for 34 properties due to insufficient historic and/or architectural context. The list that follows is intended as examples of the type of contextual information required to assess eligibility and is not exhaustive:] Fishing Piers, Margate and Ventnor, Atlantic County. Insufficient historic context was provided to evaluate the significance of these fishing piers, and the survey lacks a thorough assessment of the impacts of multiple reconstruction campaigns on the structures’ integrity of design.</p>	<p>The <i>HRVEA Intensive-Level Architectural Survey Report</i> (COP Volume II, Appendix II-W) was revised to expand the historic context and significance information related to these historic properties. This additional information continues to support EDR’s recommendation that Margate and Ventnor Fishing Piers are potentially eligible for listing in the NRHP. As indicated in the response to comment BOEM-2023-0030-2015-0008, BOEM will continue to treat Margate and Ventnor City Fishing Piers as historic properties potentially eligible for listing in the NRHP. BOEM welcomed NJHPO’s comments on potential mitigation measures that may expand knowledge of the historic context and significance of fishing piers in New Jersey.</p>

Comment	Response
<p>[As indicated above, the HPO was unable to concur with recommendations of eligibility for 34 properties due to insufficient historic and/or architectural context. The list that follows is intended as examples of the type of contextual information required to assess eligibility and is not exhaustive:] St. Augustine Rectory, Ocean City, Cape May County. The National Register evaluation of the rectory independent of its associated church is insufficient and inconsistent with guidance contained in the Guidelines.</p>	<p>In response to this comment, Atlantic Shores revised the <i>Offshore HRVEA and HRVEA Intensive-Level Architectural Survey Report</i> (COP Volume II, Appendices II-O and II-W) to remove the St. Augustine Rectory as it was recommended to not be an individually eligible historic property. The St. Augustine Church is located on a separate parcel from the rectory and is not located within the APE and, therefore, was not assessed as part of BOEM’s Section 106 review of the undertaking.</p>
<p>[As indicated above, the HPO was unable to concur with recommendations of eligibility for 34 properties due to insufficient historic and/or architectural context. The list that follows is intended as examples of the type of contextual information required to assess eligibility and is not exhaustive:] Seaview Golf Club, Galloway Township, Ocean County. The survey lacks sufficient description of the golf course, and the history is limited to only three sentences specific to the historic development of the golf club. The survey includes no analysis of the integrity of the hotel and clubhouse or the golf course to support the property’s eligibility for the National Register.</p>	<p>The forms in the <i>HRVEA Intensive-Level Architectural Survey Report</i> (COP Volume II, Appendix II-W) were revised to expand the historic context and significance information related to this historic property. This additional information supported EDR’s recommendation that Seaview Golf Club is potentially eligible for listing in the NRHP. As indicated in the response to comment BOEM-2023-0030-2015-0008, BOEM continued to treat Seaview Golf Club as a historic property potentially eligible for listing in the NRHP. BOEM welcomed NJHPO’s comments on potential mitigation measures that may expand on information about the historic context and significance of the Seaview Golf Club.</p>
<p>[As indicated above, the HPO was unable to concur with recommendations of eligibility for 34 properties due to insufficient historic and/or architectural context. The list that follows is intended as examples of the type of contextual information required to assess eligibility and is not exhaustive:] Seaside Heights Boardwalk, Seaside Heights Borough, Ocean County. The survey included 10 individual properties on the boardwalk in Seaside Heights but contains no assessment of these properties as a potential historic district.</p>	<p>The <i>HRVEA Intensive-Level Architectural Survey Report</i> (COP Volume II, Appendix II-W) was revised with expanded historic context and significance information related to the Seaside Heights Boardwalk. EDR (the preparer of this report) determined this boardwalk lacks the integrity and cohesiveness necessary for a potential historic district due to the removal of historic materials, alterations to primary elevations, and other replacements. This evaluation is recorded in the survey forms for the individual properties on the boardwalk in Seaside Heights.</p>

N.5 Responses to Lessee Comments on the Draft EIS

Table N.5-1. Responses to Comments from Atlantic Shores Offshore Wind, LLC [BOEM-2023-0030-1226]

Comment from Atlantic Shores Offshore Wind, LLC	Response
<p>We also wish to address the threshold issue of application of the newly enacted NEPA standards in the Fiscal Responsibility Act of 2023 (Act).[Footnote 3: Fiscal Responsibility Act of 2023 Public Law No. 118-5 § 321.] The Act was signed into law on June 3 2023 with immediate effect with no provision limiting its effect with respect to ongoing NEPA reviews. Changes to the NEPA law that should apply here are as follows: The FEIS should evaluate only “reasonably foreseeable” environmental effects of a proposed action to the exclusion of speculative or highly uncertain environmental effects; The FEIS should analyze a “reasonable range of alternatives” to the proposed action that are limited to alternatives “that are technically and economically feasible and meet the purpose and need of the proposal”; The FEIS should consider the “negative environmental impacts of not implementing the proposed agency action in the case of a no action alternative”; and The FEIS should give due consideration to the modifications regarding the availability of information and new scientific or technical research. These adjustments should be workable as many of these standards are already reflected in some form in the existing NEPA regulations are consistent with BOEM’s NEPA Alternatives Screening Criteria (June 22 2022) necessitating only slight refinements to the analysis in the FEIS.</p>	<p>BOEM’s EIS complies with the NEPA standards in the Fiscal Responsibility Act of 2023.</p>
<p>Based on these standards as well as the extensive record set forth in the DEIS Atlantic Shores recommends that BOEM ultimately adopt Alternatives B C4 and E and that BOEM does not adopt Alternatives A D and F (see Section 1.2.1). The summary points for why to adopt these alternatives in its Record of Decision (ROD) are the following: Alternative B – Proposed Action. This alternative realizes the full clean energy potential that can be generated from Atlantic Shores Project 1 and Project 2 consistent with the Purpose and Need. Alternative C4. This alternative significantly avoids impacts to benthic habitat without wind turbine generator (WTG) loss that undermines the Purpose and Need. Alternative E. This alternative should move forward with a 1500m setback as defined in the letter to BOEM dated July 21 2022 that was jointly developed between Atlantic Shores Ocean Wind I and the U.S. Coast Guard (USCG). The 1500m setback as proposed in the letter results in a clear</p>	<p>BOEM acknowledges Atlantic Shores’ support of Alternatives B, C4, and E. BOEM has considered the information provided in the comment in the selection of the Preferred Alternative.</p>

Comment from Atlantic Shores Offshore Wind, LLC	Response
<p>delineation between the Atlantic Shores and Ørsted projects to minimize effects on mariners and increases navigational safety with minimal impact to Atlantic Shores’ renewable energy production. A 1500m setback provides sufficient spacing to achieve this goal with minimal WTG loss.</p>	
<p>While Atlantic Shores recognizes that evaluating the removal of WTG positions is necessary Atlantic Shores strongly recommends that BOEM eliminate alternatives that remove WTG positions to a degree that undermines the Purpose and Need of the Projects. There is a sound legal basis for this approach given that removal of WTGs impairs the ability to meet the clean energy targets set forth under New Jersey law. In addition certain WTG removals are based on unsettled science and are not based on reasonably foreseeable environmental effects. As discussed below Alternatives D1 and D2 (among others) suffers from these legal deficiencies. More specifically every WTG results in significant positive impacts including reducing the effects of climate change improving local and regional air quality by supporting the clean energy transition creating good paying local jobs providing significant economic benefits and creating artificial reef areas at each foundation. See Section 1.1.2. The removal of a small number of specific WTG positions to mitigate specific and significant effects to key resources may be justified in specific cases in which the positive impact of mitigation outweighs the associated loss of important benefits but the limited benefits associated with the broad removal of large numbers of WTG positions are far outweighed by the significant loss of important benefits and would not allow Atlantic Shores to meet the Purpose and Need of the Projects.</p>	<p>BOEM acknowledges Atlantic Shores’ comments regarding the concerns with WTG removal. BOEM has considered the information provided in the comment in the selection of the Preferred Alternative.</p>
<p>Ultimately the removal of a significant number of WTG positions would impede the development of Project 2 resulting in partial development of Atlantic Shores’ leasehold interest without sufficient justification for doing so which is not a reasonable alternative under NEPA given its economic infeasibility. BOEM should not arbitrarily remove from development portions of a valid leasehold interest when it results in adverse economic impacts. The elimination of alternatives of this nature is warranted under the new NEPA reform standards as well as BOEM’s Alternatives Screening Criteria that notes that the inability to fulfill existing or future offtake agreements is a significant factor weighing in favor of not considering such an alternative. The removal of a significant number of WTG positions poses a serious risk to Project 2’s</p>	<p>BOEM acknowledges Atlantic Shores’ comments regarding the concerns with WTG removal. BOEM has considered the information provided in the comment in the selection of the Preferred Alternative.</p>

Comment from Atlantic Shores Offshore Wind, LLC	Response
<p>competitiveness impacting its ability to deliver an OREC price and local content offer commensurate to the state of New Jersey’s expectations thereby making the proposed alternative infeasible. If Project 2 is rendered infeasible it threatens the ability to proceed solely with Project 1. Authorization for both projects is essential. Atlantic Shore’s proposal for two projects relies on economies of scale coordinated contractual agreements for construction and a continuous construction and supply chain asset utilization schedule (subject to seasonal restrictions where applicable) across both Projects to achieve efficiencies in mobilization and de-mobilization. In addition, the upgrades to the PJM grid that Atlantic Shores plans to commit to under an interconnection service agreement and related contracts for both Projects would bind Atlantic Shores to pay for upgrades that would accommodate more than either project alone at two separate POIs. If either Project 1 or Project 2 was not approved the surviving Project would be placed in serious jeopardy.</p>	
<p>Value of each turbine position. Every turbine position that is constructed within the wind turbine area (WTA) results in significant environmental and economic benefits. On a per WTG basis assuming a future Project 2 brings similar costs and benefits as Project 1[Footnote 7: Calculated assuming 111 WTG positions as originally proposed in the Project 1 bid.] each WTG position that is constructed can be expected to provide approximately:\$16 million of economic benefits to the state of New Jersey167 direct and 367 total (direct indirect and induced) job-years (in full time equivalent [FTE] years)29000[Footnote 8: Refer to DEIS Table 3.4.1-7: Net emissions of CO2 for each alternative] tons of net greenhouse gas (GHG) emissions avoided annually Enough MW to power over 6360 households each year The estimated reduction in benefits from each alternative proposing the removal of WTG positions is summarized below:[See original comment for table]The numbers above clearly demonstrate the value of each and every WTG position to the State of New Jersey and towards mitigating the global effects of climate change. Atlantic Shores strongly encourages BOEM to carefully weigh the loss of benefits associated with WTG removal against the expected benefits prior to including WTG removal in the preferred alternative(s) identified in the FEIS.</p>	<p>BOEM acknowledges Atlantic Shores’ comments regarding the concerns with WTG removal. BOEM has considered the information provided in the comment in the selection of the Preferred Alternative.</p>

Comment from Atlantic Shores Offshore Wind, LLC	Response
<p>Alternative A – No Action Atlantic Shores requests that BOEM in accordance with the newly enacted NEPA reform provisions and to the extent not already provided include in this discussion and related sections the loss of environmental benefits from not approving the COP.</p>	<p>The No Action Alternative consists of the current baseline conditions as influenced by past and ongoing activities and trends and serves as the baseline against which all action alternatives are evaluated.</p>
<p>Alternative B – Proposed Action Atlantic Shores strongly recommends that BOEM ultimately adopt this alternative in its Record of Decision (ROD) with modifications incorporating Alternative C4 and Alternative E with a 1500m setback as described in detail in Sections 1.2.3 and 1.2.5.</p>	<p>BOEM acknowledges the Lessee’s recommendation for a preferred alternative.</p>
<p>Alternative C Atlantic Shores recognizes the importance of responsibly siting the infrastructure for its proposed Projects. Alternatives C1 C2 and C3 consider the complete removal of turbines and an OSS within Lobster Hole (C1) and/or the identified Sand Ridge Complex (C2 and C3) for a total removal of up to 29 turbines 1 substation and associated inter-array cables. Atlantic Shores asserts that any combination of these sub alternatives which consider the removal of turbines are not feasible or practical 43 CFR § 46.420(b) as they will significantly impair Atlantic Shores’ ability to meet the stated purpose and need of its Projects inclusive of our contractual obligations under our NJBPU Offshore Renewable Energy Credit (OREC) Order for Project 1 and pending PJM Interconnection Services Agreement/Interconnection Service Contract for Project 2. Indeed, consideration of these alternatives is inconsistent with not only the new NEPA reforms standards which requires consideration of alternatives that are “technically and economically feasible” but also BOEM’s NEPA Alternatives Screening Criteria which counsels against adopting alternatives that impair the ability to meet energy delivery obligations. Furthermore, per BOEM’s NEPA regulations alternatives should address one or more significant issues related to the proposed action which cannot be based on mere conjecture. 43 CFR § 46.415(b).[Footnote 10: https://www.blm.gov/sites/blm.gov/files/uploads/Media_Library_BLM_Policy_Handbook_h1790-1.pdf].Here there are only speculative concerns about the impacts of turbines in these specific areas without the necessary hard science to support the drastic measure of WTG removal. The benefits of maintaining the Proposed Action’s WTG layout far outweigh the resulting harm contrary to the Purpose and Need based on conjecture.</p>	<p>BOEM acknowledges Atlantic Shores’ comments regarding the concerns with Alternatives C1, C2, and C3. BOEM has considered the information provided in the comment in the selection of the Preferred Alternative.</p>

Comment from Atlantic Shores Offshore Wind, LLC	Response
<p>Moreover, it is not clear that there are any significant environmental benefits to Alternatives C1 and C2 as the environmental effects [Footnote 11: The foundation technology resulting in the maximum effect was used to produce these numbers i.e., suction buckets for permanent disturbance and mono-buckets for temporary disturbance. As described in Section 1.2.6 suction and mono- buckets are no longer under consideration for WTG foundations; as such the extent of impacts from WTG foundations is expected to be even smaller.] of the 29 WTGs and OSS referenced in the alternative are minimal: For Lobster Hole the installation of 16 WTGs and one OSS may temporarily disturb up to 40.28 acres and permanently disturb up to 47.81 acres. For the identified Sand Ridge Complex the installation of 13 WTGs may temporarily disturb up to 27.53 acres and permanently disturb up to 33.65 acres</p>	<p>BOEM acknowledges Atlantic Shores’ comments regarding the concerns with Alternatives C1 and C2. BOEM has considered the information provided in the comment in the selection of the Preferred Alternative.</p>
<p>The record does not reflect that the WTGs and associated equipment will pose a “significant issue” for existing habitat in the identified areas nor is there a sufficient scientific basis supporting the need for removal of said equipment. Under BOEM’s NEPA guidance for identifying alternatives for offshore wind (June 22 2022) an alternative should address a significant issue related to the proposed project which involves a significant effect has a cause-and-effect relationship with the proposed action and is susceptible to scientific analysis and not conjecture. Furthermore there must be scientific evidence that the removal of WTGs avoids or substantially lessens that significant effect. The record in the DEIS does not meet these high standards.</p>	<p>BOEM acknowledges Atlantic Shores’ comments regarding the concerns with WTG removal. BOEM has considered the information provided in the comment in the selection of the Preferred Alternative.</p>
<p>As evidenced by the following comments there is not an adequate basis to conclude that removal of the WTGs is necessary to address a significant effect to the habitat in the identified areas. The scientific research provided to date does not indicate a cause-and-effect relationship between the presence of turbines and harm to the habitat. The scientific research is far from conclusive that there will be significant effects or that removal of turbines and other Atlantic Shores facilities is necessary to avoid or substantially lessen effects. Atlantic Shores has thoroughly analyzed these issues regarding the Projects’ potential effects on various fish stocks in the Essential Fish Habitat Assessment included in the COP Filing as Volume II Appendix II-J2. Nothing since the presentation of this information has changed.</p>	<p>BOEM acknowledges Atlantic Shores’ comments regarding the concerns with WTG removal. BOEM has considered the information provided in the comment in the selection of the Preferred Alternative.</p>

Comment from Atlantic Shores Offshore Wind, LLC	Response
<p>The resource used by NMFS to substantiate the known significance and value of the Sand Ridge Complex in sub-alternatives C2 and C3 similarly does not define this area as significant[Footnote 13: Guida V. A. Drohan H. Welch J. McHenry D. Johnson V. Kentner J. Brink D. Timmons E. Estela-Gomez. 2017. Habitat Mapping and Assessment of Northeast Wind Energy Areas. Sterling VA: US Department of the Interior Bureau of Ocean Energy Management. OCS Study BOEM 2017-088. 312 p.]. This resource identifies the area as one of increased depth however; this resource does not discuss greater ecological values nor does it discuss the species listed in email correspondence provided by NMFS on March 11 2022.[Footnote 14: Information provided via email from K. Hanson March 11 2022.]</p>	<p>BOEM acknowledges Atlantic Shores’ comment. The sand ridge complex area was identified by NMFS and included as a Habitat Impact Minimization Alternative.</p>
<p>Two of the resources being relied upon by BOEM[Footnote 15: Resources provided via email from W. Waskes March 22 2022.] to map the “ridges and troughs” for developing the habitat alternative states that “We still lack a method that delineates the distribution and extent of shoals on the OCS as well as a unified classification scheme for characterizing sand features in terms of geomorphology and potential habitat value.”[Footnote 16: Pickens BA Finkbeiner M Taylor JC. 2020. Volume 2: Shoal identification and a new classification system for sand resources. In: Pickens BA Taylor JC editors. Regional Essential Fish Habitat geospatial assessment and framework for offshore sand features. Sterling (VA): US Department of the Interior Bureau of Ocean Energy Management. OCS Study BOEM 2020-002 and NCCOS Technical Memorandum 270 https://doi.org/10.25923/akzd-8556 47 pp.] Another resource cited by NMFS states “The zones or ‘ground-types’ may not necessarily relate to biologically meaningful habitats as these have been generated through the use of artificial thresholds that may not be biologically relevant.[Footnote 17 : Verfaillie E. Doornenbal P. Mitchell A.J. White J. and Van Lancker V. 2007. The bathymetric position index (BPI) as a support tool for habitat mapping. Worked example for the MESH Final Guidance 14 pp.]</p>	<p>BOEM acknowledges Atlantic Shores’ comment. The sand ridge complex area was identified by NMFS and included as a Habitat Impact Minimization Alternative.</p>
<p>Atlantic Shores also notes that the prior NEPA review for the designation of the New Jersey Wind Energy Area (WEA)[Footnote 18: Mid-Atlantic Final EA 2012] stated that the area was developed using the boundary of the Ocean/Wind Power Ecological Baseline Studies (OWPEBS) which previously considered and excluded areas from development for the preservation of Shoals and Fishing Hot Spots. As part of this process NMFS responded to the</p>	<p>BOEM acknowledges Atlantic Shores’ comment. The sand ridge complex and Lobster Hole areas of concern were identified by NMFS and included as a Habitat Impact Minimization Alternative.</p>

Comment from Atlantic Shores Offshore Wind, LLC	Response
<p>assessment of impacts to EFH and provided conservation recommendations including the recommendation that 6 locations should be excluded from the proposed WEAs including Old Grounds Mussel Bed Inside Mud Hole Middle Mud Hole Triple Wrecks and Outer Mud Hole. The siting of the current Lease Area was carefully selected during a robust NEPA process which included the Commerce Department - a process which did not identify as significant or remove the areas identified by this alternative. It is unclear why now there is concern being raised about habitat areas within the leasehold area and why such concern was not raised earlier. When applying the best available science including site-specific information collected by Atlantic Shores the data does not support that the areas identified are habitat of particular concern that cannot be appropriately avoided or mitigated.</p>	
<p>Given the multiple environmental and economic benefits of the proposed action Atlantic Shores believes the removal of 29 WTGs is unreasonable and not consistent with NEPA alternatives standards. Most importantly the potential effects to benthic habitat can be substantially mitigated through OSS relocation and the micrositing of WTG positions which results in significant or complete avoidance of the identified sand ridge and trough features. For these reasons removal of the stated Atlantic Shores facilities from Lobster Hole and the Sand Ridge Complex should not be adopted. Instead the micrositing alternative C4 should be advanced and ultimately adopted as it better comports with NEPA standards for the development of alternatives. This approach comports with BOEM's alternatives screening criteria recommendation modification to an alternative to remedy any deficiency. We assert that the adoption of the sub-alternative C4 – micrositing - will remedy the noted deficiencies associated with a removal alternative. Alternatives C1 C2 and C3 should not be progressed as they are not feasible and do not meet the Purpose and Need.</p>	<p>BOEM acknowledges Atlantic Shores' recommendation for BOEM to adopt Alternative C4. BOEM has considered the information provided in the comment in the selection of the Preferred Alternative.</p>
<p>Both alternatives D1 and D2 would significantly reduce the energy generation capability of the Projects and prevent Atlantic Shores from meeting its Purpose and Need with only negligible visual impact mitigation when compared with other feasible approaches involving the removal of a smaller number of WTGs and/or a reduction in size of selected WTGs. The removal of 21 WTGs would directly result in an approximately 22% reduction in the renewable energy production of Project 2; the removal of 31 turbines would</p>	<p>BOEM acknowledges Atlantic Shores' comments regarding the concerns with WTG removal. BOEM has considered the information provided in the comment in the selection of the Preferred Alternative.</p>

Comment from Atlantic Shores Offshore Wind, LLC	Response
<p>result in a reduction in renewable energy generation of nearly 33%. [Footnote 19: Assuming a Project 2 with 95 turbine positions the maximum considered in the COP. A smaller project 2 size would result in the loss of an even higher percentage of potential renewable energy generation.] These reductions would result in a reduction to the maximum nameplate capacity of Project 2 of 315 – 465MW [Footnote 20: Assuming a 15MW turbine. These numbers increase to 420 MW and 620 MW respectively assuming a 20 MW turbine the largest turbine considered in the COP.] eliminating generation capacity sufficient to provide renewable electricity to approximately 145000 – 214000 households.</p>	
<p>No basis is provided to justify why a universally applied setback is necessary or preferred under the circumstances. A well-established and practiced approach for assessing visual impacts is through the selection of representative viewpoints where the project would be prominently visible often called key observation points (KOPs). BOEM released guidance in 2021 reaffirming the use of KOPs for visual impact assessment: “Important views and viewpoints from which the project components would be visible are then identified including specific views and viewpoints (referred to as key observation points or KOPs) that will be used in the impact assessment. [...] Effects of the visual presence of the project on these views are the basis for the VIA.” [Footnote 21: Refer to Section 3.4 “Assessment of Seascape Landscape and Visual Impacts of Offshore Wind Energy Developments on the Outer Continental Shelf of the United States” https://www.boem.gov/sites/default/files/documents/environment/environmental-studies/BOEM-2021-032.pdf] Atlantic Shores presents KOPs within the Visual Impact Assessment that were developed in collaboration with NJDEP BOEM and local stakeholders. KOP identification is important as they are either from historic areas designated scenic areas and/or other visually significant resources. KOPs also represent typical views of the Projects to representative viewer/user groups as well as are illustrative of typical views of the proposed Projects. These KOPs represent the worst case and most conservative approach to assessing viewsheds. A universally applied setback is reflective of an unorthodox methodology of approaching assessments and determinations of Visual Impacts. In fact as demonstrated by the visual simulations prepared by Atlantic Shores (included as Attachment B –</p>	<p>BOEM developed alternatives to address issues raised during the public scoping process. Visual impacts of the Project were raised as a concern during public scoping; therefore, Alternative D was developed to reduce visual impacts of the Project. While visual impacts are assessed from KOPs consistent with BOEM’s <i>Assessment of Seascape, Landscape, and Visual Impacts of Offshore Wind Energy Developments on the Outer Continental Shelf of the United States</i>, exclusion of WTG positions nearest to coastal communities is an equitable method of developing an alternative to reduce visual impacts on coastal communities.</p>

Comment from Atlantic Shores Offshore Wind, LLC	Response
<p>Additional Visual Simulations) removing more than 6 turbines results in negligible additional visual impact reduction.</p>	
<p>There is no evidence of a significant visual effect that requires the implementation of a blanket 12-mile (or greater) universally applied setback and the significant removal of WTGs which would render Project 2 economically impractical and burden ratepayers with increased energy costs as well as jeopardize the federal and state government’s policy goals related to meeting clean energy targets as expressed in the Purpose and Need. The visibility study conducted found that a combination of targeted turbine removals and/or a consideration of a reduced WTG size in select locations can achieve a reduction in magnitude of impact without adversely affecting project feasibility and practicality. There also is no legal basis to require an absolute avoidance of all visual effects. As illustrated in the visual simulations presented in Attachment B the targeted removal of up to 6 of the nearest WTGs (Alternative D3) results in a very similar impact magnitude reduction as the removal of 21 turbines presented in Alternative D1 and the removal of 31 turbines presented in D2. Given the significant negative impact to the economic feasibility of the Projects and the resulting large reduction in renewable energy generation capacity within the Lease Area weighed against comparable visual impacts Atlantic Shores recommends that BOEM includes Alternative D3 (the removal of no more than 6 WTGs) in lieu of D1 or D2 as it adequately addresses an effect of the Projects without unnecessarily foregoing feasibility.</p>	<p>BOEM acknowledges Atlantic Shores’ preference of Alternative D3 over D1 and D2. BOEM has considered the information provided in the comment in the selection of the Preferred Alternative.</p>
<p>As noted above both recommendations align with the BOEM alternatives screening guidance[Footnote 22: Process for Identifying Alternatives for Environmental Reviews of Offshore Wind Construction and Operations Plans pursuant to the National Environmental Policy Act (NEPA) (boem.gov) https://www.boem.gov/sites/default/files/documents/renewable-energy/BOEM%20COP%20EIS%20Alternatives-2022-06-22.pdf] in particular screening criteria #4 which states “BOEM may eliminate the alternative from detailed analysis if there is no scientific evidence that the alternative would avoid or substantially lessen one or more significant socioeconomic or environmental effects of the Project.” The visual simulations discussed above clearly demonstrate that the proposed alternatives D1 and D2 do not avoid or substantially lessen the impacts to a greater degree compared to far more</p>	<p>BOEM acknowledges Atlantic Shores’ comments regarding the concerns with Alternative D. BOEM has considered the information provided in the comment in the selection of the Preferred Alternative.</p>

Comment from Atlantic Shores Offshore Wind, LLC	Response
<p>practical alternatives such as D3. Further Atlantic Shores asserts that these simulations particularly when combined with the impact of weather and atmospheric conditions described below demonstrate that even the removal of 6 WTGs as contemplated in Alternative D3 does not result in sufficient reduction in visual effects to offset the associated loss of important benefits from the lost turbines as described in Section 1.1.2. In fact the DEIS explicitly states that there is no material improvement to visual effects of the proposed alternatives relative to the Proposed Action: “The effects of Alternatives D1 D2 and D3 on the seascape character open ocean character landscape character and viewer experience would be similar to the effects of the Proposed Action.”[Footnote 23: DEIS Attachment H Section H.3.2.1] Removing WTGs in accordance with Alternative D (including D1 D2 and D3) is not justified if such reduction will not have a significant effect on the Project’s potential visual impacts.</p>	
<p>Furthermore, Atlantic Shores strongly encourages BOEM to consider the impact of weather and atmospheric conditions on visibility when evaluating the visual impact of each of the presented visual simulations. Atlantic Shores commissioned a study titled Initial Visibility Modeling Study for Offshore Wind for New Jersey’s Atlantic Shores Offshore Wind Project completed by the Rutgers School of Environmental and Biological Sciences for the Atlantic Shores Wind Project. Using the results of this study Atlantic Shores and its consultants EDR and Epsilon Associates assembled histograms summarizing hourly visibility data for each month of the year from all the 13 identified KOPs (totaling 156 figures) which were submitted to BOEM on July 5 2022.[Footnote 24: Refer to attachment B of the Atlantic Shores memo to submitted to BOEM on July 5 2022 titled “RE: Atlantic Shores EIS RFI – Visual Data”] On each of these figures Atlantic Shores superimposed information about the distance to the nearest and furthest WTG from that viewpoint as well as provided a statement about how often any of the proposed WTGs are visible and how often all the WTGs are completely beyond the limit of visibility.</p> <p>This analysis revealed that the Projects will not be visible at all for the majority of the time during summer months. Atlantic Shores believes that this data provides a compelling case to include meteorological considerations and the frequency of visibility of the Projects into the impacts and mitigation</p>	<p>The EIS ocean, seascape, landscape (SLIA), and visual impact analyses (VIA) consider atmospheric effects during all calendar periods. The Atlantic Shores histograms' data and simulations' portrayals indicate conditions of visibility and non-visibility. Thus, the EIS analyses document the range of visible and non-visible impact levels, including major, moderate, minor, and negligible effects.</p> <p>The final impact level conclusions are based on the most visually impacting conditions. The Rutgers Report and Atlantic Shores’ interpretation of the Rutgers report is referenced in the Final EIS.</p> <p>As stated in Section 7.4.7 of Assessment of Seascape, Landscape, and Visual Impacts of Offshore Wind Energy Developments on the Outer Continental Shelf of the United States (SLVIA) (BOEM, 2021) “average visibility conditions can be determined and discussed in the VIA but are only one consideration in the determination of potential impact, in part because on average more people tend to view the ocean from the seacoast and other viewpoints during clearer weather conditions.”</p> <p>As described in Section 3.6.9 <i>Scenic and Visual Resources</i> the impact assessment is based on clear sky conditions and worst-case scenario. Although the visibility of the WTGs will be variable, depending on the current</p>

Comment from Atlantic Shores Offshore Wind, LLC	Response
<p>considerations included in the FEIS. Atmospheric perspective is a significant mitigating circumstance supported by meteorological data. Just as the aircraft detection lighting system reduces the visual impacts associated with the aviation obstruction warning lights at nighttime atmospheric perspective can serve the same function during the daytime because the frequency and duration of visibility is significantly reduced.</p>	<p>meteorological, moonlight, and sunlight conditions, atmospheric conditions are not comparable to physical mitigation measures like ADLS. Attachment H is referenced in the EIS. BOEM removed Figure 3.6.9-7 and incorporated additional summary points from the Rutgers study into Section 3.6.9 of the Final EIS.</p>
<p>The atmospheric data used to determine visibility of the turbines strongly implies that there are very few periods when only the nearest turbines are visible. This data demonstrates that a universal setback such as that contemplated in alternatives D1 D2 and D3 would have a minimal impact on when WTGs are visible despite the large adverse impact to the economic feasibility of the Projects. As an example the figure below shows hourly visibility from the North Brigantine Natural Area in August 2019. WTGs were only visible 34.9% of the time. In the limited times that any WTGs were visible visibility typically extended well beyond the setback distances contemplated in Alternatives D1 D2 and D3 demonstrating that such a setback would be ineffective at reducing visual impacts. This data further supports Atlantic Shores' recommendation that BOEM not consider any alternatives that contemplate removal of WTGs or restricting WTG size further than 12 miles from shore for visual considerations.</p>	<p>BOEM acknowledges Atlantic Shores' comments regarding the concerns with Alternative D. BOEM has considered the information provided in the comment in the selection of the Preferred Alternative.</p>
<p>Atlantic Shores evaluated and eliminated the possibility of using the same layout proposed by the Ocean Wind Project in Lease Area OCS-A 0498 ("Ocean Wind") which abuts the WTA to the southwest based on recommendations from the USCG and commercial fishing industry. However Atlantic Shores recognizes the importance of creating a clear distinction between the two WTAs given their differing orientations. To this end Atlantic Shores recommends the adoption of Alternative E to create a 0.81- nautical-mile (1500-meter) setback between the WTGs in each Lease Area consistent with the joint letter filed by Atlantic Shores and Ocean Wind and enclosed as Attachment A. This setback was developed in coordination with Ocean Wind and the USCG to address navigational safety and search and rescue concerns while minimizing the reduction in renewable energy generation from lost WTG positions. Further this alternative as detailed in Attachment A was incorporated into the turbine layout in Ocean Wind 1's "Proposed Action" alternative and selected as a preferred alternative in their FEIS.</p>	<p>BOEM acknowledges Atlantic Shores' support of Alternative E. BOEM has considered the information provided in the comment in the selection of the Preferred Alternative.</p>

Comment from Atlantic Shores Offshore Wind, LLC	Response
<p>Atlantic Shores recommends that Alternative E with any setback greater than 0.81-nautical-mile (1500- meter) be removed from consideration as such a setback would require the removal and/or micrositing of additional WTG positions in both the Atlantic Shores South and Ocean Wind I WTAs with negligible additional benefit to navigational safety and search and rescue operations. A 0.81-nautical-miles (1500- meters) setback requires the removal of 2 WTG positions and the micrositing of at least one. Increasing the setback to 1.08-nautical-miles (2000-meters) would result in the removal of 3 additional WTG positions (5 total) which impacts Atlantic Shores’ ability to meet its stated Purpose and Need and reduces the environmental and economic benefits of the Projects (refer to Section 1.1). Additionally, implementation of a 1.08-nautical-miles (2000-meters) setback would likely require removal or micrositing of turbines in the Ocean Wind I WTA.</p>	<p>BOEM acknowledges Atlantic Shores’ concerns. BOEM has considered the information provided in the comment in the selection of the Preferred Alternative.</p>
<p>Alternative F. Atlantic Shores appreciates the robust analysis of foundation types presented in the DEIS. However Atlantic Shores notes that while piled suction bucket and gravity foundations are all technically suitable for use in the lease area not all foundation types are currently feasible or practical 43 CFR § 46.420(b) due to supply chain limitations. In particular, suction bucket and gravity foundations for WTG foundations are not anticipated to be commercially viable for the Projects in the anticipated construction timeframe due to lack of fabrication capability and capacity in the region. As such Atlantic Shores has refined the foundation PDE in its latest Construction and Operations Plan. Atlantic Shores intends to use monopiles for the WTG foundations in Project 1. In December 2022 Atlantic Shores entered into a Pre-Commitment and Capacity Reservation Agreement (PCCRA) with EEW American Offshore Structures Inc. (EEW-AOS) to serve as the local manufacturing company for the proposed monopiles for Project 1. For Project 2 no such agreement has yet been reached and either monopile or piled jacket foundations could be used for the WTG foundations. Atlantic Shores continues to explore the use of additional foundation types including suction bucket and gravity foundations for OSS and met tower foundations. Final selection of a foundation technology for these components remains subject to project-specific technical feasibility economic considerations and supply chain limitations. Atlantic Shores continues to proactively engage and collaborate with the foundation supplier market on their efforts to advance</p>	<p>BOEM acknowledges Atlantic Shores’ concerns with Alternative F. BOEM has considered the information provided in the comment in the selection of the Preferred Alternative.</p>

Comment from Atlantic Shores Offshore Wind, LLC	Response
<p>the foundations within our PDE to the U.S. market. Continued engagement and evaluation over time will inform which technology is suitable for the Projects. Atlantic Shores encourages BOEM to continue to provide flexibility within the FEIS to select any of the foundation types included in Atlantic Shores’ refined foundation PDE discussed in the COP. Premature elimination of foundation technologies may result in Projects that are not deliverable due to an immature supply chain preventing Atlantic Shores from achieving its Purpose and Need.</p>	
<p>Air Quality. Atlantic Shores asserts that characterizing impacts to air quality as a result of the Proposed Action as “minor to minor beneficial” is not representative of the beneficial impacts presented in the DEIS. It is not appropriate to characterize these benefits to air quality as “small and measurable effects” but rather “Regional or population-level effects”. The proposed Projects are estimated to result in 5.85 million metric tons of net avoided CO2 emissions annually and a net of 175 million tons of avoided CO2 over the life of the project even after accounting for emissions associated with construction and operations and maintenance.[Footnote 28: Refer to DEIS Table 3.4.1-7 Net emissions of CO2 for each alternative.] For context New Jersey’s annual net greenhouse gas emissions were 91 million metric tons of CO2e in 2020[Footnote 29: https://dep.nj.gov/ghg/nj-ghg-inventory/]. The Atlantic Shores South Projects would avoid emissions equivalent to 6.4% of the net CO2e emissions from all sources in New Jersey a state of more than 9 million people[Footnote 30: https://www.census.gov/quickfacts/NJ]. BOEM estimates the social benefit of the avoided greenhouse gas emissions from the Projects at \$3.5 billion to more than \$21 billion.[Footnote 31: Refer to DEIS Table 3.4.1-6] Atlantic Shores asserts that these exceed a reasonable threshold for “Small and measurable effects.” Table 3.4.1-2 of the DEIS defines impact levels for Beneficial Impacts as “Decreases in ambient pollutant concentrations due to Project emissions would be detectable” for Minor to Moderate impact levels and as “Decreases in ambient pollutant concentrations due to Project emissions would be larger than for minor to moderate impacts” for Major impact levels. While these definitions are not specific objective benefits due to improvements in air quality as a result of the Projects as outlined in the DEIS are exceedingly clear and comfortably meet a reasonable definition of Major beneficial impact. Atlantic Shores</p>	<p>The distinctions among the impact levels "minor," "moderate," and "major" are qualitative evaluations. Because pollutant emissions levels alone do not determine concentrations, setting an impact level based on emissions is subjective.</p>

Comment from Atlantic Shores Offshore Wind, LLC	Response
<p>encourages BOEM to revise the finding of impacts to air quality as Major beneficial in the FEIS.</p>	
<p>Removal of Turbine Closest to Atlantic City Reef. In Appendix G of the DEIS under “NOAA/NMFS-Proposed Mitigation Measures” on page G-71 it is proposed that “Atlantic Shores must remove a single WTG approximately 150–200 feet (45.8–61 meters) from the observed Fish Haven (Atlantic City Artificial Reef Site).” Atlantic Shores does not believe the WTG closest to the Atlantic City Reef needs to be removed nor will the installation and operation of the WTG have any effect on the reef. While the polygon outlining the Atlantic City Reef overlaps a small portion of the OCS-A 0499 Lease Area Atlantic Shores has sited the WTG outside of this reef area and will take precautions to keep construction activities (such as installation jack-up vessels) away from reef structures identified in our surveys. As shown in the figure below the proposed WTG is approximately 70 meters from the edge of the Atlantic City Reef area which provides adequate clearance to perform all planned activities without impacting the reef. Atlantic Shores proposes further micrositing of the WTG to achieve 150 meters of separation with the artificial reef area. If 150 meters is deemed to be inadequate separation from the reef area Atlantic Shores recommends that BOEM consider further micrositing of the WTG rather than removal due to the significant benefits of each and every turbine position as described in Section 1.1.2.</p>	<p>Complex hard bottom habitat in the Project area is provided by multiple shipwrecks that are located in and along its borders, and three artificial reefs (the Atlantic City reef located near the southwest corner of the WTA, and the Manasquan Inlet and Axel Carlson reefs located along the outer borders of the Monmouth ECC) (COP Volume II, Appendix II-G2; Atlantic Shores 2024).</p> <p>The positive and negative aspects of habitat conversion and the reef effect, including the potential for invasive species colonization, are discussed under the Presence of Structures IPF in Section 3.5.2, <i>Benthic Resources</i>.</p>
<p>Atlantic Shores notes that the applicant proposed mitigation measure included in the DEIS Appendix G Table G-1 as Measure Number LOA-22 is not consistent with the mitigations proposed in Atlantic Shores’ LOA Application[Footnote 32: https://media.fisheries.noaa.gov/2022-09/AtlanticShoresOWF_2022_Application_OPR1.pdf] or COP nor is it reasonable. LOA-22 states that “Measurements of the installation of at least 19 foundation installations will be made and results used to modify [shutdown zones] as appropriate.” Atlantic Shores has committed to performing sound field verification during the initial foundation installations but has not yet committed to performing verification at a specific number of foundations. Further performing sound field verification at 19 foundation locations is unnecessarily burdensome inconsistent with previous approvals and would not provide a material improvement in understanding or mitigating our impact to marine mammals or other animals when compared</p>	<p>The LOA application omitted the number of piles which Atlantic Shores would monitor. This measure has been revised to be consistent with its presentation in the Project’s Biological Assessment, which was revised from the LOA Application based on information provided by Atlantic Shores.</p>

Comment from Atlantic Shores Offshore Wind, LLC	Response
<p>with the sound field verification of fewer foundations. For example, in Section 5.7.7 of the COP Approval Conditions for Vineyard Wind 1[Footnote 33: https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/VW1-COP-Project-Easement-Approval-Letter_0.pdf] sound field verification was only required at 1 monopile foundation and 1 jacket foundation. Atlantic Shores requests that BOEM update this mitigation measure in alignment with Atlantic Shores’ LOA application and remove the requirement for verification at a specific number of foundation installations.</p>	
<p>Atlantic Shores notes that the applicant proposed mitigation measure included in the DEIS Appendix G Table G-1 as Measure Number AQ-08 is not consistent with the mitigations proposed by Atlantic Shores. Further BOEM-Proposed Measure #1 “SF6-free Switchgear” is not technically or economically feasible. Specifically, the requirement that “Atlantic Shores must use switchgear that does not contain SF6 is not feasible given the current technology available from suppliers. Specifically, there are not SF6 alternatives available for certain high voltage components required in both the onshore and offshore substations and/or converter stations. Additionally at this time not all WTG suppliers offer SF6-free switchgear. Atlantic Shores requests that BOEM revise these proposed mitigation measures to remove the requirement for SF6-free switchgear in order to reflect the reality that SF6-free switchgear is not available for all components in the existing supply chain. For all equipment containing SF6 Atlantic Shores will take measures to minimize the risk of releasing SF6 including the additional mitigations included in AQ-08.</p>	<p>This measure was erroneously included in both Tables G-1 and G-2 in Appendix G, <i>Mitigation and Monitoring</i> of the Draft EIS. The measure was removed from Table G-1 and retained in what is now Table G-3.</p> <p>BOEM revised the proposed mitigation measure (Table 3.4.1-14 and Table G-3) in which BOEM would require Atlantic Shores to use switchgear that does not contain SF₆ to the extent practicable based on technical, economic, and supply chain considerations.</p>

N.6 Responses to Other Agency, Stakeholder, and Public Comments on the Draft EIS

N.6.1 Purpose and Need

Table N.6-1. Responses to Comments on the Purpose and Need

Comment No.	Comment	Response
BOEM-2023-0030-0213-0027	As noted earlier, the DEIS should address changes that have occurred since the Programmatic EIS was prepared by BOEM	BOEM’s authority under the Outer Continental Shelf Lands Act (OCSLA) to authorize renewable energy activities on the

Comment No.	Comment	Response
	<p>in 2007. The purpose and need for the proposed project should be evaluated based on these changes. World peace has suffered due to a shortage of available energy supplies and its future security is threatened if energy can be used to influence war and peace decisions. The shortage of natural gas in Europe resulting from the war in Ukraine has led to the restarting of coal fired power plants in Germany, France and the Netherlands with higher emissions of greenhouse gas emissions than previously when natural gas was used. China and India have continued to develop coal fired power plants at an alarming pace. The U.S. was recently energy independent due to the increased supply of natural gas. The increased use of natural gas in power generation replacing coal and oil has resulted in significant reductions in emissions of greenhouse gas emissions below 1990s levels. In addition, as noted above there are other renewable carbon free technologies that have advanced since the 2007 Programmatic EIS was prepared including new nuclear options use of hydrogen as a fuel for transportation and power generation and anaerobic digestion of organics for power generation. So, if the purpose and need of offshore wind is to provide needed power and to reduce greenhouse gas emissions that has already been done or started or is in the process of happening on land. That fact needs recognition and analysis in the DEIS in regard to the need for the PROPOSED ACTION.</p>	<p>Outer Continental Shelf (OCS) along with the shared goals of other federal agencies to deploy 30 gigawatts of offshore wind energy capacity in the United States by 2030 are two of the factors influencing the purpose and need of the proposed Project.</p> <p>The action analyzed in BOEM's <i>Programmatic EIS for Alternative Energy Development and Production and Alternate Use of Facilities on the Outer Continental Shelf</i> was the establishment of the Marine Minerals Management Service Alternative Energy and Alternate Use Program on the Federal Outer Continental Shelf. Changes to BOEM's renewable energy program are outside of the scope of this environmental review and would be analyzed through a separate process.</p> <p>Atlantic Shores submitted a COP for Lease Area OCS-A 0499. BOEM's regulations require BOEM to analyze Atlantic Shores' COP. As described in Section ES.2, <i>Purpose and Need for the Proposed Action</i>, of the EIS, the purpose of BOEM's action is to determine whether to approve, approve with modifications, or disapprove Atlantic Shores' COP.</p>
BOEM-2023-0030-0213-0028	<p>In Section 4.3 of the DEIS for Atlantic Shores, Relationship Between the Short-term Use of the Human Environment and the Maintenance and Enhancement of Long-Term Productivity, it is stated that long term benefits of the Proposed Action be considered. It lists as goals: promotion of clean and safe development of domestic energy sources and clean energy job creation; and promotion of renewable energy to help ensure geopolitical security reduce GHG emissions to combat climate change and provide electricity that is affordable reliable safe secure and clean. No where in</p>	<p>This EIS analyzes the impacts of constructing, operating and maintaining, and decommissioning the Project as described in the Atlantic Shores COP. Comparative analysis of the affordability and reliability of the Proposed Action with other onshore technology is outside the scope of the EIS.</p>

Comment No.	Comment	Response
	<p>that DEIS do I see a discussion of geopolitical security or the affordability and reliability of offshore wind or a comparison of the affordability and reliability of offshore wind to our current system of power generation or to clean onshore technology alternatives. How can you evaluate the affordability reliability and cleanliness of offshore wind without comparing it to our current system of power generation or onshore clean energy technology options? Is there a Federal Agency (such as the Department of Energy) that will request or perform that analysis before the EIS for the Proposed Action is finalized? Although they should, it is not likely.</p>	
BOEM-2023-0030-0213-0040	<p>That BOEM include in the Supplemental DEIS an analysis of the affordability and reliability of the Proposed Action as compared to onshore clean energy technologies such as those highlighted in these comments. That BOEM identify and assess as part of the PROPOSED ACTION the backup technologies/needs and plans to assure a continuous reliable supply of electricity during low wind or shut downs during storm or other events .</p>	<p>Atlantic Shores submitted a COP for Lease Area OCS-A 0499. BOEM’s regulations require BOEM to analyze Atlantic Shores’ COP. As described in Section ES.2, <i>Purpose and Need for the Proposed Action</i>, of the EIS, the purpose of BOEM’s action is to determine whether to approve, approve with modifications, or disapprove Atlantic Shores’ COP.</p> <p>Back-up systems for the proposed project extend outside of the scope required to meet the purpose and need.</p>
BOEM-2023-0030-0916-0050	<p>It does not present the environmental impact of decommissioning even a single turbine as an example.</p>	<p>The current EIS examines the maximum impacts of the PDE, which includes full removal of Project components at decommissioning, which are expected to be the same as or similar to impacts during Project construction. The conceptual decommissioning is discussed in Section 2.1.2.3. Prior to commencing decommissioning activities, Atlantic Shores will submit a Decommissioning Plan that will be subject to environmental review through the NEPA process. The NEPA review of the Decommissioning Plan will examine the impacts of various decommissioning scenarios. Atlantic Shores is required to hold a bond of financial assurance for Project decommissioning (30 CFR 585.626(b)(19); 30 CFR 585.515; 30 CFR 585.516).</p>

Comment No.	Comment	Response
		<p>BSEE would require Atlantic Shores to submit a decommissioning application upon the earliest of the following dates: 2 years before the expiration of the lease; 90 days after completion of the commercial activities on the commercial lease; or 90 days after cancellation, relinquishment, or other termination of the lease (see 30 CFR 285.905).</p>
BOEM-2023-0030-0916-0195	<p>The BOEM has relied upon the New Jersey State power purchase agreement to limit alternatives in this DEIS to that power level. In doing so it has placed great reliance on that decision. That decision required the preparation of a cost benefit analysis for the State and a showing that the monetary benefits outweigh the costs. Therefore, the BOEM has not only considered but linked itself to that analysis, and in accordance with the NEPA rule above, should append the State's cost benefit analysis to the DEIS, and assure itself and the public of its soundness.</p> <p>Therefore, the NJ BPU cost-benefit analysis required by State law should be included with an explanation of how its numbers were derived. In particular, the potential authorized costs to ratepayers of \$7.27 billion over 20 years of operation based on that study's levelized net OREC cost of \$58.82 far exceeds the claimed economic benefit of \$1.869 billion. So, it is necessary to attribute a huge benefit from avoided emissions to justify a positive benefit to cost. But as shown here in Section I.17, the sea level rise change from the project is insignificant so it is hard to see where this multi-billion-dollar environmental benefit is coming from. This needs to be clarified. In addition, the cumulative impacts of the 3 projects considered to date and those contemplated to meet the NJ goal of 11,000 mw by 2035 should be provided.</p>	<p>The scope of the EIS, per BOEM's regulations, is to analyze the COP Atlantic Shores Offshore Wind, LLC submitted for Lease Area OCS-A 0499. The process by which BPU awarded the OREC is not within the scope of the EIS.</p> <p>BOEM is not relying on the New Jersey State power purchase agreement to limit alternatives. BOEM is reviewing the proposal that was submitted in the COP. Alternatives that do not meet the purpose and need are equivalent to the No Action Alternative (Alternative A).</p> <p>The alternatives are developed to address issues raised during scoping. BOEM's action is to determine whether to approve, approve with modifications, or disapprove Atlantic Shores' COP.</p> <p>Please refer to comment response BOEM-2023-0030-1339-0006 in Table N.6-24 for further information on cumulative impacts.</p>
BOEM-2023-0030-1223-0013	<p>The National Environmental Policy Act requires consideration of a range of alternatives which could meet the defined purpose and need for the action. The DEIS does not clearly and succinctly define the purpose and need, which poses</p>	<p>The Proposed Action includes up to 200 WTGs. The BPU Order identifies 1,510 MW of offshore wind as the required capacity of Project 1 as explained in Section 1.2: <i>Purpose of</i></p>

Comment No.	Comment	Response
	<p>challenges for commenting on specific configurations of the alternatives. Section 1.2 of the DEIS (Purpose and Need of the Proposed Action) describes broad federal renewable energy goals, the overall New Jersey state goal for renewable energy, the goals of Atlantic Shores LLC, and the roles of BOEM, NMFS, and the U.S. Army Corps of Engineers. Section 1.2 lists several MW goals but does not clearly state a specific level of energy production which would qualify as meeting the purpose and need of the action. Later sections of the document suggest that to meet the purpose and need, Project 1 must be capable of producing a total of 1,510 MW to meet the 2021 procurement from the New Jersey Board of Public Utilities and Project 2 must be capable of producing 1,327 MW to satisfy the goals of Atlantic Shores, LLC, which is actively seeking contracts for Project 2. The DEIS notes that 1,327 MW for Project 2 would align with the required payments under an interconnection service agreement Atlantic Shores intends to execute with the regional transmission organization PJM. If these are BOEM's requirements for alternatives, this should be clearly stated in Section 1.1. For example, Section 2.2 (Alternatives Considered but Not Analyzed in Detail) indicates that an alternative would not be analyzed in detail if "it does not meet the primary goals of the applicant," including if it "results in the development of a project that would not allow the developer to satisfy contractual offtake obligations" (page 2-46). On the surface, this means that there may not be any detailed analysis of the benefits to other resources (habitat, protected species, etc.) of a smaller project. Without such analyses, there is not a fair comparison of the benefits from projects of varying sizes.</p>	<p><i>and Need for the Proposed Action</i>. Once awarded for Project 2, the OREC award would also identify the required capacity.</p> <p>As discussed in Section 2.2 <i>Alternatives Considered but Not Analyzed in Detail</i>, BOEM used a screening criteria when considering alternatives. One of those criteria being that an alternative was considered but not analyzed if it did not meet the primary goal of the applicant.</p> <p>The total impacts within the geographic analysis area for each resource and how it contributes to baseline conditions and trends for resources considered in this EIS can be found in Appendix D, <i>Ongoing and Planned Activities Scenario</i>.</p>
BOEM-2023-0030-1339-0005	<p>BOEM must clarify what is driving the purpose and need for the proposed action, and consequently the framing of the NEPA analysis. As stated in previous RODA letters, the purpose and need of the proposed action should be to fulfill the agency's purpose and need, not solely that of a</p>	<p>As stated in Section ES.2, <i>Purpose and Need for the Proposed Action</i>, BOEM's purpose and need is to determine whether to approve, approve with modification or disapprove Atlantic Shores' COP. BOEM will make this determination after weighing the factors in Subsection 8(p)(4) of the OCSLA that</p>

Comment No.	Comment	Response
	<p>project applicant’s objectives - including PPAs [Footnote 11: Again, this reiterates the need for a cumulative and holistic approach to offshore energy development.] Yet, the DEIS fails to provide a clear justification to develop the full 2400 MW project. [Bold: At a minimum, BOEM must provide clear, consistent and data-driven rationale for the purpose and need for offshore energy projects.] It is a disservice to the marine environment, and industries reliant on the ocean to permit development without addressing this, and other fundamental questions.</p>	<p>are applicable to plan decisions and in consideration of those goals. BOEM’s action is needed to fulfill its duties under the lease, which require BOEM to make a decision on the lessee’s plans to construct and operate two commercial-scale offshore wind energy facilities within the Lease Area (the Proposed Action) (30 CFR 585.628).</p> <p>Information on the cumulative impacts of the Proposed Action and proposed alternatives for each resource area can be found throughout Chapter 3 of the EIS.</p>
BOEM-2023-0030-1353-0002	<p>There is no explanation of where this energy will be supplied and will the State receive any benefit directly to its taxpayers. Why are hundreds of turbine required?</p>	<p>The energy produced by the Proposed Action will be provided to the state of New Jersey. The determination of energy production needed by a state is determined by the Offshore Wind Renewable Energy Certificate (OREC) awards or purchase power agreements (PPA) that is awarded to Atlantic Shores.</p> <p>Project 1 would fulfill the New Jersey Board of Public Utilities (BPU) September 10, 2020 solicitation, and subsequent June 30, 2021 award to Atlantic Shores for 1,510 MW of offshore wind capacity. Although Project 2’s capacity has not yet been determined, Atlantic Shores has a goal of 1,327 MW.</p> <p>Reductions in the number of turbines utilized for the proposed Project would impact Atlantic Shores’ ability to fulfill the terms of the BPU Order (Docket Nos. QO20080555 and QO21050824) for 1,510 MW and would not meet the purpose and need.) See Table 2-6, <i>Alternatives Considered but not Analyzed in Detail</i>, in Chapter 2 of the EIS for alternatives dismissed that included the removal of turbines.</p>
BOEM-2023-0030-1516-0024	<p>Similar to the Atlantic Shores Project, According to the Ocean Wind 1 Project, Orsted claims that its 100 turbines will produce 1,100 MWs and will provide energy for 500,000 households.</p>	<p>The energy produced by the Proposed Action will be provided to the state of New Jersey. The determination of energy production needed by a state is determined by the Offshore Wind Renewable Energy Certificate (OREC) awards or</p>

Comment No.	Comment	Response
	<p>[See original comment for figure on page 31 containing: Fast Facts: Ocean Wind 1 will power New Jersey with 1,100 MW of renewable energy That's enough power approximately 500,000 homes per day] Row 1: Column A: Blank; Column B: # of Turbines; Column C: MW; Column D: Homes Powered Row 2: Column A: Ocean Wind 1; Column B: 100; Column C: 1000; Column D: 500,000 Row 3: Column A: Extrapolation; Column B: 1000; Column C: 11000; Column D: 5,000,000 Ocean wind 1 fast facts (oceanwindone.com) [Link: https://oceanwindone.com/about-the-project/ocean-wind-open-house/ocean-wind-1-fast-facts#:~:text=Ocean%20Wind%201%20will%20power%20New%20Jersey%20withThat%E2%80%99s%20enough%20power%20approximately%20500%2C000%20homes%20per%20day] By extrapolating these numbers, the result is that 11,000 MWs will require 1,000 turbines which will provide enough energy for 5,000,000 households. The image below shows the number of wind energy projects planned for off the coast of New Jersey. Please note, according to the news article in the link below, it is claimed that 4000 wind turbines will be needed to meet the 11,000 MW goal, but the author states that Governor Murphy's math is "fuzzy." Under Phil Murphy's clean energy plan New Jersey can expect at least 4000 wind turbines offshore (shorenewsnetwork.com) [Link: https://www.shorenewsnetwork.com/2023/03/08/under-phil-murphys-clean-energy-plan-new-jersey-can-expect-at-least-4000-wind-turbines-offshore/] Although this is an overly simplistic statistic, it is consistent with offshore wind developers' data and explanations used throughout their industry. Suffice it to say, this calculation - based on the industry's methodology for explaining their</p>	<p>purchase power agreements (PPA) that is awarded to Atlantic Shores. As stated in Section ES.2, <i>Purpose and Need for the Proposed Action</i>, BOEM's purpose and need regarding the project is to determine whether to approve, approve with modification or disapprove Atlantic Shores' COP. BOEM will make this determination after weighing the factors in Subsection 8(p)(4) of the OCSLA that are applicable to plan decisions and in consideration of those goals.</p>

Comment No.	Comment	Response
	<p>projects' "clean energy" benefit - suggests that the 11,000 megawatts of offshore wind energy will more than meet the electricity needs of the State.</p> <p>According to the latest census, there are 132,000 households in Atlantic County and there are 3.7 million households in the whole state of New Jersey. Atlantic County will use 4% of the "clean energy" produced by the wind turbines. Therefore, 96% of the "clean energy" will be exported to the state outside of the boundaries of Atlantic County communities. Including Cape May and Ocean County households increases the total Jersey shore households to 11% of the State's energy needs. Thus, 89% of the clean energy will be benefiting areas outside of Atlantic, Cape May, and Ocean Counties.</p>	
BOEM-2023-0030-1516-0076	<p>The DEIS describes the Project's purpose as the need to follow the President's Executive Order 14008 "Tackling the Climate Crisis at Home and Abroad". As the Supreme Court determined in <i>West Virginia v. EPA</i> (2022) the Executive Branch has no authority to regulate carbon dioxide without a law passed by Congress. As the purpose of the offshore wind project is to reduce carbon dioxide emissions the Executive Order is irrelevant and these comments should be removed from the DEIS.</p>	<p>The purpose and need section of Chapter 1, <i>Introduction</i>, appropriately recognizes that Executive Order 14008 states one of the policies of the United States is to "spur[] well-paying union jobs and economic growth, especially through innovation, commercialization, and deployment of clean energy technologies and infrastructure." Consequently, BOEM does not agree that the Executive Order is irrelevant. BOEM has authority under OCSLA to authorize renewable energy activities on the OCS. The purpose of BOEM's action is to determine whether to approve, approve with modifications, or disapprove Atlantic Shores' COP. BOEM's decision on Atlantic Shores' COP does not regulate sources of CO₂ emissions.</p>
BOEM-2023-0030-1516-0077	<p>To be legally adequate, an EIS must explain how the proposed Action will achieve its stated purpose. In ASOWNJ's case, the DEIS indicates that the Action is being proposed because there is "a worldwide climate crisis", and because the Action will result in a net reduction of carbon dioxide in the atmosphere. But the analysis stops there. How exactly will this CO₂ reduction result in the lowering of worldwide climate temperatures? There is no discussion of this issue,</p>	<p>Additional text explaining CO₂'s role in global temperature and how CO₂ reduction affects global climate change has been added to Subsections 3.4.1.1, 3.4.1.3, and 3.4.1.5 in Section 3.4.1, <i>Air Quality</i>, of the EIS.</p> <p>A discussion on avoided emissions can be found in Section 3.4.1.5. Electricity within a grid region is generated from a</p>

Comment No.	Comment	Response
	<p>nor any analysis of it whatsoever. The EIS appears simply to assume that reduction of CO2 resulting from this action will somehow reduce the "impacts of climate change". Does this mean a reduction of atmospheric temperature? The elimination of "extreme weather"? If so, by how much? What is the specific point? Also, does this mean that once the offshore wind project is operational, fossil-fuel generated electricity will be removed immediately from the grid? If the amount of fossil fuel generated electricity will not diminish as the result of the project, then it would appear that the project's purpose is not so much to reduce greenhouse gas (GHG) emissions, but to provide a cleaner energy source for new economic growth that would not occur but for the project.</p> <p>In other words, the project will have no climate change benefit at all; it will merely enable growth with less additional GHG emissions than would be the case if the growth was supported solely by fossil-fuel generated electricity. The EIS must explain exactly whether and how the project's much-touted climate change benefits will be realized in light of the significant economic growth the project is supposed to generate. The US government's own leading climate model, that adopted by the International Conference on Population and Climate Change (ICPCC), is called "Model for the Assessment of Greenhouse Gas Induced Climate Change" (MAGICC). It was developed by the National Center for Atmospheric Research. The model predicts that even if all human-caused CO2 in the US, from every source, including transportation, electrical generation, industry, agriculture, and animal exhalation - all of it - were reduced to zero tomorrow, there would be no measurable improvement in climate temperature by the year 2100 A NEPA-compliant EIS must discuss the relationship between the Action and the major environmental purpose underlying it. The EIS fails to do so, and therefore its justification for the action is arbitrary capricious and legally inadequate.</p>	<p>mix of sources. Relative to the grid mix today, the Proposed Action would result in 6,484,000 tons CO₂e avoided annually.</p> <p>Reducing greenhouse gas emissions does not lower temperature, it slows the rise in global temperature. Net zero emissions is not expected to result in an immediate reduction in global temperature, but rather a plateauing of warming after a few years and remain elevated for centuries. This is a reduction in climate change because without reducing or leveling off GHG emissions, temperatures continue to rise rather than stabilize.</p>

Comment No.	Comment	Response
	As argued in this document, the ASOWNJ DEIS fails to demonstrate that this project reduces pollution in every sector of the economy, increases resiliency to the impacts of climate change, protects public health, conserves our lands and waters and biodiversity, delivers environmental justice, nor spurs a “net impact” of increased jobs.	
BOEM-2023-0030-1518-0009	Atlantic Shores has established a target size of 1,327 MW for Project 2, which aligns with the interconnection service agreements and interconnection construction service agreements Atlantic Shores intends to execute with PJM. Furthermore, it must be noted that the rated nameplate capacities for offshore wind are deceptively high and do not reflect the actual output of the installation. Wind energy has a capacity factor of roughly 36% on average compared to a capacity factor of 90%+ for nuclear power meaning that the actual output of a 1000-MW wind installation will only produce what a 400-MW nuclear power plant would produce.	<p>Project 1 has a nameplate capacity of 1,510 MW with 50% capacity factor and 4% transmission losses (COP volume II, 3.1.2.5).</p> <p>Atlantic Shores, in their public comment to the Draft EIS, stated that to deliver the awarded 1, 510 MW of renewable energy generation capacity at the Cardiff POI and meet the awarded annual OREC allowance, Atlantic Shores will need to build additional WTG positions to account for the transmission losses incurred between the WTGs and the POI. These transmission losses are estimated at 4% requiring approximately 1,570 MW of installed capacity for Project 1. This information is based on the best available information at the time of the comment and is subject to change.</p>
BOEM-2023-0030-1518-0055	Wind turbine-based electric utilities are very expensive to build. For this project each tower will support a 12-MW turbine far larger than any similar power supply in the United States. Offshore wind’s construction costs are higher than land-based plants and the U.S. Department of Energy reports that “operational expenses are higher for offshore wind energy than land-based wind generation” noting that wind and wave conditions lead to increased downtime and expense [Footnote 43: Offshore Wind Market Report 2021 Edition U.S. Department of Energy; Office of Energy Efficiency & Renewable Energy https://www.energy.gov/eere/wind/articles/offshore-wind-market-report-2021-edition-released]. Furthermore, while wind turbine output decreases over time operating and maintenance costs increase [Footnote 44: Out to Sea: The	<p>Section 3.6.3, <i>Demographics, Employment, and Economics</i>, of the EIS discusses the economic impact on geographic analysis areas associated with the Proposed Action.</p> <p>The costs and benefits of the Atlantic Shores South Project are discussed throughout the EIS. However, BOEM has determined that a quantitative cost benefit analysis is not feasible given the available information. In addition, a quantitative cost benefit analysis is not necessary for BOEM to make an informed decision.</p> <p>Electricity within a grid region is generated from a mix of sources. Relative to the grid mix today, the Proposed Action would result in 6,484,000 tons CO₂e avoided annually.</p>

Comment No.	Comment	Response
	<p>Dismal Economics of Offshore Wind; Manhattan Institute; August 2020 https://www.manhattan-institute.org/dismal-economics-offshore-wind-energy; Footnote 45: No source included in original comment]. The U.S. Energy Information Administration predicts that offshore wind is 3.4 times more expensive than power produced by a natural gas plant [Footnote 46: Offshore Wind Energy: A Very Very Expensive Electricity Source; Institute for Energy Research https://www.instituteforenergyresearch.org/wp-content/uploads/2013/06/Offshore-Wind-Energy-DRS-4.pdf]. Considering the high costs of operation and the diminishing energy output over time and the growing demand for electricity there is little evidence that this project will actually result in the reduction of fossil fuel usage in New Jersey.</p>	<p>Section 3.4.1.3, <i>Impacts of Alternative A – No Action on Air Quality</i>, further explains the displacement of fossil fuels. CO₂ is relatively stable in the atmosphere and, for the most part, mixed uniformly throughout the troposphere and stratosphere. As such, the impact of GHG emissions does not depend upon the CO₂ source location. Increasing energy production from offshore wind projects would likely reduce regional and overall GHG emissions by displacing energy from fossil fuels.</p>
BOEM-2023-0030-1555-0002	<p>There should be additional disclosure and public input on NJ’s overall strategic plan for renewable energy. Specifically I would like to understand BOEM’s and NJ’s response to views expressed by Professor Jenkins of Princeton. “Jenkins told legislators that the lowest-cost option would take advantage of New Jersey’s membership in a multi-state electric grid called the PJM Interconnect. The grid made up of numerous utilities and power producers stretches through Pennsylvania New Jersey and Maryland (the original “P J and M”) to North Carolina and as far west as parts of Kentucky Michigan Indiana and Illinois. Under the cheapest option New Jersey would save money by importing solar and wind electricity from states with lower land costs and better renewable resource quality such as solar power from North Carolina or wind power from Indiana. This strategy represents the cheapest path for the state provided other states do not similarly aggressively decarbonize their power sectors.” Jesse Jenkins assistant professor of mechanical and aerospace engineering and the Andlinger Center for Energy and the Environment leads the Princeton ZERO lab the Zero carbon Energy systems Research and Optimization Laboratory which conducts research to improve decision-making to accelerate</p>	<p>As stated in Section ES.2, <i>Purpose and Need for the Proposed Action</i>, BOEM’s purpose and need is to determine whether to approve, approve with modification or disapprove Atlantic Shores’ COP. BOEM will make this determination after weighing the factors in Subsection 8(p)(4) of the OCSLA that are applicable to plan decisions and in consideration of those goals. BOEM’s action is needed to fulfill its duties under the lease, which require BOEM to make a decision on the lessee’s plans to construct and operate two commercial-scale offshore wind energy facilities within the Lease Area (the Proposed Action) (30 CFR 585.628).</p> <p>Evaluating New Jersey’s overall strategic plan for renewable energy is outside of the scope of the Project.</p>

Comment No.	Comment	Response
	<p>rapid affordable and effective transitions to net-zero carbon energy systems. Source: Green grid goal is practical for New Jersey Princeton’s Jenkins tells lawmakers Molly Seltzer Andlinger Center for Energy and the Environment March 23 2022 (https://www.princeton.edu/news/2022/03/23/green-grid-goal-practical-new-jersey-jenkins-tells-lawmakers)</p>	
BOEM-2023-0030-1600-0001	<p>Does this mega-project have a favorable cost benefit? How does it compared to other alternatives? Where is the basis of estimate and schedule the project risk and mitigation plan procurement plan construction plan operation and decommissioning plans etc. In addition to carbon free generation are their other projects to accommodate projected climate impacts and restoring CO2 concentrations to earlier levels e.g.300ppm.</p>	<p>As discussed in Section 3.6.3, <i>Demographics, Employment and Economics</i>, Atlantic Shores submitted a cost-benefit analysis (CBA) as part of its Application as required by N.J.A.C. 14:86.5(a)(11). Levitan & Associates, Inc. (LAI) conducted an independent CBA to ensure that all Projects were compared on a consistent basis. Content provided by the Applicants helped inform LAI’s independent CBA. LAI’s CBA resulted in a value of 1.246, which meets the eligibility requirements of positive economic and environmental net benefits to the State (State of New Jersey Board of Public Utilities 2022). This information has been added to the EIS. Conducting a new quantitative cost benefit analysis over the Project’s life cycle is not feasible given the available information. In addition, a quantitative cost benefit analysis is not necessary for BOEM to make an informed decision.</p> <p>The EIS examines the maximum impacts of the PDE, which includes full removal of Project components at decommissioning, which are expected to be the same as or similar to impacts during Project construction. The conceptual decommissioning is discussed in Section 2.1.2.3.</p> <p>Prior to commencing decommissioning activities, Atlantic Shores will submit a Decommissioning Plan that will be subject to environmental review through the NEPA process. The NEPA review of the Decommissioning Plan will examine the impacts of various decommissioning scenarios. Atlantic Shores is required to hold a bond of financial assurance for Project decommissioning (30 CFR 585.626(b)(19); 30 CFR 585.515; 30 CFR 585.516).</p>

Comment No.	Comment	Response
BOEM-2023-0030-1606-0002	<p>The Purpose and Need section of the DEIS is flawed in that it provides little basis other than Executive Order 14008[Footnote 5: Executive Order 14008 Tackling the Climate Crisis at Home and Abroad issued January 27 2021.] concerning climate change and a call to action followed 2 months later with a seemingly arbitrary goal announced by Departments of Interior (DOI) Energy (DOE) and Commerce (DOC) of 30 gigawatts of offshore energy without due diligence scientific or good governance transparent assessments.[Footnote 6: FACT SHEET: Biden Administration Jumpstarts Offshore Wind Energy Projects to Create Jobs Biden Administration Announcement March 21 2021.] These two pronouncements have no documented connection of how each achieves the goals of the other. The 30-gigawatt goal in particular has not been evaluated based on transparency good governance due diligence or good science including the precautionary principle. It is also unclear what legal basis they are framed upon.</p>	<p>As stated in Section ES.2, <i>Purpose and Need for the Proposed Action</i>, BOEM’s purpose and need is to determine whether to approve, approve with modification or disapprove Atlantic Shores’ COP. BOEM will make this determination after weighing the factors in Subsection 8(p)(4) of the OCSLA that are applicable to plan decisions and in consideration of those goals. BOEM’s action is needed to fulfill its duties under the lease, which require BOEM to make a decision on the lessee’s plans to construct and operate two commercial-scale offshore wind energy facilities within the Lease Area (the Proposed Action) (30 CFR 585.628).</p>
BOEM-2023-0030-1750-0001	<p>The board of public utilities in New Jersey has illegally authorized the approval of this contract for rates that will be passed onto electric customers that are well above market rates. They by law they are required to find that those exorbitant rates are justified by environmental and economic benefits. In calculating environmental benefits they have used values that are appropriate for putting a dollar value on avoided carbon emissions considering the presumed benefit it will provide to the global population and generations far into the future. The New Jersey law is very specific and says whatever environmental benefits there are have to be those confined to the State of New Jersey.</p>	<p>BOEM has no authority over the BPU process. The purpose of BOEM’s action (which is distinct from the goals of the proposed Project) is to determine whether to approve, approve with modifications, or disapprove Atlantic Shores’ COP. BOEM’s program objectives are consistent across the EISs BOEM is currently developing.</p>
BOEM-2023-0030-1978-0003	<p>The turbines still require oil so why would be put ourselves in yet another position of something needing oil in order to run?</p>	<p>Table D.A2-3 in Appendix D, <i>Ongoing and Planned Activities Scenario</i>, includes projects and assumptions for gallons of coolant, oils, lubricants, and diesel fuel for offshore wind development activities on the U.S. East Coast. BOEM recognizes that the estimates presented within this</p>

Comment No.	Comment	Response
		<p>cumulative analysis are likely high, conservative estimates; however, BOEM believes that this analysis is appropriately capturing the potential cumulative impacts and errs on the side of maximum impacts</p> <p>Concerning fuel oil, Volume II, Section 3.1.2.7 of the COP states, “Clean fuels will be used to the maximum extent practicable. Marine diesel fuel will comply with the fuel sulfur limit of 15 ppm per 40 CFR Part 80, which is the same limit as onshore Ultra Low Sulfur Diesel (ULSD). 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 USEPA regulations.”</p>

N.6.2 Proposed Action and Alternatives

Table N.6-2. Responses to Comments on the Proposed Action and Alternatives

Comment No.	Comment	Response
BOEM-2023-0030-0213-0007	<p>We can achieve the same or greater levels of clean energy development onshore without impacting the ocean environment. Sometimes it is better to do nothing-the NO ACTION ALTERNATIVE- to allow the outer continental shelf to remain for current uses than to promote an action that diminishes the value of this environment. The proposed offshore wind project should not be evaluated in a “silo” manner. Certainly other clean energy development onshore has “Foreseeable Impacts” and should be recognized addressed and considered in the NO ACTION ALTERNATIVE including benefits of combating climate change providing energy security and providing reliable less costly clean energy. Offshore wind is not an effective solution for combating climate change more effective clean onshore options exist.</p>	<p>BOEM acknowledges the commenter’s support of the No Action Alternative.</p>

Comment No.	Comment	Response
BOEM-2023-0030-0916-0250	The DEIS need to dispense with this construct. The reasonably foreseeable part is not a baseline it is an impact. The proper baseline is the natural environment without either the proposed action or the reasonably foreseeable ones propagated forward in time as needed against which both the proposed action and the reasonably foreseeable are compared and then added to get the cumulative impact.	The No Action Alternative consists of the current baseline conditions as influenced by past and ongoing activities and trends and serves as the baseline against which all action alternatives are evaluated. The EIS also separately analyzes the continuation of all other existing and reasonably foreseeable future activities. A detailed description of BOEM's methodology for assessing impacts is provided in Section 1.6, <i>Methodology for Assessing Impacts</i> , of the EIS.
BOEM-2023-0030-1450-0005	Further I respectfully request No Action be taken on the Project due to the lack of adequate notice resulting in loss of due process of the affected socioeconomic communities.	BOEM acknowledges the commenter's support of the No Action Alternative.
BOEM-2023-0030-1556-0044	Following the mitigation hierarchy we believe BOEM should prioritize impact avoidance and consider alternatives that use quiet foundation technologies that avoid pile driving noise entirely and significantly reduce noise impacts to marine mammals and other marine life overall such as Alternative F2 Suction Bucket Foundations and Alternative F3 Gravity-Based Foundations. Quiet foundation types can afford developers significant flexibility in the construction schedule including potentially year-round and 24- hour construction in some areas. In our view these incentives should be fully explored by BOEM and industry.	BOEM has considered the information provided in the comment in the selection of the Preferred Alternative.
BOEM-2023-0030-1606-0004	To that end the DEIS "No Action Alternative" which Clean Ocean Action prefers must include the benefits from the current ocean ecosystem reducing climate change and how each of the Alternatives identified would impact beneficially or negatively this essential buffer role. It is also important to note that this ecosystem service is provided at no cost.	BOEM acknowledges the commenter's support of the No Action Alternative.
BOEM-2023-0030-1746-0001	Alternative A no action in other words not building the project fails to address the severe consequences of not achieving our clean energy goals. Continued use of fossil fuels for energy will have a devastating impact on the New Jersey shore on the New Jersey economy the people of New Jersey and beyond. The science of carbon dioxide as a greenhouse	BOEM acknowledges your comment.

Comment No.	Comment	Response
	<p>gas and the result of global warming is fact not opinion. The rising sea level that we are experiencing and that will accelerate is fact. The increased severity of storms from global warming is a fact. So the facts of the matter are that not installing windmills will mean kissing the New Jersey shore good-bye. Not acting not building a clean energy system is a death sentence to the Jersey Shore that we have known and loved for generations. Retreating from the shore should not be an option on the table. To reiterate the do nothing alternative will cause flood damage beyond repair to our barrier islands along with thousands of homes and business. We don't have enough money to buy out every home that gets destroyed.</p>	
BOEM-2023-0030-1223-0025	<p>Although not presented as distinct alternatives Alternative B presents a choice of up to 10 small offshore substations (5 in Project 1 and 5 in Project 2) up to five medium offshore substations (up to two in Project 1 and up to 3 in Project 2) and up to 4 large offshore substations (two in each of the two projects). Given the level of impact that is likely to result from each substation installation and operation we recommend fewer larger substations versus a larger number of smaller substations to reduce the impact and number of foundations needed.</p>	<p>BOEM acknowledges the commenters recommendations for substation size.</p>
BOEM-2023-0030-1339-0008	<p>Some of the information on alternatives are poorly presented in the DEIS. For example under the Proposed Action (Alternative B) the possibility of an offshore converter station with closed-loop cooling technologies is mentioned. Yet there is no analysis of impacts of the converter station which would be one of the largest closed-loop cooling systems and without some environmental impacts of its own.</p>	<p>The EIS assesses the impacts of the Atlantic Shores South PDE that are described in the COP using the “maximum-case scenario” process, which analyzes the aspects of each design parameter that would result in the greatest impact. Atlantic Shores has indicated that if HVDC technology is selected, it is anticipated that a closed-loop cooling system would be utilized, pending technical suitability and commercial availability of the technology. These impacts are described in the discharges/intakes IPF in relevant Chapter 3 sections.</p>
BOEM-2023-0030-1516-0012	<p>Per BOEM “As assessed in Chapter 3 Affected Environment and Environmental Consequences BOEM anticipates that the majority of the potential adverse effects associated with the</p>	<p>BOEM believes the analysis in the Draft EIS provided appropriate level of detail and comparative analysis among alternatives in order for the public and decision maker to</p>

Comment No.	Comment	Response
	<p>Proposed Action would occur during construction and installation activities and would be short term in nature and minor to moderate in severity/intensity. These effects would cease after decommissioning activities. In assessing the relationships between short-term use of the environment and the maintenance and enhancement of long-term productivity it is important to consider the long-term benefits of the Proposed Action which include: Promotion of clean and safe development of domestic energy sources and clean energy job creation; Promotion of renewable energy to help ensure geopolitical security reduce GHG emissions to combat climate change and provide electricity that is affordable reliable safe secure and clean; Delivery of electric power to the New Jersey electrical grid to contribute to the state's renewable energy requirements; and Increased habitat for certain fish species. These conclusions are based on misleading data outdated studies and omission of key scientific studies and expert opinions. The process used to make these conclusions lacks rigorous review of the negative impacts to the economy ecology and environment marine mammals natural fish habitat and birds. There is no substantiation for the claim of affordable energy and reliable energy.</p>	<p>distinguish the impacts between alternatives. The level of analysis and detail by alternatives is commensurate with other BOEM offshore wind EISs.</p>
BOEM-2023-0030-1606-0063	<p>The list BOEM provides for impacts of non-OSW activities including Climate change. Overall this list has very similar impacts to the Proposed Action plan. Where is the evidence that shows Atlantic Shores South is beneficial if the impacts are so similar to that of the No Action Alternative.</p>	<p>Under the No Action Alternative, impacts from the proposed Project would not occur as proposed; however, impacts from past, present, future non-offshore wind, and future offshore wind activities would still occur. BOEM recognizes that the environment is not static and changes overtime and therefore uses the approach as outlined by Magee and Nesbit (2008) and Eccleston (2011) of examining in the EIS what happens if the Atlantic Shores Project is not built.</p>
BOEM-2023-0030-1038-0002	<p>In considering a reasonable range of alternatives for this project The NBPA continues to promote the responsible development of offshore wind and therefore a "No Action Alternative (Alternative A)" is not a practicable substitute if</p>	<p>BOEM has considered the information provided in the comment in the selection of the Preferred Alternative.</p>

Comment No.	Comment	Response
	<p>we want to achieve the aggressive climate goals laid out by the federal and state governments. On the other hand as the most profitable fishing port in the country and an industry that employs over 6800 people we strongly support "ES.4.3 Alternative C-Habitat Impact Minimization/Fisheries Habitat Impact Minimization." It is critical that we continue to balance the need for offshore wind energy with the sustainability of our marine resources.</p>	
BOEM-2023-0030-1215-0003	<p>Alternatives C1 C2 and C3 consider the complete removal of turbines and an offshore substation (OSS) within Lobster Hole (C1) and/or the identified Sand Ridge Complex (C2 and C3) for a total removal of up to 29 turbines 1 substation and associated inter-array cables. Any combination of these three sub-alternatives which consider the removal of turbines are not feasible or practical (43 CFR § 46.420(b)) as they would prevent Atlantic Shores from meeting its stated Purpose and Need. Should BOEM deem it necessary carry forward elements of Alternative C in its COP approval BOEM should incorporate Alternative C4 rather than any of the other sub-alternatives. Alternative C4 substantially mitigates the potential effects through OSS relocation and the micrositing of Wind Turbine Generators (WTGs) while still allowing Atlantic Shores to meet its Purpose and Need.</p>	<p>BOEM has considered the information provided in the comment in the selection of the Preferred Alternative.</p>
BOEM-2023-0030-1223-0002	<p>We recommend that BOEM approve a combination of Alternatives C1 C2 and E to reduce impacts to fisheries fish species and habitats.</p>	<p>BOEM has considered the information provided in the comment in the selection of the Preferred Alternative.</p>
BOEM-2023-0030-1223-0018	<p>Section 2.1.3.1 should provide more details on why the Lobster Hole is an important fishing area. In addition a more detailed explanation should be provided for why only 16 specific wind turbine locations are considered for potential removal under this alternative and not other additional locations indicated in Figure 2.1-8 as "prime fishing areas" (presumably from the Prime Fishing Grounds of New Jersey dataset) overlapping with areas identified in the figure as ridge or swale features. The differences in supporting data</p>	<p>Alternative C was developed through the scoping process for the EIS in response to comments received from the Mid-Atlantic Fishery Management Council (MAFMC), New England Fishery Management Council (NEFMC), NMFS, and the Environmental Protection Agency (USEPA). The two areas of concern were identified by NMFS as areas that have pronounced bottom features and produce valuable habitat. No further information is available.</p>

Comment No.	Comment	Response
	<p>and rationale between Alternatives C2 and C3 should be better described in Sections 2.1.3.2 and 2.1.3.3. Alternative C2 appears to more completely avoid ridge and swale terrain as indicated by the ‘benthic classification’ shown on the charts while Alternative C3 focuses on ‘seafloor features’ identified using benthic terrain modeling. Assuming the data used to map ‘benthic classification’ was collected at high resolution for the project these data should take priority in terms of identifying ridge and swale habitats where turbines should not be placed. The ‘seafloor features’ identified through benthic terrain modeling seem most appropriately used to augment project data in areas where the seabed was incompletely mapped during site assessment. These alternatives would be better supported if the seabed in the lease area were fully mapped vs. running narrow survey lines between turbine rows. We have recommended more complete seafloor mapping (surficial sediments bathymetric features) in past correspondence.</p>	
BOEM-2023-0030-1223-0024	<p>We recommend a combination of Alternatives C1 C2 and E to reduce impacts to fisheries fish species and habitats. Alternative C1 avoids placement of turbines in an important fishing ground and Alternative C2 minimizes impacts on a sand ridge complex in the southern part of the lease area. Alternative E improves the ability of vessels to safely transit between this wind farm and Ocean Wind 1 located just south of it but with a different grid orientation. To achieve the greatest reduction in negative impacts we recommend that the full extent of these alternatives be implemented (i.e. the maximum number of locations removed under each alternative).</p>	BOEM has considered the information provided in the comment in the selection of the Preferred Alternative.
BOEM-2023-0030-1545-0004	<p>In the DEIS BOEM presents an Alternative C-composed of four distinct sub-alternatives-under which the layout of (and potentially the number of) wind turbine generators (WTG) and offshore substations (OSS) would be adjusted to avoid or minimize impacts to habitats in areas of concern (AOC)</p>	BOEM has considered the information provided in the comment in the selection of the Preferred Alternative.

Comment No.	Comment	Response
	<p>identified by the National Marine Fisheries Service (NMFS). Should BOEM deem it necessary to incorporate elements of Alternative C in its COP approval BOEM should utilize Alternative C4 rather than any of the other sub-alternatives. Alternative C4 would involve the micrositing of 29 WTGs I OSS and associated inter-array cables outside of the 1000-foot buffer of the ridge and swale features within the AOCs to the extent possible. The micrositing would reduce habitat impacts but would not materially change the grid layout that is necessary to preserve safe navigation conditions and USCG search and rescue missions. Utilizing the other sub-alternatives would involve the loss of approximately 22 to 29 WTGs [Footnote 15: Alternative CI would remove up to 16 WTGs I OSS and associated array cables to minimize potential impacts to AOC. Alternative C2 would remove up to 13 WTGs and associated cable array cables tto minimize pptentials impacts to AOC 2. Alternative CJ would remove up to 6 WTGS and assoicated array cables to mimimize potential impacts to AOC 2] thereby significantly reducing the Project's capacity to produce renewable energy without significantly reducing habitat impacts relative to Alternative C4. The choice of Alternative C4 to the exclusion of the other sub alternatives would therefore best meet the Project's purpose and need while satisfying BOEM's obligation to produce a reasoned decision under the APA</p>	
BOEM-2023-0030-1556-0086	<p>As mentioned above we are supportive of avoidance and micrositing measures to avoid or minimize impacts to complex structures such as the Areas of Concern (AOCs) identified by the National Marine Fisheries Service. In particular protection of AOC 2 which contains sand ridge and trough complexes should be a priority for Atlantic Shores South and BOEM to avoid in order to minimize impacts to benthic resources and hydrodynamics. It is difficult however to compare the merits of the various sub alternatives included in the Draft EIS as BOEM has not included enough detailed information. For example while BOEM has included</p>	<p>BOEM has considered the information provided in the comment in the selection of the Preferred Alternative.</p>

Comment No.	Comment	Response
	<p>maps of sub alternatives C1-3 there is no map included of the C4 proposal indicating which of the 29 turbines would be microsituated the 1000 ft buffer nor the delineation of the AOCs.[Footnote 262: AS DEIS at 2-24 to 2-31.] We urge BOEM to incorporate this information in the Final EIS to provide the public with a more comprehensive comparison of the proposed sub alternatives. BOEM should also elaborate on the qualitative differences between the anticipated impacts of the various Alternative C sub alternatives rather than evaluate their impacts collectively in the impact analysis. If there is no significant difference in impacts between the sub alternatives BOEM should explicitly state this in its analysis.</p>	
BOEM-2023-0030-1215-0004	<p>Alternative D (including sub-alternatives D1 D2 and D3) should not be carried forward as it does not align with the Purpose and Need of the Projects. Each sub-alternative results in a significant erosion of the associated benefits that is not commensurate with the associated reduction in visual impact. In fact the DEIS explicitly states that there is no material improvement to visual effects of the proposed alternatives relative to the Proposed Action: “The effects of Alternatives D1 D2 and D3 on the seascape character open ocean character landscape character and viewer experience would be similar to the effects of the Proposed Action.” Removing WTGs in accordance with Alternative D (including D1 D2 and D3) is not justified if such reduction will not have a significant effect on the Project’s potential visual impacts. Sub-alternatives D1 and D2 consider the removal of 21 – 31 WTGs would directly result in approximately 22% - 33% reduction in the renewable energy production of Project 2. These reductions would result in a reduction to the maximum nameplate capacity of Project 2 of 315 – 465MW2 eliminating generation capacity sufficient to provide renewable electricity to approximately 145000 – 214000 households. Additionally BOEM should consider the impact of weather and atmospheric conditions on visibility when evaluating the visual impact of each of the presented visual simulations. The</p>	BOEM has considered the information provided in the comment in the selection of the Preferred Alternative.

Comment No.	Comment	Response
	<p>frequency of visibility and fluctuations in the level of visibility are important considerations in determining the “reasonably foreseeable” effects of the Project on visibility. Data and analysis previously submitted to BOEM by Atlantic Shores indicates that the Projects will not be visible at all for the majority of the time during summer months further demonstrating the ineffectiveness of WTG removal to address visual impacts. BOEM should eliminate Sub-alternatives D1 and D2 from consideration as their selection would not allow Atlantic Shores to meet its Purpose and Need. Further all sub-alternatives proposed under Alternative D should not be adopted in the Record of Decision due to the insignificant effect on visual impacts when compared with the reduction in benefits associated with any WTG removal.</p>	
BOEM-2023-0030-1433-0006	<p>I Do Not support any option of Alternative D. The wind turbines should be installed at the proposed heights and proposed locations (or microsited locations as described in Alternative C4) to maximize their efficiency</p>	<p>BOEM has considered the information provided in the comment in the selection of the Preferred Alternative.</p>
BOEM-2023-0030-1545-0005	<p>Alternative D presents three sub-alternatives under which no surface occupancy would occur on the lease within defined distances to shore. The purpose of Alternative D is to test opportunities to reduce potential visual impacts of the Project. Alternative D1 would result in the exclusion of up to 21 WTG positions in Project I that are sited within 12 miles from shore. Alternative D2 would result in the exclusion of up to 31 WTG positions in Project I that are sited within 12.75 miles from shore. Alternative D3 would result in the exclusion of up to 6 WTG positions in Project I that are sited within 10.8 miles from shore. Under each of the sub-alternatives the remaining WTGs in Project I would be restricted to a maximum hub height of 522 feet AMSL and a maximum blade tip height of 932 feet AMSL. In the first instance no modifications to the Project under Alternative D are warranted because as BOEM stated in the DEIS “[t]he effects of Alternatives D1 D2 and D3 on the seascape character open</p>	<p>BOEM has considered the information provided in the comment in the selection of the Preferred Alternative.</p>

Comment No.	Comment	Response
	<p>ocean character landscape character and viewer experience would be similar to the effects of the Proposed Action." [Footnote 16: DEIS at H40]. Reducing the Project's renewable energy generation capacity in accordance with Alternative Dis not justified if such reduction will not have a significant effect on the Project's potential visual impacts. Furthermore BOEM should be sure to factor in the impact of weather and atmospheric conditions when determining the extent of the Project's potential visual impacts. The frequency of visibility and fluctuations in the level of visibility are important considerations in determining the "reasonably foreseeable" visual effects of the Project. Data and analysis previously submitted to BOEM by Atlantic Shores indicate that the Project will not be visible at all for the majority of the time during the summer months thereby calling into question the need to modify the Project to address potential visual impacts. If BOEM nonetheless concludes that some visual impact mitigation is warranted sub-alternatives DI and D2 should not be adopted because they are infeasible inconsistent with the Project's purpose and need and would not result in appreciable visual impact reductions relative to sub-alternative D3. The removal of WTG positions contemplated in sub-alternatives DI and D2 would result in a reduction of renewable energy production from the Project of approximately 11% to 17% translating to a reduced nameplate capacity of between 315 MW and 465 MW and eliminating generation capacity sufficient to provide renewable electricity to approximately 145000 to 214000 households. Such a significant reduction in renewable energy production capacity would undermine the economic viability of the Project and seriously jeopardize the ability of Project I to meet the capacity requirements of the contract awarded to Atlantic Shores by the New Jersey Board of Public Utilities. The adoption of sub-alternative D3 while still unwarranted for the reasons stated above would avoid the bulk of the Project-damaging impacts of sub-alternatives DI and D2. If</p>	

Comment No.	Comment	Response
	BOEM does adopt sub-alternative D3 however it should do so without imposing size reductions on the WTG technology employed beyond 12 miles from shore. Beyond this point the visibility impacts of turbine size restrictions are negligible and do not justify the associated reduction in capacity to produce renewable energy.	
BOEM-2023-0030-1215-0005	Atlantic Shores and Ørsted (the developer of the Ocean Wind 1 lease in coordination with the U.S. Coast Guard (USCG) have developed a mutually agreeable setback arrangement that would implement a 0.81 nautical mile buffer between the WTGs on the two projects. The proposed arrangement involves the removal of 2 WTG positions from the Atlantic Shores Lease Area and the micrositing of other positions as needed. The approach is fully described in a letter submitted to BOEM in July 2022 that was jointly developed and by both developers and in coordination with the USCG.EDFR recommends that BOEM carry forward Alternative E in alignment with the joint letter in order to create a 0.81-nautical-mile (1500-meter) setback between the WTGs in each Lease Area. EDFR urges BOEM to remove from consideration any setback greater than 0.81-nautical-mile (1500-meter) as such a setback would require the removal and/or micrositing of additional WTG positions in both the Atlantic Shores South and Ocean Wind I Wind Turbine Areas (WTAs) with negligible additional benefit to navigational safety and search and rescue operations.	BOEM has considered the information provided in the comment in the selection of the Preferred Alternative.
BOEM-2023-0030-1223-0002	We recommend that BOEM approve a combination of Alternatives C1 C2 and E to reduce impacts to fisheries fish species and habitats.	BOEM has considered the information provided in the comment in the selection of the Preferred Alternative.
BOEM-2023-0030-1223-0024	We recommend a combination of Alternatives C1 C2 and E to reduce impacts to fisheries fish species and habitats. Alternative C1 avoids placement of turbines in an important fishing ground and Alternative C2 minimizes impacts on a sand ridge complex in the southern part of the lease area. Alternative E improves the ability of vessels to safely transit	BOEM has considered the information provided in the comment in the selection of the Preferred Alternative.

Comment No.	Comment	Response
	<p>between this wind farm and Ocean Wind 1 located just south of it but with a different grid orientation. To achieve the greatest reduction in negative impacts we recommend that the full extent of these alternatives be implemented (i.e. the maximum number of locations removed under each alternative).</p>	
BOEM-2023-0030-1339-0011	<p>RODA members have continually explained the importance of continued safe navigation and sufficiently wide transit lanes to allow for other ocean users to safely transit through wind lease areas. The inclusion of Alternative E to include a setback between the Ocean Wind 1 and Atlantic Shores South is important to maintaining the safety of marine operators. We continue to maintain a larger setback would be better between the two leases. Transit requirements are separate from those related to whether a vessel can actively fish in an area. Since the direct risks associated with turbines cables and associated protection methods will functionally exclude most commercial fishing operations from a wind array the establishment and maintenance of safe transiting conditions to access fishing grounds outside of the project area is of paramount importance. Lease area OCS-A 0499 (Atlantic Shores) is directly adjacent to OCS-A 0498 (Ocean Wind) and the two areas together cover 343833 acres. Directly at the lease boundary between the two is an area heavily transited by multiple vessels primarily from Atlantic City and Cape May. The need for a transit lane in this location is supported by the “Fishing Route Analytics Reports” produced by Last Tow LLC previously submitted to BOEM the New York Bight Transit Lanes Surveys Workshop and Outreach Summary prepared by NYSERDA NY State Department of Environmental Conservation and RODA (2020) (13. available at: https://www.nyftwg.com/wp-content/uploads/2020/06/NY-Bight-Transit-Lanes-WorkshopandOutreachSummary_Final-Draft.pdf. This effort primarily focused on NY Bight and not the area further south in NJ; however survey responses indicate transit in the referenced area.)BOEM should support</p>	<p>Alternative E includes modifications to the wind turbine array layout to create a 0.81-nm to 1.08 nm setback range between WTGs in the Atlantic Shores South Lease Area (OCS-A 0499) and WTGs in the Ocean Wind 1 Lease Area (OCS-A 0498) to reduce impacts on existing ocean uses. Alternative E was developed through the scoping process for the Draft EIS in response to comments received from RODA concerning the different layouts between the Atlantic Shores South and Ocean Wind 1 projects and the need for setback between the adjacent areas.</p>

Comment No.	Comment	Response
	<p>a transit corridor of no less than two nautical miles between the two leases to safely preserve these traditional transit paths based on the distance and use patterns of the area. However due to a high presence of recreational fishing vessels for much of the year submerged materials overall port traffic radar interference associated with OSW structures and other factors a four nautical mile transit corridor is appropriate. This safety corridor should be co-implemented by Atlantic Shores South and Ocean Wind 1.</p>	
BOEM-2023-0030-1545-0006	<p>Alternative E would modify the Project to create a 0.81 - 1.08 nautical mile setback between WTGs in the Atlantic Shores South Lease Area and WTGs in the neighboring Ocean Wind I Lease Area with the intent of reducing impacts on existing ocean uses such as commercial and recreational fishing and marine navigation. Atlantic Shores and the developer of the Ocean Wind I lease in coordination with the U.S. Coast Guard have developed a mutually agreeable setback arrangement that would implement a 0.81 nautical mile buffer between the WTGs on the two projects. This arrangement(which involves the removal of 2 WTG positions from the Atlantic Shores Lease Area and the micrositing of other positions as needed was documented in a joint letter signed by both developers and submitted to BOEM in July of 2022. Shell urges BOEM to accept the arrangement described in the joint letter rather than imposing a broader setback that will not appreciably reduce potential impacts to existing ocean uses relative to the developer-agreed arrangement.</p>	BOEM has considered the information provided in the comment in the selection of the Preferred Alternative.
BOEM-2023-0030-1689-0005	<p>Second we applaud the inclusion of alternative E to include a setback between Ocean Wind I and Atlantic Shores South we still believe a larger setback would be better than the two that exist.</p>	BOEM has considered the information provided in the comment in the selection of the preferred alternative.
BOEM-2023-0030-0677-0001	<p>At the end of the 30-year contract period I would strongly prefer that BOEM change the contract to reflect that the foundation and related reef structure be cut down vertically to a safe height and left in place. There is already a precedent</p>	Atlantic Shores has submitted a conceptual decommissioning plan as part of the COP. Specific procedures to be applied to project decommissioning would be determined during

Comment No.	Comment	Response
	<p>for this called rigs to reefs in the Gulf of Mexico with decommissioned oil platforms. The site's GPS coordinates are shared with the fishing community and become permanent habitat for our coastal ecosystem and user groups. In addition I have a strong preference for gravity or suction bucket-type foundations instead of pile driving in the foundation method normally used. I feel that these would offer the surrounding ecosystem a faster recovery time.</p>	<p>BOEM's environmental review of the decommissioning plan. General procedures for decommissioning are described in Section 2.1.2.3, <i>Conceptual Decommissioning</i>. Prior to commencing decommissioning activities, Atlantic Shores is required to submit a decommissioning application that will undergo BOEM technical and environmental reviews, including an opportunity for public and municipal, state, and federal management agency comments. The dismantling and removal of the turbine components (blades, nacelles, and towers) and other offshore components would largely be a "reverse installation" process subject to the same constraints as the original construction phase. Decommissioning will be subject to environmental review through the NEPA process. The NEPA review of the Decommissioning Plan will examine the impacts of various decommissioning scenarios.</p> <p>BOEM has considered the information provided in the comment in the selection of the Preferred Alternative.</p>
BOEM-2023-0030-1223-0019	<p>We appreciate that multiple foundation types are analyzed as individual alternatives (i.e. Alternatives F1 – F3). This is useful for comparing impacts and tradeoffs across different foundation types. Alternative F indicates that "one or more foundation types" could be utilized (page 2-39). We recommend clarifying whether all four types could be combined or if one type would be used for turbines and another for substations or if foundations might vary with depth. It is difficult to estimate impacts at the scale of the project without this information since there are tradeoffs associated with each foundation type.</p>	<p>Alternative F analyzed the extent of potential impacts of each foundation type for up to 211 foundations (inclusive of WTGs, OSSs, and 1 permanent met tower). For this analysis, it was assumed that all 211 foundations would be the same. F1 analyzed the 211 foundations as piled foundations, F2 analyzed them as suction bucket, and F3 analyzed them as gravity-based foundations.</p>
BOEM-2023-0030-1556-0002	<p>We recommend that BOEM include the following in their permitting of Atlantic Shores South: Process: Select a quiet foundation alternative (Alternatives F2 and F3) in the Record of Decision (ROD) for as many foundations as possible for Project 1 and for all of Project 2. We are encouraged to see quiet foundations included in the DEIS but note that BOEM</p>	<p>Atlantic Shores noted in their comments to the Draft EIS that suction bucket and gravity-based foundations may not be commercially viable for the Project within the anticipated construction timeframe due to the lack of fabrication capability and capacity in the region. Additionally, suction bucket foundations will result in the greatest area of habitat</p>

Comment No.	Comment	Response
	<p>should provide both a discussion of foundation requirements in Project 1's offtake agreement and an evaluation of the feasibility of various turbine technologies and foundations in the Final EIS for public review.</p>	<p>conversion due to scour protection and gravity-based foundations would require more seabed preparation to establish a level surface. BOEM has considered the information provided in this comment in the selection of the Preferred Alternative.</p>
<p>BOEM-2023-0030-1556-0009</p>	<p>BOEM Should Choose Alternatives Using Quiet Foundations (Alternatives F2 and F3) We are encouraged that the Draft EIS considers foundation alternatives that mitigate potential noise and urge the agency to also consider them as alternatives in projects going forward. We appreciate that BOEM proposed action alternatives with quiet foundations (Alternatives F2 and F3) and request BOEM select either Alternative F2 or F3 in the ROD for all foundations or as many as possible to significantly lessen construction impacts on marine wildlife and habitats and particularly the North Atlantic right whale for all or as much of the Projects as is feasible.</p>	<p>See response to comment BOEM-2023-0030-1556-0002.</p>
<p>BOEM-2023-0030-1556-0087</p>	<p>There are important tradeoffs to consider in the selection of foundation type and while suction bucket and gravity-based foundations are expected to impact more benthic habitat due to scour protection and a larger footprint the resulting noise reduction benefits of these structures is a priority for our organizations.[Footnote 263: AS DEIS Table 2-5 at 2-43 to 2-44.] Suction bucket and gravity-based foundations do not require pile driving and thus avoid the associated noise impacts.</p>	<p>BOEM has considered the information provided in the comment in the selection of the Preferred Alternative.</p>
<p>BOEM-2023-0030-1556-0089</p>	<p>While our organizations support consideration of gravity-based and suction bucket foundations for Atlantic Shores South and are encouraged about the resulting minimal noise footprint we acknowledge that there remains much to learn about the potential impacts of these foundation types in the United States. We urge BOEM to work closely with Atlantic Shores South to review the Projects' potential impacts and to establish a thoughtful and rigorous long-term scientific monitoring program with the view to inform the responsible</p>	<p>BOEM has considered the information provided in the comment in the selection of the Preferred Alternative.</p>

Comment No.	Comment	Response
	development of future offshore wind energy projects that employ any of the foundation types proposed in the PDE.	
BOEM-2023-0030-1556-0090	As mentioned above one of the primary environmental considerations for gravity-based foundations in particular is the impact to the benthos. Gravity-based foundations require more seabed preparation and scour protection relative to monopile foundations. BOEM must therefore carefully consider how potential negative impacts to the benthos particularly designated Essential Fish Habitat for large numbers of species[Footnote 269: ASOW COP Appendix II-J. Preliminary Essential Fish Habitat Essential. Available at: https://www.boem.gov/renewable-energy/state-activities/appendix-ii-j-preliminary-efh-assessment . EFH has been designated in the lease area and along the export cable corridors for various life stages of more than 41 species of fish and invertebrates.] can be avoided minimized mitigated and monitored. Local-scale impacts should be avoided by micro-siting foundations away from sensitive species and habitats. The substrate where the project is to be sited is predominantly sand mud and gravel;[Footnote 270: Id. at Figure 2 p. 108.] thus the potential impacts from introducing significant levels of rocky scour should be carefully considered particularly on sand lance and benthic invertebrates that form a significant foundation of the trophic pyramid in sand and mud benthos.	BOEM has considered the information provided in the comment in the selection of the Preferred Alternative. Impacts to Essential Fish Habitat and Benthic Resources can be found in Sections 3.5.5 and 3.5.2 of the EIS, respectively.
BOEM-2023-0030-1556-0093	Finally while gravity-based and suction bucket foundations eliminate pile driving noise there will be some noise generated during installation (i.e. from dynamic position systems seabed preparation etc.). BOEM in coordination with NMFS should characterize source noise levels during the installation of gravity-based and suction bucket foundations as well as potential exposure levels for in-water species. This information should be used to ensure that mitigation and monitoring protocols required during the installation of	BOEM is consulting with NMFS under ESA and will incorporate mitigation measures that result from the ESA consultation and the final MMPA Letter of Authorization.

Comment No.	Comment	Response
	gravity-based and suction bucket foundations are as protective as possible.	
BOEM-2023-0030-1599-0003	We recommend using the turbine foundations such as suction bucket or gravity based foundations for both Atlantic Shores lease sites to limit the need for pile-driving during WTG construction. We acknowledge that sound mitigation measures will be employed that bring all aspects of the sound generated by pile-driving beneath the threshold that would pose a threat to nearby marine life.	BOEM has considered the information provided in the comment in the selection of the Preferred Alternative.
BOEM-2023-0030-0916-0032	Since the environmental damage from the project is extreme and there is no discernible benefit of the project the only way to make it remotely rational is to remove its adverse impacts and the only way to feasibly do that is to replace it with projects in the farther out Hudson South area. Development in that area can still meet the State' offshore wind energy goal as shown in Enclosure II. The current lease area may have use for power transmission purposes.	In the Draft EIS (Chapter 2, Table 2-3), BOEM considered but dismissed from further consideration alternatives for alternate locations for the wind energy facility outside of the Lease Area. BOEM's regulations require BOEM to approve, approve with modifications, or disapprove, Atlantic Shores' construction and operations plan in the Lease Area. This alternative would effectively be the same as selecting the No Action Alternative.
BOEM-2023-0030-0916-0034	Contrary to the recent rule change in direction from the CEQ regarding the need to consider all reasonable alternatives at no point in its NEPA process does it consider alternate turbine areas to what the applicant has proposed.	See response to comment BOEM-2023-0030-0916-0032.
BOEM-2023-0030-1283-0001	As a New Jersey resident (born and raised) I strongly insist to BOEM that if this project must be built it should be moved East further out into the ocean beyond the visible horizon. Any damage to a vital economic & recreational resource (the beaches of the Jersey Shore) must be avoided. The proposal as it stands will irrevocably change what is attractive and beautiful about visiting ocean-side communities- the ability to walk along the shore line and look out to sea unobstructed. This Wind Turbine project is too close to the shoreline by a such a large factor that a calming view will forever be destroyed. instead we will see the obstruction of an industrialized shoreline. To lose the sight of the vast blue ocean would be an unspeakable tragedy. It is well	BOEM developed alternatives to address issues raised during the public scoping process. Visual impacts of the Project were raised as a concern during public scoping; therefore, Alternative D was developed to reduce visual impacts of the Project. Three action alternatives that would reduce the number of WTGs were assessed in the EIS in Chapter 2, Alternative D. As described in Section 1.2, <i>Purpose and Need for the Proposed Action</i> , the purpose of BOEM's action is to determine whether to approve, approve with modifications, or disapprove Atlantic Shores' COP.

Comment No.	Comment	Response
	documented that humans find water views restful and psychologically healing (refer to the book Blue Mind for research on why this is true) not to mention the truth that real estate close to bodies of water command a higher price especially ocean views. One need only look at the cost to build a home on Long Beach Island and how that has risen in recent years for proof. That the wind turbine project would irrevocably ruin ocean views essential to the enjoyment of a summer vacation and vital to our health and well being) is only one of the problems.	
BOEM-2023-0030-1345-0002	Requesting more time to review and to move the wind farms 35 miles from shore to reduce the amount of coastal impact.	Thank you for your comment. BOEM’s regulations require BOEM to analyze Atlantic Shores’ proposal to build a commercial-scale wind energy facility in the Lease Area. As described in detail in Chapter 2, <i>Alternatives</i> . BOEM considered a reasonable range of alternatives during the EIS development process that emerged from scoping, interagency coordination.
BOEM-2023-0030-1520-0002	Please consider as BOEM did for NY state- cancel all wind turbine projects even with a 17 mile exclusion zone. Or as off the Virginia coast starting at 27 mi; La- 34 mi; Texas- 38 mi.	Alternative D was developed through the scoping process for the Draft EIS in response to public comments concerning the visual impacts of the Project. BOEM has considered the information provided in the comment in the selection of the Preferred Alternative.
BOEM-2023-0030-1520-0011	Alternative possibilities: Allocation for this project exists re: the Hudson South Call Area which is 30 to 57 miles off our shore where turbines will not be visible. Hudson South offers the potential for significantly more wind energy than the current proposed lease area. Hudson South has already been screened by the BOEM for conflicts with fishing marine mammals and navigation for development cost and it was already approved for wind projects. Additional offshore cable cost for the further distance is less than 2% of the total capital cost.	Please see the response to BOEM-2023-0030-0916-0032.
BOEM-2023-0030-1564-0002	The solution is simple. The majority (56%) of respondents to this survey are in favor of wind energy a larger majority	See response to comment BOEM-2023-0030-0916-0032.

Comment No.	Comment	Response
	(71%) support moving the wind farm project farther out to sea so they cannot be seen from shore. Since an approved area already exists Hudson South that is far enough away so the turbines cannot be seen strong consideration should be given to locating these projects to that location.	
BOEM-2023-0030-1640-0001	The Atlantic Shores Offshore Wind Project will greatly harm my motel business. The visual impact will hurt the tourism industry and the economy of the shore area. This should be considered when selecting a location for the windfarm. Locations 35 miles out or more would allow you to have your windfarm and not destroy the local economy.	BOEM's regulations require BOEM to analyze Atlantic Shores' proposal to build a commercial-scale wind energy facility in the Lease Area. BOEM has considered the information provided in the comment in the selection of the preferred alternative. Alternative D was developed through the scoping process for the Draft EIS in response to public comments concerning the visual impacts of the Project.
BOEM-2023-0030-1644-0003	I know in Europe many of the windfarms are 20-25 miles from land. Why can't we do that here? I am a supporter of clean energy but am opposed to this program/development as currently constituted. Move them back!!!	BOEM's regulations require BOEM to analyze Atlantic Shores' proposal to build a commercial-scale wind energy facility in the Lease Area.
BOEM-2023-0030-1814-0003	Please consider another alternative such as onshore windmills which bypass ocean impacts and offer the advantage of easier maintenance and cost	BOEM's regulations require BOEM to analyze Atlantic Shores' proposal to build a commercial-scale wind energy facility in the Lease Area.
BOEM-2023-0030-2003-0004	The New Jersey coast should not serve as an experimental test case to assess environmental effects of large scale near shore ocean Industrialization. Because of its similar scale let the Hornsea 2 project and its location further off the coast be the model and therefore relocate the Atlantic Shores Offshore Wind Project 50 miles off the coast.	Please see the response to BOEM-2023-0030-0916-0032.
BOEM-2023-0030-0916-0057	The DEIS presents no reason why the use of Hudson South is not a "reasonable" alternative to meet New Jersey wind energy goals and why it is excluded. But from internal planning documents the BOEM has apparently decided to direct that power from Hudson South to New York 77 miles away versus New Jersey only 30 miles away again without any NEPA review and public input to such an extraordinary decision.	Please see the response to comment BOEM-2023-0030-0916-0032.

Comment No.	Comment	Response
BOEM-2023-0030-1346-0005	These projects must be scaled down significantly to do a pilot program to see what the impacts of these wind turbines truly will be on the ocean and its wildlife and to fisheries. The pilot program should consist of no more than 5 wind turbines to truly study their impacts. This is the only wind project I would be willing to agree with the number of wind turbines being proposed for these projects 200 is ridiculous considering that we do not know the full impact of these wind turbines to wildlife and the fishing and tourism industries. I am in favor of nixing the projects as they are currently designed and support instead a pilot program of 5 wind turbines to adequately study the wind turbines' impacts in wildlife fisheries and tourism.	In the Draft EIS, BOEM considered but dismissed from further consideration an alternative to build a much smaller pilot facility to confirm the benefits and impacts before building out the complete Project as proposed. Additional detail is provided in Table 2-3, <i>Alternatives Considered but not Analyzed in Detail</i> , in the Final EIS.
BOEM-2023-0030-1606-0006	However COA continues to propose and support an option which would be consistent with the precautionary principle scientific integrity and good governance and allow due diligence transparency and meaningful public input: an additional Alternative G -- a Pilot Project. If BOEM is not willing to develop wind development off the New Jersey coast responsibly-- namely by considering and choosing an "Alternative G" that would require a pilot project at Lease Area OCS-A 0498--then Clean Ocean Action has no choice but to urge the selection of a true no-build No Action Alternative.	See response to comment BOEM-2023-0030-1346-0005.
BOEM-2023-0030-1606-0024	Given the scientific uncertainty lack of transparency and extensive onshore and offshore impacts of Atlantic Shores South as well as the size scope and scale of this new industrial development of a public resource Clean Ocean Action recommends BOEM consider a new alternative: Alternative "G" a pilot-scale sized project. A pilot project would allow the information needed to understand the risks and impacts of this development on resources and communities before large-scale development such as the Proposed Action would occur.	See response to comment BOEM-2023-0030-1346-0005.
BOEM-2023-0030-1751-0004	Clean Ocean Action continues to demand a smaller scale pilot project to study the effects of offshore wind development. In	See response to comment BOEM-2023-0030-1346-0005.

Comment No.	Comment	Response
	this DEIS alternative A is no action plan under which no construction would occur Clean Ocean Action fully supports and promotes this alternative as it is currently necessary to pause this large scale development project before the proper baseline science and a pilot project is completed.	
BOEM-2023-0030-1767-0003	the most important alternatives and perhaps most obvious one is one that I don't see and that would be a phase approach to permit and authorize a pilot project before authorizing the two combined projects of 200 wind generating turbines to allow a smaller scale project to proceed and have mandatory monitoring and evaluation studies going on so that we would better understand the true impacts on the areas in the DEIS.	See response to comment BOEM-2023-0030-1346-0005.
BOEM-2023-0030-0916-0035	With turbine size and power on the market now limited this last restriction of pre- determining the area power essentially determines the number of turbines and fills the entire southern portion of the lease area with them. This leaves no room for true alternatives or even the meaningful mitigation measures required by NEPA rules.	BOEM's regulations require BOEM to analyze Atlantic Shores' proposal to build a commercial-scale wind energy facility in the Lease Area. Atlantic Shores' Proposed Action includes construction and installation of up to 211 WTGs, OSSs, and met tower.
BOEM-2023-0030-0916-0061	The nature of the transmission network contemplated through the vessel surveys is critical to determining the amount of power that will be transmitted from each wind area to each state. As discussed above regarding turbine location alternatives that determines the scope of this project and its environmental impact. Therefore the transmission alternatives being considered must be disclosed in the EIS.	Alternatives including transmission alternatives are outside of the scope of the EIS. BOEM's decision based on the findings of the Atlantic Shores South EIS will be to approve, approve with modifications, or disapprove Atlantic Shores' COP.
BOEM-2023-0030-0916-0246	None of the so-called alternatives in the document i.e. under Alternatives C D E or F Are real alternatives in the NEPA sense. This is evident from Table ES-2 because the environmental impact of the overall project does not change for any of them. They are merely minor variations on the proposal dressed up to look like alternatives but in fact all the meaningful alternatives that could have changed the project	BOEM developed alternatives to address issues raised during the public scoping process. As described in Section 1.2, <i>Purpose and Need for the Proposed Action</i> , the purpose of BOEM's action is to determine whether to approve, approve with modifications, or disapprove Atlantic Shores' COP.

Comment No.	Comment	Response
	environmental impact such as turbine area number and size have been decided upon previously without NEPA review and public input and are no longer open to the public.	
BOEM-2023-0030-1223-0016	The DEIS indicates that the action alternatives are not mutually exclusive and BOEM may select a combination of alternatives that meet the purpose and need of the proposed project. It would be useful to include a table showing which combinations of Alternatives B-F would meet the purpose and need. While there is some overlap in position removals between Alternatives C2 C3 and E these are distinct from Alternatives C1 and D and there is no overlap between the lobster hole turbines (C1) and the visual alternatives (D1-D3). In total C1 C2 D2 and E combined appear to remove 60 positions. New Jersey's existing 1510 MW procurement can be met with these removals regardless of the turbine size used (11-15 MW).	As indicated in the Draft EIS Section 2.1, <i>Alternatives</i> , "BOEM may "mix and match" multiple listed Draft EIS alternatives to result in a preferred alternative." Alternatives were reviewed using BOEM's screening criteria, presented in Section 2.2, <i>Alternatives Considered but Not Analyzed in Detail</i> . Alternatives that were found to be infeasible or did not meet the purpose and need were dismissed from detailed analysis. Based on public input on the Draft EIS and the analysis of impacts of the alternatives, BOEM selected the Preferred Alternative, which is identified in the Final EIS. The Preferred Alternative must meet the purpose and need in order for it to be selected by BOEM.
BOEM-2023-0030-1339-0007	It is imperative the public is able to differentiate impacts from the various alternatives presented in the DEIS to understand the suitability of prospective project alternatives. The Summary and comparison of impacts among alternatives with no mitigation measures (Table ES-2) provides limited information on how the alternatives differ and provides no information on how impacts of the various sub-alternatives differ. For example the Alternative with a habitat and fisheries impact minimization intention (Alternative C) has no difference of impacts to the Benthic Resources Coastal Habitats Essential Fish Habitat or Commercial Fisheries and For-Hire Recreational Fishing from the Proposed Action (Alternative B). It is unclear in the documents how impacts from the various alternatives differ from each other. Instead the impact analysis compares the collective back to the Proposed Action which the DEIS assumes would be the most likely "Alternative." BOEM does not provide a comparison of alternatives for commercial fisheries which would provide some information about the differences	BOEM has considered the information provided in the comment in the selection of the Preferred Alternative. Please see Alternative G, <i>Mitigation and Monitoring</i> , for information on mitigation measures.

Comment No.	Comment	Response
	between the various alternatives. This should be informative and describe what fisheries would be more or less impacted.	
BOEM-2023-0030-1339-0009	Confusion is further compounded as the different alternatives can be combined for the Final EIS. The alternatives listed in the DEIS are not mutually exclusive. BOEM may “mix and match” multiple listed Draft EIS alternatives to result in a preferred alternative that will be identified in the Final EIS provided that: (1) the design parameters are compatible; and (2) and the preferred alternative still meets the purpose and need.” This is concerning in the sense that the public cannot effectively understand what is the preferred alternative. It is setting up an opportunity for a bait and-switch when the preferred alternative will not be revealed until the publication of the Final EIS. Principles of transparency and informed decision-making should never be undermined and the public should be fully informed throughout the process.	Based on public input on the Draft EIS and the analysis of impacts of the alternatives, BOEM selected the Preferred Alternative, which is identified in the Final EIS. BOEM did not identify the Preferred Alternative in the Draft EIS, consistent with other offshore wind EISs BOEM has and is preparing, and as allowed by NEPA implementing regulations, so that its selection could be informed by public input.
BOEM-2023-0030-1516-0010	The DEIS provides no real alternatives. To give the appearance of having turbine placement alternatives the DEIS concocts several that place a few turbines one way or the other which have virtually no change in the overall environmental impact of the proposed action as shown in the comparative tables and therefore for NEPA purposes are essentially identical to the proposed action and not true alternatives. That leaves the no action alternative as the only option but in fact since the BOEM isn’t willing to consider any other proposals in alternate areas or modification to the power level and number of turbines in this area it has no choice but to approve the COP in order to further its program goals. So from BOEM’s perspective even the no action alternative cannot be reasonable. To cement its anticipated approval of the project the BOEM presents no category in its scoring system where an impact would be considered unacceptable and under which the project would be disapproved. This leaves an EIS on turbine placement with no	BOEM developed alternatives to address issues raised during the public scoping process. As described in Section 1.2, <i>Purpose and Need for the Proposed Action</i> , the purpose of BOEM’s action is to determine whether to approve, approve with modifications, or disapprove Atlantic Shores’ COP. The preferred alternative occurs within the range of design parameters outlined in the Atlantic Shores South COP.

Comment No.	Comment	Response
	real turbine placement alternatives not exactly what the Act and the subsequent case law intended.	
BOEM-2023-0030-1556-0010	While the Draft EIS includes alternatives that consider quiet foundation types for WTGs and they are included in the project design envelope (PDE) for the Projects we are concerned that the COP appears to dismiss them from consideration for WTG foundations for both projects.[Footnote 24: AS COP Volume I at 3-16.] For Project 1 this is likely because the offtake agreement with New Jersey includes the procurement of monopiles from EEW American Offshore Structures Inc. (EEW) [Footnote 25: See https://www.pjm.com/-/media/planning/services-requests/atlantic-shores-offshore-wind-project-1.ashx] and Atlantic Shores South has already entered into a Pre-Commitment and Capacity Reservation Agreement with EEW for the proposed monopiles.[Footnote 26: AS COP Volume I at 3-16.] The Draft EIS should explicitly mention this condition in Project 1's offtake agreement and include discussion on how or whether the use of quiet foundations for Project 1 could affect the developer's ability to satisfy contractual offtake obligations; without this information stakeholders and the public may be evaluating alternatives that have been already foreclosed.	Atlantic Shores noted in their comments to the Draft EIS that suction bucket and gravity-based foundations may not be commercially viable for the Project within the anticipated construction timeframe due to the lack of fabrication capability and capacity in the region. Additionally, suction bucket foundations will result in the greatest area of habitat conversion due to scour protection and gravity-based foundations would require more seabed preparation to establish a level surface. BOEM has considered the information provided in this comment in the selection of the Preferred Alternative.
BOEM-2023-0030-1713-0004	Item four in violation of NEPA nowhere in the entire process were alternative options considered outside the preselected wind area.	Evaluating an alternate location for the wind energy facility outside of the Lease Area would constitute a new Proposed Action and would not meet BOEM's purpose and need to respond to Atlantic Shores Offshore Wind's proposal and determine whether to approve, approve with modifications, or disapprove the COP to construct, operate and maintain, and decommission a commercial-scale offshore wind energy facility within the Lease Area. BOEM's regulations require BOEM to analyze Atlantic Shores Offshore Wind's proposal to build a commercial-scale wind energy facility in the Lease Area.

Comment No.	Comment	Response
BOEM-2023-0030-1713-0006	Six in violation of NEPA nowhere in the entire process were alternative size projects considered the project size was predetermined by a prior agreement between the developer and the state.	See response to comment BOEM-2023-0030-1713-0004.

N.6.3 Air Quality

Table N.6-3. Responses to Comments on Air Quality

Comment No.	Comment	Response
BOEM-2023-0030-0213-0017	Look at what happened in Texas in the winter of 2021 when the wind turbines froze and again in the summer of 2022 when wind power failed to provide the needed percentage of power to the Texas grid because the wind did not blow at sufficient speed. The need for backup power to meet electrical demand is required with wind power. As part of the PROPOSED ACTION the type of backup power and the associated impacts for this backup power need to be identified and addressed in the DEIS particularly in terms of air quality impacts.	The selection of power facilities that would be dispatched to provide energy in the absence of wind power would be determined by the relevant Independent System Operator. There are no backup or energy storage facilities proposed in the COP.
BOEM-2023-0030-0213-0019	Another key issue that should be addressed in the DEIS in regard to climate change is how much the impacts of increased coal use by China and India will overshadow any reduction in CO2 emissions from the proposed project.	BOEM expects the Proposed Action to lead to reductions in fossil fuel usage in the U.S. The Proposed Action would not affect fossil fuel use in other countries. Any increased use of fossil fuels in other countries would add to the overall human impacts on climate.
BOEM-2023-0030-0213-0031	When compared to the increase in global emissions of greenhouse gases resulting from expanded use of coal by China and India and more recently a return to coal in Europe the Proposed Action in the DEIS will not have significant impact on global climate change. Such use overseas has eliminated all the gains in the U.S. as it switched from coal to natural gas for electric generation. Globally there are short and long term increases in greenhouse gas emissions that will likely far exceed any small reductions resulting from the Proposed Action. Increased use of coal oil natural gas and	BOEM expects the Proposed Action to lead to reductions in fossil fuel usage in the U.S. The Proposed Action would not affect fossil fuel use in other countries. Any increased use of fossil fuels in other countries would add to the overall human impacts on climate.

Comment No.	Comment	Response
	<p>other fossil fuels short term and continued long term use of these fossil fuels by China India and other countries should be considered as part of Foreseeable Impacts for each of the environmental issues and scenarios analyzed in the DEIS for the Proposed Action and for the No Action Alternative.</p>	
BOEM-2023-0030-0213-0032	<p>Similarly alternative use of onshore clean energy technologies will have a Foreseeable Impact combating climate change. Such an analysis is needed. Assumptions should be documented to describe the energy mix in the short term and long term considering conservation fossil nuclear hydrogen anaerobic digestion and other technologies.</p>	<p>As discussed in Section 3.4.1.5 of the EIS, the estimate of avoided emissions is derived assuming the electricity generation mix for 2018. If renewable or other clean energy sources make up more of the electricity generation mix in the future, the amount of avoided emissions would be less.</p>
BOEM-2023-0030-0213-0042	<p>That in the Supplemental DEIS BOEM present a numeric analysis of impacts on greenhouse gas emissions of the Proposed Action and compare those emissions reductions to the increases in global greenhouse gas emissions due to current and projected increases of coal use in Europe India and China and fossil fuel use globally both short term and long term.</p>	<p>Consistent with Council on Environmental Quality guidance, the EIS does not present a comparison of project GHG emissions to global GHG emissions. BOEM expects the Proposed Action to lead to reductions in fossil fuel usage in the U.S. The Proposed Action would not affect fossil fuel use in other countries. Any increased use of fossil fuels in other countries would add to the overall human impacts on climate.</p>
BOEM-2023-0030-0213-0044	<p>That BOEM not “silo” offshore wind energy i.e. limit it to the only clean energy projects in the future but consider onshore clean technology development as having a Foreseeable Impact in the Supplemental DEIS. By doing so foreseeable climate change impacts of the Proposed Action and the No Action Alternative should include the future benefits and reduction of climate impacts from onshore development of clean energy projects. It is likely that said onshore benefits will result in more significant future beneficial changes on climate and these should be recognized in the impact analysis. (When evaluating onshore clean technologies in the Foreseeable Impact analysis please list the assumptions for each technology type for future power generation and transportation listing % assumptions for conservation and for future use of fossil nuclear wind solar hydrogen AD other types of clean energy production. In other words what is the</p>	<p>As discussed in Section 3.4.1.5 of the EIS, the estimate of avoided emissions is derived assuming the electricity generation mix for 2018. If renewable or other clean energy sources (including onshore development) make up more of the electricity generation mix in the future, the amount of avoided emissions would be less.</p>

Comment No.	Comment	Response
	short and long term energy future assumed to be with and without the Proposed Action and what are the Foreseeable Impacts in that instance.)	
BOEM-2023-0030-0563-0004	<p>One of the most serious threats is the cumulative impact of thousands of wind turbines along with thousands of miles of high voltage electromagnetic cabling that will be in our ocean from MA to MD with more to come off the coast of ME NC and SC. This is especially concerning given the wind turbine disturbance to the plankton microscopic organisms in our oceans. The plankton blooms produce oxygen & remove one third to fifty percent of the CO2 from our atmosphere. Not only will the installation of turbines & transmission lines disturb the ocean's benthos but in addition the wind blade movement will change the atmosphere & ocean dynamics leading to alterations in carbon flow. Studies have shown that Wind turbine movement will cause changes to downstream turbulence surface wave energy currents & surface upwelling which will impact the ocean's efficiency in cleaning our atmosphere of CO2.</p>	<p>Hydrographic changes due to the presence of offshore foundations may increase local mixing in the vicinity of the wind farm, which may in turn result in increased nutrient availability for phytoplankton. Because nutrients are often the limiting factor in phytoplankton population growth, particularly with the spring/summer phytoplankton bloom cycle that occurs in this region, increased nutrient availability could lead to larger phytoplankton populations. Additionally, foundations for offshore structures provide vertical hard structure in the photic zone that otherwise would not be present and support the growth of autotrophic micro- and macroalgae, which also remove CO₂ from the water column. As living organisms, phytoplankton themselves respire and thus produce CO₂. The consumption of phytoplankton by filter-feeding organisms (such as those that may colonize WTG foundations and scour protection) plays an important role in the carbon cycle; the loss of phytoplankton to consumers results in the creation of fecal pellets and pseudofeces that fall to the bottom and can eventually become buried, serving as a major CO₂ sink. BOEM is not aware of any scientific studies documenting a decrease in phytoplankton abundance in the presence of other large offshore structures such as oil and gas rigs in locations such as the Gulf of Mexico, which currently has over 4,000 rigs, nor is BOEM aware of any studies documenting increased CO₂ in the presence of these offshore structures.</p> <p>Concerning benthic recovery after wind farm construction activities, estimates of recovery time following disturbance vary by region, species, and type of disturbance. Studies on benthic community recovery at European offshore wind farms after cable emplacement have found recovery times in</p>

Comment No.	Comment	Response
		<p>the range of months to less than 5 years. For example, a study by Daan et al. (2006) found that, 6 months after construction of a wind farm in the Dutch North Sea, the benthic community in sandy areas between monopile foundations was not significantly different in terms of species composition, diversity, density, and biomass from five of six reference locations. Another study by Leonhard and Pedersen (2006) documenting the recovery of the soft-sediment benthic community after the construction of a wind farm in the Dutch North Sea found no significant differences in the infaunal community between pre-construction and 3-year post-construction sampling. Although the post-construction recovery of benthic communities along export and interarray cable routes was not monitored for Block Island Wind Farm in Massachusetts, BOEM documented the recovery of seafloor sediments and found that approximately 62 percent of the export cable scar had recovered within 4 months of cable-laying activities, with the remainder of the export cable scar being partially recovered. Forty-one percent of the interarray cable scar had completely recovered 2 years after cable-laying activities (HDR 2020).</p> <p>Concerning atmospheric dynamics, wind turbines extract kinetic energy from the atmosphere and thus can reduce wind speeds and increase air turbulence downwind of the turbine. These changes can affect waves, currents, and surface upwelling. Existing research predicts that most changes in waves, currents, and surface upwelling will occur within the wind turbine area or within natural variations. However, the affected area can extend farther downwind for large wind farms and depending on local meteorology. Potential changes to local sediment, nutrient, or phytoplankton regimes as a result of these hydrodynamic effects have not been studied extensively (Clark et al. 2014).</p>

Comment No.	Comment	Response
BOEM-2023-0030-0631-0010	Reduction in Onshore & Offshore Emissions from Construction. It's critical that Atlantic Shores reduces its emissions during construction by employing the best available technology for controlling emissions in addition to transportation equipment (vessels) and the "cleanest" sources of energy (least dirty oils). Reduction in impacts to The Brigantine National Wilderness Area	Atlantic Shores has committed to EPMs to avoid, minimize, and mitigate air quality impacts of the Project. These measures include, among others, compliance with all applicable emissions and fuel-efficiency standards to minimize combustion emissions and associated air quality impacts, as discussed in COP Volume II, Section 3.1.2.7 (Atlantic Shores 2024) and in the EIS Appendix G, Table G-1, under AQ-01 through AQ-05.
BOEM-2023-0030-0752-0002	Our biggest concern is the wind farm construction process itself. It's critical that Atlantic Shores reduces its emissions during construction by employing the best available technology for controlling emissions in addition to transportation equipment (vessels) and the "cleanest" sources of energy (least dirty oils).	Atlantic Shores has committed to EPMs to avoid, minimize, and mitigate air quality impacts of the Project. These measures include, among others, compliance with all applicable emissions and fuel-efficiency standards to minimize combustion emissions and associated air quality impacts, as discussed in COP Volume II, Section 3.1.2.7 (Atlantic Shores 2024) and in the EIS Appendix G, Table G-1, under AQ-01 through AQ-05.
BOEM-2023-0030-0916-0025	On a PJM grid-wide basis it does not calculate what the greenhouse gas (GHG) emissions effect will be from replacing dispatchable power with non-dispatchable power. As discussed in the Enclosures regional air emissions including GHG are more likely to increase than decrease because of the need to create more dispatchable power in the western part of the PJM grid.	As noted in the discussion of a study by Katzenstein and Apt (2009) in FEIS section 3.4.1.3, to the extent that dispatchable power is replaced with non-dispatchable power, the emission reductions could be less than the estimates in the EIS. However, it is unlikely that total emissions from the grid would increase. The near-real-time selection of energy sources to provide electricity to the grid is the responsibility of the regional Independent System Operator.
BOEM-2023-0030-0916-0026	It alludes to having an impact on global warming but makes no scientific connection to that. Contradicting its allusion the BOEM itself states in the Vineyard Wind EIS that these projects "will have no collective impact on global warming"	No single project can reduce GHG emissions enough to have a measurable impact by itself on climate change. The GHG emission reductions from the Proposed Action would contribute incrementally, in combination with all other GHG reductions, toward slowing the rate of climate change.
BOEM-2023-0030-0916-0027	The reductions in Clean Air Act criteria air pollutants are minor and could be achieved by other measures at far less cost and environmental damage	The project would lead to reductions not only in emissions of criteria pollutants but also in GHG emissions. NEPA does not require cost/benefit analysis of emissions reductions.
BOEM-2023-0030-0916-0028	It implies that sea level rise will be mitigated but does not say how or by how much. In fact the project will not reduce	No single project can reduce GHG emissions enough to have a measurable impact by itself on sea level rise. The GHG

Comment No.	Comment	Response
	<p>future sea level rise at all. Because sea level rise is fundamentally a heat transfer problem depending on both temperature difference and time the project will not reduce future sea level rise at all but only delay whatever sea level rise is coming. By our calculations using the greenhouse gas (GHG) reductions in the DEIS and International Panel on Climate Change (IPCC) data that delay would be only nine days for this project hardly worth a \$5 billion investment.</p>	<p>emission reductions from the Proposed Action would contribute incrementally, in combination with all other GHG reductions, toward slowing the rate of sea level rise.</p>
BOEM-2023-0030-0916-0040	<p>Microclimate changes at the shore. It does not include an analysis of potential reductions in shore wind speed (shown herein to be on the order of a 26 percent reduction for large turbines) and increased temperature and humidity as a result of wind energy extraction from the turbines which would upset shore goers</p>	<p>Wind turbines extract kinetic energy from the atmosphere and thus can reduce wind speeds downwind of the turbine. Wind turbines increase vertical mixing in the atmosphere and thus can increase (or decrease) air temperatures and humidity downwind depending on local meteorological conditions. However, these effects dissipate with distance downwind. Because of the distance of the Project from land (approximately 16 miles from the center of the WTG array), substantial effects on wind speed, temperature and humidity are unlikely to occur over land.</p>
BOEM-2023-0030-0916-0216	<p>The DEIS should explain how the 5.88 million metric tons of annual greenhouse gas (GHG) reduction on page 3.4.1-15 was calculated. It should explain why this increased from the 2.6 million tons when the project was approved by the NJ BPU. The estimate does not appear to have considered GHG emissions created in the mining of materials for or the manufacture of transport or installation of turbine components or from the greater economic activity that the project claims. Also GHG changes need to be addressed on a grid-wide basis as discussed below. If so the estimate of greenhouse gas from the project is incomplete. Climate change is a global phenomenon caused by greenhouse gas emissions from all over the world. Therefore the estimate must include emissions caused by the project from cradle to grave to get a relevant number either positive or negative.</p>	<p>Section 3.4.1.5 of the EIS describes the method for the calculation of grid-wide avoided emissions. Information has been added to the EIS, Section 3.4.1, <i>Air Quality</i>, describing life-cycle (cradle-to-grave) considerations and providing references to recent life-cycle analyses of offshore wind.</p>

Comment No.	Comment	Response
BOEM-2023-0030-0916-0217	For example the mining of materials including rare earth metals for fabrication of the blades and other components is extensive requiring the operation of considerable excavation machinery and equipment with attendant emissions of greenhouse gases. The fact that this may occur outside the US is not relevant to the global number required. The same is true for the fabrication of the wind turbine components in Europe and Asia. The DEIS must disclose estimates of GHG emissions from these mining and fabrication activities.	Information has been added to the EIS, Section 3.4.1, <i>Air Quality</i> , describing life-cycle considerations and providing references to recent life-cycle analyses of offshore wind.
BOEM-2023-0030-0916-0218	With respect to the specific estimates in the DEIS it appears that it has only calculated the displacement of local electric generating sources in New Jersey. That would likely mean the displacement of some natural gas usage with wind power. However New Jersey is part of the PJM grid which must dispatch power at any time from one place to another depending on demand. In this case New Jersey has replaced such always available natural gas dispatchable power with intermittent power which cannot be reliably used in the rest of the grid. That means there will likely have to be increased baseload or dispatchable power generated in the western part of the PJM grid which relies more on coal CC1. Other studies of that have conclude that the net reductions grid-wide are very small CC3. So the net result of all this could be that greenhouse gas and other air emissions in the region decrease little and could actually increase. This is a critical issue to be resolved because it brings in to question what the actual benefit of the project is.	The calculation of avoided emissions uses emission factors, provided in the EPA eGRID model, for the Reliability First Corporation – East grid region which includes not only New Jersey but Pennsylvania, Delaware, and Maryland. To the extent that dispatchable power is replaced with non-dispatchable power, the emission reductions from the Project could be less than the estimates in the EIS. However, it is unlikely that total emissions from the grid would increase. The near-real-time selection of energy sources to provide electricity to the grid is the responsibility of the regional Independent System Operator.
BOEM-2023-0030-0916-0219	This analysis is not to suggest that GHG reduction should not be pursued but before claiming a project benefit BOEM should make clear to the public the global scope of this problem and the need to first get other countries aboard so the earth heads towards a temperature rise less than 2.5 degrees which as seen in Exhibit H would actually constrain sea level rise. By proposing more modest and practical GHG reductions (40% vs 90 %) the U.S. could perhaps get other	BOEM expects the Proposed Action to lead to reductions in fossil fuel usage in the U.S. BOEM does not take a position on potential joint efforts of the U.S. with other countries which is a national-level policy issue.

Comment No.	Comment	Response
	countries to buy- in and overall global GHG reductions would actually be greater CC2This sea level rise analysis should be included in the DEIS. If BOEM disagrees with it then it must provide its own.	
BOEM-2023-0030-0919-0002	turbine gear boxes use FS6 the worst of all greenhouse emission offenders.	The WTGs do not contain SF ₆ . The SF ₆ would be contained in the switchgears on the OSSs. BOEM has proposed a mitigation measure (Table 3.4.1-14) in which BOEM would require Atlantic Shores to use switchgear that does not contain SF ₆ to the extent practicable based on technical, economic, and supply chain considerations.
BOEM-2023-0030-1226-0032	Air Quality. Atlantic Shores asserts that characterizing impacts to air quality as a result of the Proposed Action as “minor to minor beneficial” is not representative of the beneficial impacts presented in the DEIS. It is a not appropriate to characterize these benefits to air quality as “small and measurable effects” but rather “Regional or population-level effects”. The proposed Projects are estimated to result in 5.85 million metric tons of net avoided CO ₂ emissions annually and a net of 175 million tons of avoided CO ₂ over the life of the project even after accounting for emissions associated with construction and operations and maintenance.[Footnote 28: Refer to DEIS Table 3.4.1-7 Net emissions of CO ₂ for each alternative.] For context New Jersey’s annual net greenhouse gas emissions were 91 million metric tons of CO ₂ e in 2020[Footnote 29: https://dep.nj.gov/ghg/nj-ghg-inventory/]. The Atlantic Shores South Projects would avoid emissions equivalent to 6.4% of the net CO ₂ e emissions from all sources in New Jersey a state of more than 9 million people[Footnote 30: https://www.census.gov/quickfacts/NJ]. BOEM estimates the social benefit of the avoided greenhouse gas emissions from the Projects at \$3.5 billion to more than \$21 billion.[Footnote 31: Refer to DEIS Table 3.4.1-6] Atlantic Shores asserts that these exceed a reasonable threshold for “Small and measurable effects.” Table 3.4.1-2 of the DEIS defines impact	The distinctions among the impact levels "minor," “moderate,” and "major" are qualitative evaluations. Because pollutant emissions levels alone do not determine concentrations, setting an impact level based on emissions is subjective.

Comment No.	Comment	Response
	<p>levels for Beneficial Impacts as “Decreases in ambient pollutant concentrations due to Project emissions would be detectable” for Minor to Moderate impact levels and as “Decreases in ambient pollutant concentrations due to Project emissions would be larger than for minor to moderate impacts” for Major impact levels. While these definitions are not specific objective benefits due to improvements in air quality as a result of the Projects as outlined in the DEIS are exceedingly clear and comfortably meet a reasonable definition of Major beneficial impact. Atlantic Shores encourages BOEM to revise the finding of impacts to air quality as Major beneficial in the FEIS.</p>	
BOEM-2023-0030-1305-0003	<p>I suggest forwarding the links to your experts and do more research before any more irreversible destruction is done to our ocean's ecosystem marine life and us humans.CO2 Emissions Offshore wind will not necessarily decrease CO2 emission in fact it may increase CO2 emissions.https://www.cfact.org/2023/05/31/offshore-wind-may-not-reduce-co2-emissions/?fbclid=IwAR0QokTXk-j3u6YhpTpn2aeWyQqVh00v4hAWvcefmX7l3iQk7Q6JfA4jCicSoudLow-Frequency Wind Turbine Noise & Vibration will cause sea animal harm and deathhttps://stopthesethings.com/2021/02/04/cruel-unusual-punishment-400-french-cows-succumb-to-low-frequency-wind-turbine-noise-vibration/?fbclid=IwAR1lZuJZDTwXYIyoWHT-I7_SlznWdmRRmq8Z4O9lOfL2YnUtMvc3zE47ov0AAdverse health effects of industrial wind turbines will surely happen now in the animalshttps://www.ncbi.nlm.nih.gov/pmc/articles/PMC3653647/?fbclid=IwAR0hFpMI_xhJtW_xTXBFf_6FRJPO9NY7pfeTrIm4eWZVi4h3mTn5YqStmd8ChemicalsMassive toxic wastes from wind power plantshttps://energyeducation.se/massive-toxic-wastes-from-wind-power-plants/?fbclid=IwAR39TUct6ZLXviOuU8UyVlcqiVkk4vH_EcQe1siOrpnS_EGB37NKkcKXYt8SonarResearch is showing</p>	BOEM will review and consider the issues raised in the documents at these links.

Comment No.	Comment	Response
	<p>strandings of sealife is capable at water decibel levels used by mapping sonar (203 db (water)).https://news.mongabay.com/2009/04/study-confirms-that-sonar-can-cause-deafness-in-dolphins/?fbclid=IwAR0hFpMI_xhJtW_xTXBff_6FRJPO9NY7pfeTrIm4eWZVi4h3mTn5YqStmd8Direct correlation of NJ Whales deaths to the use of sonar mapping.https://www.facebook.com/photo?fbid=10226743696371528&set=a.2726018082654Right Whale Biologist warns that without new regulations right whales will be 'functionally extinct' by 2035 They can harm and kill 311% of the remaining soon to be extinct Northern Atlantic Right Whale.https://www.mainepublic.org/environment-and-outdoors/2023-04-18/biologist-warns-that-without-new-regulations-right-whales-will-be-functionally-extinct-by-2035?fbclid=IwAR1284kcAAN7DKGaoNIs2FKSj9DDa0cl5YbSJT3B8KeqNrTRRTSA_kLg_EBirdsWindfarms kill 10-20 times more birds than previously thoughthttps://windmillskill.com/blog/windfarms-kill-10-20-times-more-previously-thought?fbclid=IwAR2dPwDAUeoBQKv4WKuFWTMKQ1cLjuWZ9vw_UqQHZxWle13SfIAAJOI6370Misc. Climate Changing: Germany's 30000 Wind Turbines Causing Local Rainfall Droughtshttps://stopthesethings.com/2023/06/09/climate-changing-germanys-30000-wind-turbines-causing-local-rainfall-droughts/?fbclid=IwAR3R2BemV5wRANY1Xwlg_vMQhqwKT-JFSzKc5bellcFZv6LQXO46BguC828</p>	
BOEM-2023-0030-1404-0015	<p>It is my understanding that the wind turbines will change the weather patterns disrupting the sea breeze and potentially causing more rain along the coast. What steps will BOEM take to prevent the wind projects from disrupting the local weather patterns? Will the reduction of the sea breeze have a negative impact on the coastal climate? If so what alternative proposals are offered to mitigate this problem?</p>	<p>Wind turbines extract kinetic energy from the atmosphere and thus can reduce wind speeds downwind of the turbine. Wind turbines increase vertical mixing in the atmosphere and thus can increase (or decrease) air temperatures and humidity downwind depending on local meteorological conditions. However, these effects dissipate with distance downwind. Because of the distance of the Project from land (approximately 16 miles from the center of the WTG array),</p>

Comment No.	Comment	Response
		substantial effects on wind speed, temperature and humidity are unlikely to occur over land. WTG arrays also, by altering vertical and horizontal air circulation, can affect precipitation, leading to an increase in precipitation upwind of the WTG array and a decrease downwind. However, studies indicate that the changes in precipitation are very small.
BOEM-2023-0030-1404-0018	In the DEIS Atlantic Shores claims that the ocean wind turbines will reduce carbon emissions in the production of electricity. Does this calculation account for the large amount of fossil fuels required in the production installation and continuous maintenance of the wind turbines? If not what is the correct calculation when these factors are properly included? It's my understanding that after you factor in the amount of fossil fuels required in the production installation and continuous maintenance of the wind turbines they actually have little to no impact on reducing the Country's carbon emissions. If it's true that these ocean wind farms do little to nothing to reduce the Nation's carbon emissions then why would any governing agency allow these projects to move forward? These ocean wind farms seem like nothing more than just a mass industrialization of the ocean with no real environmental benefits	The analysis accounts for fossil fuel usage during construction and operations and maintenance. Table 3.4.1-7 shows the net CO _{2e} emissions of the project over its lifetime and demonstrates a net reduction.
BOEM-2023-0030-1511-0002	The U.S. Environmental Protection Agency reported "SF ₆ is the most potent greenhouse gas known. It is 23500 times more effective at trapping infrared radiation than an equivalent amount of CO ₂ and stays in the atmosphere for 3200 years." The agency also notes a relatively small amount can "have a significant impact on global climate change" and that leaks can occur during "installation maintenance and servicing and decommissioning" of turbines. SF ₆ leakage has already reared up. As Bonvie reports "In June of 2022 80 workers at the Seagreen offshore wind area in the North Sea were forced to evacuate their rig when around 24 pounds of SF ₆ leaked as revealed by a representative of an EU union group to the media. The question remains he noted of how	<p>The Project WTGs do not contain SF₆. The SF₆ would be contained in the switchgears in the substations.</p> <p>Atlantic Shores is proposing construction of up to 4 large, 5 medium, or 10 small OSSs. However, a small OSS would contain less SF₆ than a large OSS, so the total amount of SF₆ utilized would be similar regardless of the OSS size. Using the values provided in the COP Volume 1, Section 7.0, the maximum amount of SF₆ used in OSSs for both projects would come from the use of 5 medium OSS with up to 4,300kg of SF₆ each, for a total of 21,500 kg of SF₆ for all 5 OSS.</p> <p>BOEM has proposed a GHG mitigation measure (Table 3.4.1-16) in which BOEM would require Atlantic Shores to use</p>

Comment No.	Comment	Response
	<p>many such leaks go unreported.” As to how much sulfur hexafluoride would come into play within N.J.’s projected turbine farms Ørsted’s Ocean Wind site will incorporate 243 pounds per wind turbine generator with large amounts going into each of up to three offshore substations. Atlantic Shores disguising SF6 as merely a “switchgear electrical insulator/arc suppressor” would also use 243 pounds of the gas per turbine with its offshore substations using up to 9480 pounds. An onshore substation could use up to 11000 pounds of SF6. With these concerns I ask that the Wind Farms do not get approved for perm.</p>	<p>switchgear that does not contain SF₆ to the extent practicable based on technical, economic, and supply chain considerations.</p>
BOEM-2023-0030-1511-0003	<p>I would also expect an answer to the Cape May county resolution: In the resolution mention was made of the United States Bureau of Ocean Energy’s admitting “the construction of multiple offshore wind projects along the East Coast of the United States will have little to no positive impact on global warming and climate change.” Also mentioned in the county’s diatribe was a Harvard University study foreseeing offshore turbine arrays reducing sea breezes leading to warmer sea surface temperatures.” The Harvard study also concludes that the construction and operation of offshore wind industry electric power generation facilities will have a more substantial negative impact on climate change than oil and coal over the next decade”</p>	<p>The commenter appears to be referring to Cape May County Resolution No. 314-23, “Resolution Opposing Orsted’s Wind Projects, Ocean Wind 1 and Ocean Wind 2,” dated May 23, 2023. This resolution pertains to the Ocean Wind 1 and 2 projects and is not a comment on the Atlantic Shores South EIS.</p>
BOEM-2023-0030-1516-0013	<p>The DEIS fails to explain in its calculation of reduced emissions whether increases in offshore wind replaces nuclear coal or natural gas produced energy. The assumption will have a significant impact on the reduction of emissions.</p>	<p>As discussed in section 3.4.1.5 of the EIS, the calculation of reduced emissions is based on the existing electric grid. In 2020, the generation mix of the PJM Interconnection, the regional grid that serves New Jersey, was approximately 40 percent natural gas, 34 percent nuclear, 19 percent coal, 3 percent wind, 2 percent hydroelectric, and 2 percent other sources, on an annual average basis (Monitoring Analytics 2021). If renewable or other clean energy sources make up more of the electricity generation mix in the future, the amount of avoided emissions would be less.</p>

Comment No.	Comment	Response
BOEM-2023-0030-1516-0017	The DEIS however does not address the global cost/impact side of the ledger even though such indirect effects must be studied. (See 40 C.F.R. §§ 1502.16 1508.8 1508.25.) In the case of ASOWNJP this would require accounting for air quality and other impacts on the wider world resulting from the mining refining manufacturing and transporting the huge amounts of rare earth elements and critical minerals vital to the manufacturing and functioning of the magnets used in the ASOWNJP's offshore wind turbines the cables and stations used to transmit and transform the electricity produced from turbine to final destination and the battery back-up Dominion is planning to construct to maintain electric power supply and reliability from its intermittent ASOWNJP project.	<p>Information has been added to the EIS, Section 3.4.1, <i>Air Quality</i>, describing life-cycle considerations and providing references to recent life-cycle analyses of offshore wind.</p> <p>There are no energy storage facilities proposed in the COP. If energy storage were used, it would be subject to applicable federal, state, and local review and permitting.</p>
BOEM-2023-0030-1516-0030	According to Construction Timelines in Atlantic Shores South and Orsted Ocean Wind 1 Projects construction plans many of the construction phases will be running currently for both projects. Construction will continue to increase air pollution as Atlantic Shores North and Ocean Wind 2 projects are constructed. Reporting is absent for increased air pollution and there is no mention of on shore road traffic vehicles and their pollution. On shore pollution from construction and maintenance vehicles is equally ignored.	Cumulative impacts of these facilities are discussed in sections 3.4.1.4 and 3.4.1.5 of the EIS. The emissions calculations include onshore vehicles.
BOEM-2023-0030-1516-0054	The DEIS fails to address that the project will reduce breeze about 26% wave and higher temperature and humidity at the shore are expected based on a BOEM study for NY; no study done for NJ.	Wind turbines extract kinetic energy from the atmosphere and thus can reduce wind speeds downwind of the turbine. Wind turbines increase vertical mixing in the atmosphere and thus can increase (or decrease) air temperatures and humidity downwind depending on local meteorological conditions. However, these effects dissipate with distance downwind. Because of the distance of the Project from land (approximately 16 miles from the center of the WTG array), substantial effects on wind speed, temperature and humidity are unlikely to occur over land.

Comment No.	Comment	Response
BOEM-2023-0030-1516-0060	The project will generate unacceptable air quality impacts in Atlantic County which has one of the lowest levels of air pollution in NJ.	The air quality analysis in the EIS estimates that the Project would not lead to violation of the NAAQS or New Jersey AAQS.
BOEM-2023-0030-1516-0066	The DEIS fails in its stated purpose of reducing greenhouse gas (GHG) emissions and stemming climate change and the Climate Change Benefit is often cited but never specified.	The GHG analysis in the EIS estimates that, to the extent that energy produced by the Project would displace energy produced by fossil-fueled power plants, GHG emissions would be reduced.
BOEM-2023-0030-1516-0078	Both the BOEM DEIS and AS COP refer to the impact that the project will have in measurement of “emissions/car.” The description of the reduction has no relevance to the global problem of climate change and is nothing other than an alluring marketing catch phrase. If BOEM was more rigorous in their analysis they would have answered the question of how this would impact total global emissions. The chart below shows the impact of offshore projects off the New Jersey and based on NJ Governor’s goal of 11 GW by 2040. [Bold and Underlined: Table D. A.2.1 in the BOEM ASOWNJ DEIS Offshore Wind Development Activities on the US East Coast totals 49 GW of offshore wind. This only equates to 98 Tons of CO2 reduction each year which is .0000003% of total annual global emissions.]	The metric of emissions per car is provided to give the reader a sense of the scale of the emissions reductions, and is consistent with Council on Environmental Quality guidance. Table 3.4.1-7 in the EIS presents the estimated net GHG reductions. The commenter’s statement that development of 49 GW of offshore wind would reduce CO2 emissions by 98 tons is inaccurate. For example, as shown in Table 3.4.1-7, the Atlantic Shores South project which has a generating capacity of 2,837 Mw (2.837 GW) would reduce GHG emissions by almost 5,900,000 tons per year.
BOEM-2023-0030-1516-0080	Aside from the water polluting toxic sludge produced during the refining process to extract and purify the trace minerals from raw ore the mining itself produces dust and the factories refining it emit air pollution. The fact that all this air pollution occurs thousands of miles away in countries with little or no environmental protection laws and limited if any enforcement —certainly no laws or policing comparable in stringency to those of the in the United States—should not exempt BOEM from acknowledging analyzing and disclosing the air pollution resulting from the ASOWNJ project. These emissions contrary to BOEM’s claims based on its limited accounting are likely to be major and negative not minor moderate or beneficial.	Information has been added to the EIS, Section 3.4.1, <i>Air Quality</i> , describing life-cycle considerations and providing references to recent life-cycle analyses of offshore wind.

Comment No.	Comment	Response
BOEM-2023-0030-1516-0081	In the light of the federal government’s stated position that EISs for fossil fuel-related energy and transportation projects must account for their construction and operational emissions the ASOWNJ EIS must be held to the same standard. And since the vast majority of the emissions from activities devoted to discovering acquiring refining producing finished products and transporting the vast majority of the raw material and finished products used in assembled turbines will be produced far away it is arbitrary and capricious for BOEM to limit its accounting for air emissions to “the airshed within 25 miles (40 kilometers) of the Wind Farm Area (corresponding to the OCS permit area) and the airshed within 15.5 miles (25 kilometers) of onshore construction areas and ports that may be used for the Project.” The ASOWNJ project will have profound emission implications far beyond the area considered by BOEM and assessed in the DEIS.	The EIS accounts for all construction and operational emissions of the Project whether within or outside of the defined analysis area quoted by the commenter. The emissions estimates in the EIS do not include emissions from raw materials extraction, materials processing, and manufacturing of components, i.e., full life-cycle analysis. However, life cycle considerations are discussed in Section 3.4.1.5 of the EIS. As indicated in Section 3.4.1.5, although wind energy has higher upstream emissions than many other generation methods, its life-cycle GHG emissions are orders of magnitude lower than from other generation methods.
BOEM-2023-0030-1520-0006	The proposed turbines reduce the wind coming from the ocean by 26% and waves 1.5 ft and extract energy from the cooling ocean breezes resulting in a warmer “micro climate” on Long Beach Island.	Wind turbines extract kinetic energy from the atmosphere and thus can reduce wind speeds downwind of the turbine. Wind turbines increase vertical mixing in the atmosphere and thus can increase (or decrease) air temperatures downwind depending on local meteorological conditions. However, these effects dissipate with distance downwind. Because of the distance of the Project from Long Beach Island (approximately 19 miles from the center of the WTG array to the nearest point on Long Beach Island), substantial effects on wind speed and temperature are unlikely to occur over Long Beach Island.
BOEM-2023-0030-1523-0045	This is consistent with the findings of a 2018 study (which BOEM did not cite) where researchers at the Harvard School of Engineering determined that the impacts to air quality and greenhouse gas emissions are expected to increase over the next decade as a result of the construction of wind energy projects while also warming surface temperatures over the next century and reducing cooling sea breezes. ⁵¹ The	The commenter is citing Miller and Keith (2018). This study modeled a scenario of 460 GW of wind energy which is about 2.4 times larger than the U.S. Department of Energy’s projection of the 2050 U.S. wind energy generation rate. The turbines were assumed to be sited in the windiest one-third of the continental U.S. (an area extending roughly from Montana east to Ohio and from North Dakota south to

Comment No.	Comment	Response
	<p>Harvard researchers found that the warming effect in the continental U.S. caused by wind turbines is actually larger than the effect of reduced emissions for the first century of its operation. This is unacceptable to Cape May County which tends to exhibit marginally cooler temperatures than landlocked areas which helps drive visitors to our beaches on hot and sunny days.</p>	<p>Texas). The modeling results showed that climate warming was generally strongest near the center of the wind farm region, but climate changes were also predicted well outside the wind farm region, including along the East Coast during daytime, where average daytime temperatures were predicted to be 0.1° C–0.5° C (0.2° F–0.9° F) cooler.</p>
BOEM-2023-0030-1523-0046	<p>BOEM cited that “Modeling in the North Sea demonstrated that offshore wind farms have the potential to reduce wind speed at the water surface and in turn influence temperature and salinity distribution in the wind farm area (Christiansen et al. 2022).” While BOEM concluded that in comparison to long-term variation in temperature and salinity wind farm effects were relatively small the study did not reflect the vast amounts of offshore wind energy that BOEM is currently anticipating. BOEM then acknowledges that “impacts on stratification strength at a large scale and atypical mesoscale variations in current may occur” (Christiansen et al. 2022). Finally BOEM cites a study (Golbazi et al. (2022)) which modeled the effects of 10 MW turbines in WEAs off the eastern coast of the United States and found that wind speed among other meteorological metrics would be reduced at the surface.</p>	<p>Wind turbines extract kinetic energy from the atmosphere and thus can reduce wind speeds downwind of the turbine. However, this effect is highly dependent on atmospheric stability conditions and dissipates with distance downwind. Because of the distance of the Project from land (approximately 16 miles from the center of the WTG array), substantial effects on wind speed are unlikely to occur over land. BOEM acknowledges that potential effects on wind speed and hydrodynamic conditions could be larger for conditions of much greater offshore wind energy development.</p>
BOEM-2023-0030-1542-0012	<p>BOEM must also analyze and mitigate impacts to air and water quality from construction and maintenance vehicles including pollutant emissions and chemical leachates. [Footnote 21: BOEM. Environmental Risks Fate and Effects of Chemicals Associated with Wind Turbines on the Atlantic Outer Continental Shelf. 2013. Available at: www.boem.gov/ESPIS/5/5330.pdf; Footnote 22: Sotaventogalicia. Nd. Non toxic biodegradable and renewable lubricants for wind turbines. Available at: www.sotaventogalicia.com/en/projects/non-toxic-biodegradable-and-renewable-lubricants-for-wind-turbines].</p>	<p>Emissions from construction and O&M as well as the potential for chemical spills are discussed in section 3.4.1.5 of the EIS. The emissions calculations include construction and O&M vehicles.</p> <p>Atlantic Shores considers numerous factors in the selection of technology and suppliers for its Projects, including technical suitability and maturity, safety, environmental, and community considerations, installation, operations, and maintenance considerations, economic and supply chain factors, and supplier qualifications. As of May 2024, Atlantic Shores is still in the process of evaluating available</p>

Comment No.	Comment	Response
		technology and suppliers for use on its Project and is not able to share further information.
BOEM-2023-0030-1555-0006	Given the global nature of climate change are there more impactful ways (ie more effective ways to reduce CO2 per dollar) to spend NJ taxpayer money to fight climate change?	Decisions on the allocation of taxpayer money are the responsibility of the State of New Jersey. NEPA does not require cost effectiveness analysis of the project relative to other ways to reduce GHG emissions.
BOEM-2023-0030-1556-0026	We are pleased that BOEM has expanded its analysis of offshore wind's beneficial climate impacts to include the social cost of greenhouse gas (GHG) emissions. As the Draft EIS indicates the Biden Administration issued interim guidance to instruct agencies on how to account for the climate impacts of projects.[Footnote 44: AS DEIS at 3.4.1-14; Council of Environmental Quality National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emissions and Climate Change 88 Fed. Reg. 1198 (Jan. 9 2023) (stating that in NEPA analyses agencies should "provide additional context for GHG [greenhouse gas] emissions including through the use of the best available social cost of GHG (SC-GHG) estimates to translate climate impacts into the more accessible metric of dollars allow decision makers and the public to make comparisons help evaluate the significance of an action's climate change effects and better understand the tradeoffs associated with an action and its alternatives.".)] This benefit analysis has demonstrated the potentially immense benefits of offshore wind with a range of \$1.734 billion to \$22.069 billion in benefits from the Projects.[Footnote 45: AS DEIS Table 3.4.1-6 at 3.4.1-17.] We urge BOEM to continue to use the social cost of GHG analysis in future NEPA analyses and reiterate that this analysis highlights how beneficial responsible renewable energy projects can be.	BOEM will continue to use the social cost of GHG analysis in future NEPA analyses.
BOEM-2023-0030-1566-0005	Also SF6 defined as "one of the most potent greenhouse gases we know (with) its high atmospheric stability and ability to trap infrared radiation...(is) far more potent at warming the earth's atmosphere than CO2 over longer periods of	The GHG emissions calculations in the EIS account for SF ₆ . BOEM has proposed a mitigation measure (Table 3.4.1-14) in which BOEM would require Atlantic Shores to use switchgear

Comment No.	Comment	Response
	<p>time.” To cite the EPA with an “atmospheric lifetime of 3200 years” ...”a relatively small amount of SF6 can have a significant impact on global climate change.” Also “Gas-insulated substations also use a significant amount of SF6 ”. Much attention is given to turbines but let’s not overlook the add’l threat posed by substation sizes and quantities exposed and embedded in one of our most precious resources.</p>	<p>that does not contain SF₆ to the extent practicable based on technical, economic, and supply chain considerations.</p>
BOEM-2023-0030-1599-0005	<p>We recommend being more specific about the size of this threat relative to the anticipated climate benefits of the project. Using figures from the DEIS we estimate that a theoretical worst case scenario in which the entirety of the SF6 charge was released into the atmosphere would erase about 2 years of the net emissions savings that are expected from this project. We acknowledge that this scenario is highly unlikely—given the comprehensive security measures that are described in the DEIS—and that two years is small in comparison to the full expected 30+ year life cycle for these WTG’s. However if an alternative exists and the main consideration is simply that of cost then we see no reason to support the continued production of sulfur hexafluoride.</p>	<p>The GHG emissions calculations in the EIS account for SF₆. BOEM has proposed a mitigation measure (Table 3.4.1-14) in which BOEM would require Atlantic Shores to use switchgear that does not contain SF₆ to the extent practicable based on technical, economic, and supply chain considerations.</p>
BOEM-2023-0030-1599-0009	<p>We recommend that the next version of the environmental impact statement include clarifying language on the projected impact of this project on climate change. We have found that a lot of confusion has stemmed from the use of the word ‘negligible’ to describe the climate benefits of OSW. We know that it’s not because of any inefficiency on the part of the wind farms: it’s because the problem of climate change is so large. The emissions savings of Atlantic Shores described in the EIS will be massive yet represent only a 0.01% reduction in global emissions. Even with ambitious plans that employ some of the most efficient technologies en masse we are barely making a dent in the global problem.</p>	<p>The EIS states that the reduction in GHG emissions due to the Project “would contribute incrementally to reducing climate change.”</p>
BOEM-2023-0030-1599-0010	<p>We know that this is what BOEM means when it calls the climate impact of a project ‘negligible’. However people have taken this language to mean that the project is barely</p>	<p>EIS Section 3.4.1-5 reports estimated “payback” periods.</p>

Comment No.	Comment	Response
	<p>breaking even on carbon emissions even though simple math shows that this is not the case. To help prevent confusion we suggest that the EIS include ‘payback’ period calculations that show how little time it takes to payback the emissions that are expended to manufacture and construct these wind farms .Offshore wind will be pivotal to the energy transition in New Jersey and across the nation and this critical infrastructure can be responsibly developed with the use of science-based best practices robust stakeholder engagement and comprehensive environmental planning review and monitoring. To that end we appreciate BOEM’s consideration of our recommendations towards a successful environmentally responsible offshore industry.</p>	
BOEM-2023-0030-1606-0003	<p>However COA contends that the actual emissions assessment done by BOEM is not inclusive having left out many sources of GHG emissions discussed below. If the true emissions cradle to grave footprint of the project were assessed and included [Bold and Italics: the minor possible] impact may disappear completely.</p>	<p>Information has been added to the EIS, Section 3.4.1, <i>Air Quality</i>, describing life-cycle considerations and providing references to recent life-cycle analyses of offshore wind.</p>
BOEM-2023-0030-1606-0007	<p>While the monopolies appear to be included the emissions from procuring processing and manufacturing most other OSW power plant materials facilities cables OSS and other structures both on and offshore do not appear included. For example these include but are not limited to: Mining production and processing of rare earth metals for the OSW power plant Mining and processing materials for HVDC and HVAC cables including copper Mining production and production of turbines Wind blades materials procurement manufacturing and maintenance as well as disposal as they need to be replaced often and cannot be recycled and turbines cables onshore construction activities and manufacturing as well as secondary impacts as a result of the onshore development.</p>	<p>Information has been added to the EIS, Section 3.4.1, <i>Air Quality</i>, describing life-cycle considerations and providing references to recent life-cycle analyses of offshore wind.</p>

Comment No.	Comment	Response
BOEM-2023-0030-1606-0008	As stated above the DEIS and COP falsely represent the lifecycle (cradle to grave) emissions of the projects. In fact the limited true assessment of the emissions is as if BOEM is putting the “thumb on the scale” and misrepresenting the full cradle to grave GHG emission impacts evaluated in the DEIS in consideration of meeting the Purpose and Need.	Information has been added to the EIS, Section 3.4.1, <i>Air Quality</i> , describing life-cycle considerations and providing references to recent life-cycle analyses of offshore wind.
BOEM-2023-0030-1606-0009	Another example of not providing full disclosure or assessment of offshore wind development on emissions is the omission of the use of and likelihood of leakage of sulfur hexafluoride (“SF6”) from cables or other project construction operation and maintenance. Any leakage will add substantially to GHG. In an August 10 2022 letter by USEPA Region 2 reviewing the NY Bight Wind Area Energy Programmatic Environmental Impact Statement (“PEIS”) the agency identified numerous issues concerns. COA submits this letter for inclusion to these comments and highlights the following statement:[Italics: “Emissions of sulfur hexafluoride (SF6) are expected from gas-insulated switchgears on the wind turbine generators (WTG) and electric service platform (ESP). SF6 is the most potent known greenhouse gas. Approximately 23000 times more effective at trapping infrared radiation than carbon dioxide SF6 is also a very stable chemical with an atmospheric lifetime of 3200 years. Thus a relatively small amount of SF6 can have a significant impact on global climate change. The EPA recommends that best available technology would warrant consideration of available switchgears that are SF6-free (“clean-air”). If SF6-free switchgears are determined to be technically infeasible BOEM should consider mitigation requirements for monitoring and leak detection limiting leaks to less than 1% especially given that there are projected to be a significant number of switchgears at each project and the switchgears will be operating in a harsh marine environment.”][Footnote 10: Letter from US Environmental Protection Agency Region 2 Office to Bureau of Ocean Energy Management August 10 2022.]]	The GHG emissions calculations in the EIS account for SF ₆ . BOEM has proposed a mitigation measure (Table 3.4.1-14) in which BOEM would require Atlantic Shores to use switchgear that does not contain SF ₆ to the extent practicable based on technical, economic, and supply chain considerations.

Comment No.	Comment	Response
BOEM-2023-0030-1606-0010	Overall the DEIS fails to assess the fair comprehensive inclusive cradle to grave emissions for Alternatives B-E for the Atlantic Shores South project DEIS. This failure results in a lack of transparency and suggests a bias in the representation of the true costs and benefits. This lack of due diligence impacts the final assessment.	Information has been added to the EIS, Section 3.4.1, <i>Air Quality</i> , describing life-cycle considerations and providing references to recent life-cycle analyses of offshore wind.
BOEM-2023-0030-1606-0090	For AQ-08 – perform maintenance to fix seals [Underlined: as soon as feasible] when SF6 leak is detected – are there time limits on how long they can take to fix these issues (i.e. within hours days months)? What mitigation/correction measures are in place if the leak continues for enough time to release harmful levels of SF6?	SF ₆ does not have human health effects but is a potent GHG. SF ₆ is critical to the safe operation of the Project. SF ₆ pressure is constantly monitored, and any detected low pressure will trigger an alarm that will immediately stop the associated WTGs and notify the operator. Any leaks detected in SF ₆ -containing equipment are repaired as soon as possible following detection. The total SF ₆ volume inside the switchgear is separated between three separate systems, limiting the quantity that could be released from any single leak.
BOEM-2023-0030-1609-0002	the DEIS minimizes the benefits of offshore wind for the state and region’s electric grid and the state’s ability to use offshore wind as a strategy as part of Gov. Murphy’s EO 100 NJPACT climate plans to retire the oldest fossil fuel power plants in the state as well as to avoid the construction of new fossil fuel projects.	EIS Section 3.4.1.5 discusses the GHG emission reductions with the Project and their contribution toward the state goals.
BOEM-2023-0030-1609-0003	The promise of offshore wind is that it can quickly move to become carbon negative (for Atlantic Shores it will be one year after its construction) and that it can move to displace more traditional fossil fuels sources off the electric grid (including older coal and gas fossil fuel plants) and prevent the construction of new gas-fired power plants across the PJM electric grid including in New Jersey. The threats of climate change to New Jersey are well-documented with the most notable research coming from Rutgers University and the NJDEP on sea-level rise and its impact on the Jersey Shore – the upper ranges of projected sea level rise reach up to 2 feet of sea level rise by 2050 and up to 6 feet by 2050. This translates into real economic and community risk for coastal	BOEM will continue to use the social cost of GHG analysis in future NEPA analyses.

Comment No.	Comment	Response
	<p>communities as New Jersey has the second most homes at risk in 2045 and 2100 according to an Union of Concerned Scientist (UCS) study. In 2045 \$27 billion of residential properties are at risk and 1st in the nation for commercial properties at risk in 2045 (\$2.1 billion) for chronic flooding. In this context it is critical to note the importance of BOEM expanding its offshore wind beneficial climate impacts analysis to include the social cost of greenhouse gas emissions. The Biden Administration issued interim guidance to guide agencies on how to account for climate impacts. This analysis has shown that offshore wind has exceptional benefits in the range of \$1.734 billion to \$22.069 billion in benefits from potential impacts. Clearly BOEM should continue to use the social cost of greenhouse gases in future analyses.</p>	
BOEM-2023-0030-1681-0001	<p>The full accounting of total (gross) CO2 sulfur VOC and any other pollutant for all components of the proposed turbine complex. Has this been performed? When will this information be accessible everywhere?</p>	<p>Emissions of these and other pollutants are quantified and discussed in section 3.4.1.5 of the EIS.</p>
BOEM-2023-0030-1681-0002	<p>What are the observed offgassing volatility and other transfer of toxic substances after build of the turbine components?</p>	<p>Atlantic Shores does not anticipate any significant potential for offgassing of VOC or air toxics from turbine components after they are manufactured. There may be trace emissions from cured coatings or equipment containing plastics or epoxies; however, any emissions would be negligible and consistent with other industrial equipment. Additionally, there may be limited residual styrene offgassing from fiberglass materials; however, any emissions would be negligible and consistent with other fiberglass materials used in marine settings.</p>
BOEM-2023-0030-1688-0005	<p>What are the effects of turbines the way they would alter the change of heat moisture and momentum between the ocean surface and the atmosphere. What noise and local warming effect will have they have on coastal communities?</p>	<p>Wind turbines extract kinetic energy from the atmosphere and thus can reduce wind speeds downwind of the turbine. Wind turbines increase vertical mixing in the atmosphere and thus can increase (or decrease) air temperatures and humidity downwind depending on local meteorological conditions. However, these effects dissipate with distance</p>

Comment No.	Comment	Response
		downwind. Because of the distance of the Project from land (approximately 16 miles from the center of the WTG array), substantial effects on wind speed, temperature and humidity are unlikely to occur over land.
BOEM-2023-0030-1701-0002	Less wind on shore breezes making it hotter creating sea temperature increase accelerating climate change. Gas in the blades is 23000 times more harmful than CO2.	<p>Wind turbines extract kinetic energy from the atmosphere and thus can reduce wind speeds downwind of the turbine. Wind turbines increase vertical mixing in the atmosphere and thus can increase (or decrease) air temperatures and humidity downwind depending on local meteorological conditions. However, these effects dissipate with distance downwind.</p> <p>The wind turbine blades do not contain gas. Switchgears in the substations contain the GHG SF₆ which is the gas to which the commenter is referring. BOEM has proposed a mitigation measure (Table 3.4.1-14) in which BOEM would require Atlantic Shores to use switchgear that does not contain SF₆ to the extent practicable based on technical, economic, and supply chain considerations.</p>
BOEM-2023-0030-1713-0007	Eight while a qualitative judgment was made on the diminimus contributions to climate change the numbers supporting that calculation are not given. Total avoided gas emissions are provided with no meaningful context such as the total emissions worldwide and no attempt is made to quantify the level of impact on global or local temperature or global and local sealife.	Section 3.4.1.5 of the EIS describes the method for the calculation of grid-wide avoided emissions. Consistent with Council on Environmental Quality guidance, the EIS does not present a comparison of project emissions to global emissions. No single project has GHG emission reductions large enough to make a measurable difference to climate impacts.
BOEM-2023-0030-1729-0008	The expected construction of 3400 New Jersey offshore turbines will create micro climate change to onshore communities. The ocean summer offshore cooling winds will no longer reach the shoreline causing an increase in land temperatures exactly what we want to have avoid.	Wind turbines extract kinetic energy from the atmosphere and thus can reduce wind speeds downwind of the turbine. Wind turbines increase vertical mixing in the atmosphere and thus can increase (or decrease) air temperatures and humidity downwind depending on local meteorological conditions. However, these effects dissipate with distance downwind. Because of the distance of the Project from land (approximately 16 miles from the center of the WTG array),

Comment No.	Comment	Response
		substantial effects on wind speed, temperature and humidity are unlikely to occur over land.
BOEM-2023-0030-1732-0007	it is critical that Atlantic Shores reduces its emissions during construction by employing the best available technologies for controlling emissions in addition to transportation equipment like vessels. And the cleanest sources to power those equipment by not relying on for example dirty oils like number six oil.	<p>As discussed in EIS Section 3.4.1.5, Atlantic Shores has committed to EPMs that would reduce potential impacts through complying with applicable emissions standards (AQ-01, AQ-02, and AQ-03), potential use of alternative fuels where feasible (AQ-03), complying with applicable fuel sulfur content standards (AQ-04), implementing BMPs to reduce emissions (e.g., optimizing construction and O&M activities to minimize vessel operating times and loads) (AQ-05), development of fugitive dust-control plans for onshore construction areas (AQ-05), and complying with all air quality permit conditions (AQ-06 and AQ-07).</p> <p>Concerning fuel oil, Volume II, Section 3.1.2.7 of the COP states, “Clean fuels will be used to the maximum extent practicable. Marine diesel fuel will comply with the fuel sulfur limit of 15 ppm per 40 CFR Part 80, which is the same limit as onshore Ultra Low Sulfur Diesel (ULSD). For heavier residual fuel oils used in Category 2 and Category 3 engines, and for engines on foreign vessels, the Projects will comply with the fuel oil sulfur content limit of 1,000 ppm set in MARPOL VI and corresponding EPA regulations.”</p>
BOEM-2023-0030-1765-0001	the scenarios that are currently prioritized in climate research assessment and policy are badly outdated. Carbon dioxide emissions in the real world are already at a level far less than those projected in the most commonly used climate scenarios specifically the most used climate scenario called RCP-8.5 which according to the IPC represents a global temperature increase in 2100 of 4.8 degrees Celsius. RCP-8.5 projects that all global energy consumption will come from coal that is obviously wrong the real world is actually tracking below the RCP-4.5 scenario which represents a 2100 global temperature of 2.9 Celsius. This matters because important policy guidance relies on these outdated scenarios.	The analysis and conclusions of the EIS remain the same regardless of the climate change scenario used in research and policymaking.

Comment No.	Comment	Response
BOEM-2023-0030-1778-0002	The Atlantic Shores project will be carbon negative one year post construction and beginning operation. We would advise BOEM to also take additional measures to reduce the carbon footprint of the project and subsequent projects years to come. New Jersey's net greenhouse gas emission were 97 metric tons in 2018 alone and our rising ocean temperatures due to a warming climate represents the biggest threat to the marine life and critical coastal habitats that will be lost to sea level rise. The ecosystems that support marine life are threatened by the increased acidification and desalination of the ocean caused by historic use of fossil fuels.	Applicant-proposed environmental protection measures AQ-01, AQ-03, AQ-05, and AQ-06 (Table 3.4.1-14) would reduce GHG emissions to the extent that they would reduce fuel consumption. In addition to the Applicant-proposed environmental protection measures, BOEM has proposed an additional mitigation measure (Table 3.4.1-14) in which BOEM would require Atlantic Shores to use switchgear that does not contain SF ₆ to the extent practicable based on technical, economic, and supply chain considerations.
BOEM-2023-0030-1815-0016	Regarding pollution there will be pollution during construction and after construction. During construction the massive building of 200 nearly 900 ft tall structures and associated construction barges and support vessels will lead to inevitable pollution and siltation.	The EIS discusses air pollutant emissions in Section 3.4.1.5. Appendix G discusses proposed mitigation measures.

N.6.4 Water Quality

Table N.6-4. Responses to Comments on Water Quality

Comment No.	Comment	Response
BOEM-2023-0030-0584-0001	Each wind turbine contains up to 1600 gallons of transformer oil 150 gallons of lubrication oil diesel fuel and SF6 (the most potent greenhouse gas known). Turbine technology and reliability especially under harsh ocean conditions is still an area of debate. The 400+ wind turbines to be built off our coast are currently unproven... will spills will end up on our beaches?	Atlantic Shores has developed and would implement its Oil Spill Response Plan (OSRP) that meets USCG and 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. These measures would prevent spills from mobilizing to beaches.
BOEM-2023-0030-0916-0049	Extreme Weather Events. The DEIS does not disclose the risk and consequences of turbine structural damage from high wind/wave events including hurricanes. The DEIS contains no commitment to or statement of what construction standards the turbines will be built and installed to nor any assessment	The WTGs would be designed in accordance with IEC 61400 which includes specific load cases corresponding to typical hurricanes for the project area. When wind speeds exceed the operational threshold, the turbines would automatically enter into a safe mode in which the blades are pitched and

Comment No.	Comment	Response
	of whether turbines built to those standards will withstand the extreme wind and hurricane/storm conditions off the New Jersey Coast This is essential to know and understand because prior construction in Europe was not built to the same hurricane conditions here.	the nacelle is rotated to minimize wind loading on the turbine. The WTGs would be equipped with batteries and other features to ensure that the function of critical equipment is maintained during severe weather such as a hurricane, even if connection to the grid is lost.
BOEM-2023-0030-0916-0051	Sea Level Rise. It alludes to climate change benefits from the project contradicting prior BOEM EIS conclusions. It does not describe any substantive benefit of the Project with respect to sea level rise the major concern. The negligible impact of the project on sea level rise is described in Enclosure I Section 17. This purported benefit is essential for a reasoned decision to be made on the project-to know what the offsetting benefit is that justifies its environmental damage.	The offshore wind project alone will not measurably impact the already occurring rise in sea levels due to already emitted greenhouse gasses. The production of renewable energies such as offshore wind power will contribute to a net benefit to sea level rise by reducing the level of future sea level rise relative to the No Action Alternative, in which there would be no reduction in greenhouse gas emissions from the power grid. The eventual extent of sea level rise due anthropogenic climate change will depend on how long it takes for atmospheric greenhouse gas concentrations to stabilize or be reduced. Reducing greenhouse gas emissions therefore reduces the eventual extent of sea level rise and reduces the acceleration of the phenomenon, but it does not “stop” sea level rise.
BOEM-2023-0030-0916-0073	the impact to the ecologically critical cold pool	Impacts from the presence of wind turbines on aquatic resources, including the Atlantic cold pool, are addressed in EIS Section 3.5.2, <i>Benthic Resources</i> , and Section 3.5.5, <i>Finfish, Invertebrates, and Essential Fish Habitat</i> , specifically the presence of structures IPF analysis for both the Proposed Action and offshore wind (not including the Proposed Action) sections.
BOEM-2023-0030-0916-0074	the impact on the freshwater aquifers that underlie much of the area proposed for wind development including the related contribution to ocean flooding on the NJ coast and the potential for triggering a catastrophic offshore landslide	An assessment of impacts to onshore reservoirs or aquifers by proposed offshore wind activities is required by BOEM. As stated in EIS Sections 3.4.2.3 and 3.4.2.5 under the Presence of Structures IPF, offshore aquifers are typically found at depths below the seafloor greater than 100 m and contain brackish water that is not purely freshwater and not potable. If piles were to penetrate an aquifer, piles could potentially create a pathway for seawater to flow in or out of the aquifer if it was contained. Any water seepage would be very minor

Comment No.	Comment	Response
		<p>due to the skin friction along the pile. Foundation construction is not expected to reach depths that would impact the aquifers within the project area. Due to the difference between the depth of the aquifers near the project area and the possible foundation penetration depths, impacts are not anticipated. For a general overview of literature surrounding offshore groundwater please reference these articles https://agupubs.onlinelibrary.wiley.com/doi/10.1029/2020RG000706, https://www.nature.com/articles/s41598-019-44611-7, https://www.boem.gov/sites/default/files/documents/renewable-energy/Offshore-Aquifers-White-Paper.pdf, and https://www.nature.com/articles/nature12858.</p> <p>Offshore landslides are very unlikely due to the shallow slopes (gentle (1 to 4.9 degree) to localized moderate (5-9.9 degree) slopes in areas of the Atlantic coast), and homogenous seafloor consisting of mostly sands and silts. Projects must be designed for the unlikely event that a submarine landslide occurs.</p>
BOEM-2023-0030-1518-0041	<p>According to the Construction and Operations Plan (COP) provided by Atlantic Shores in total across the 200 turbines and 4 large offshore substations as part of just Atlantic Shores South there will be a total of 2435472 gallons of highly toxic and hazardous fluids contained within the offshore structures that are subject to accidents similar to offshore drilling platforms. Each individual turbine consists of as much as 7881 gallons of diesel fuels, oils insulants, and coolants. In addition, the 4 large offshore substations include a total of 859272 gallons of similar fluids. While the safety mechanisms account for the containment of accidental leaks, they do not account for total failure which could result from high winds from tropical storms hurricanes and nor'easters or allisions with large vessels. Furthermore as 48 or more offshore windfarms come online many of which are larger than Atlantic Shores</p>	<p>Atlantic Shores has developed and would implement its OSRP that meets USCG and 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. As stated in Sections 3.4.2.3 and 3.4.2.5 (Accidental Releases), BOEM has assessed the toxicity of chemicals used at offshore wind facilities and conducted extensive modeling to determine the likelihood and effects of a chemical spill at offshore wind facilities at three locations along the Atlantic Coast, including an area near the proposed Project area (Maryland WEA) (Bejarano et al. 2013). Results of the model indicated a catastrophic, or maximum-case scenario, release of 129,000 gallons (488,318 liters) of oil mixture has a "Very Low" probability of occurring, meaning it</p>

Comment No.	Comment	Response
	<p>South a simple data extrapolation shows that the total exposure of hazardous substances stored offshore within structures will grow to 43 million gallons or more. Summaries of potential volumes are shown below which have been taken directly from the Atlantic Shores South COP and are also included below in Table 7-1 and Table 7- 2.[Bold: Atlantic Shores South Total Estimated Volumes Oils Fuels and Lubricants]Per Turbine Volumes: 7881 Total Number of Turbines: 200[Italics and Bold: 7881 x 200 = 1576200 gallons]Per Substation Volumes: 214818 gallons Total Number of Offshore Substations: 4[Italics and Bold: 214818 x 4 = 859272 gallons][Bold: Cumulative Total Estimated Volumes Oils Fuels and Lubricants in WTG]Per Turbine Volumes: 7881 gallons[Italics: Estimated Number of Atlantic Turbines: 5500][Italics and Bold: 5500 x 7881 = 43345500 gallons]</p>	<p>could occur one time in 1,000 or more years. The modeling effort also revealed the most likely type of spill (i.e., non-routine event) to occur is from the WTGs at a volume of 90 to 440 gallons (341 to 1,666 liters), at a rate of one time in 1 to 5 years, or a diesel fuel spill of up to 2,000 gallons (7,571 liters) at a rate of one time in 91 years.</p>
BOEM-2023-0030-1518-0042	<p>Among the primary reasons for opposition to offshore oil drilling in the Mid-Atlantic are widespread concerns about oil spills and impacts to marine species [Footnote 38: Grassroots Opposition to Offshore Drilling and Exploration in the Atlantic Ocean and off Florida’s Gulf Coast https://usa.oceana.org/climate-and-energy-grassroots-opposition-offshore-drilling-and-exploration-atlantic-ocean-and-3/]. Citing the concerns about environmental impacts raised previously in the Township’s comments in addition to the enormous volumes of hazardous fluids contained within each WTG it is puzzling that offshore wind projects are viewed any differently than offshore oil and gas drilling especially given the uncertainty of the ability of wind farm arrays to withstand potentially catastrophic hurricane conditions. Such events could litter the Township’s shoreline with fiberglass microplastic and other debris alongside hazardous fluids which will be spread far and wide by tides and currents. The DEIS cites ‘accidental releases as potentially unavoidable consequences of the project in Table 4.1-1 [Italics: potential unavoidable adverse impacts of the</p>	<p>Atlantic Shores has developed and would implement its OSRP that meets USCG and 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. As stated in Sections 3.4.2.3 and 3.4.2.5 (Accidental Releases), BOEM has assessed the toxicity of chemicals used at offshore wind facilities and conducted extensive modeling to determine the likelihood and effects of a chemical spill at offshore wind facilities at three locations along the Atlantic Coast, including an area near the proposed Project area (Maryland WEA) (Bejarano et al. 2013). Results of the model indicated a catastrophic, or maximum-case scenario, release of 129,000 gallons (488,318 liters) of oil mixture has a “Very Low” probability of occurring, meaning it could occur one time in 1,000 or more years. The modeling effort also revealed the most likely type of spill (i.e., non-routine event) to occur is from the WTGs at a volume of 90 to 440 gallons (341 to 1,666 liters), at a rate of one time in 1 to 5 years, or a diesel fuel spill of up to 2,000 gallons (7,571</p>

Comment No.	Comment	Response
	<p>proposed action] (page 893).[See original comment for Table 7-1 List of Potential Chemical Products Used for WTGs.][See original comment for Table 7-2 List of Potential Chemical Products Used for OSSs.][Bold: Source:] Atlantic Shores South Construction and Operations Plan Pages 219-220</p>	<p>liters) at a rate of one time in 91 years. There are currently no studies related to turbine erosion and forever chemicals from microplastics, so we do not have any references on PFAS. BOEM recognizes that the subject of forever chemicals being emitted by wind turbines needs further study and analysis. The EPA is currently addressing PFAS through proposing and implementing numerous actions related to PFAS. A National PFAS Testing Strategy is being developed that will require PFAS manufacturers to provide toxicity data on PFAS to inform future regulations. The EPA is currently in the process of developing a rule that would designate PFAS as hazardous substances. Additionally, the creation of a new “EPA Council on PFAS” will help to better understand and reduce the potential risks caused by these chemicals.</p>
BOEM-2023-0030-1542-0012	<p>BOEM must also analyze and mitigate impacts to air and water quality from construction and maintenance vehicles including pollutant emissions and chemical leachates. [Footnote 21: BOEM. Environmental Risks Fate and Effects of Chemicals Associated with Wind Turbines on the Atlantic Outer Continental Shelf. 2013. Available at: www.boem.gov/ESPIS/5/5330.pdf; Footnote 22: Sotaventogalicia. Nd. Non toxic biodegradable and renewable lubricants for wind turbines. Available at: www.sotaventogalicia.com/en/projects/non-toxic-biodegradable-and-renewable-lubricants-for-wind-turbines].</p>	<p>Atlantic Shores considers numerous factors in the selection of technology and suppliers for its Project, including technical suitability and maturity, safety, environmental, and community considerations, installation, operations, and maintenance considerations, economic and supply chain factors, and supplier qualifications.</p> <p>At this time, Atlantic Shores is still in the process of evaluating available technology and suppliers for use on its Project and is not able to share further information at this time</p>
BOEM-2023-0030-1566-0004	<p>Aside from the inevitability of oil spills from this “green” technology the risk of leaks of exorbitant gallons of requisite hazardous lubricants required for operation pose a significant threat to the environment particularly given the propensity of hurricanes impacting the eastern seaboard.</p>	<p>Atlantic Shores has developed and would implement its OSRP that meets USCG and 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. As stated in Sections 3.4.2.3 and 3.4.2.5 (Accidental Releases), BOEM has assessed the toxicity of chemicals used at offshore wind facilities and conducted extensive modeling to determine the likelihood and effects of a chemical spill at offshore wind facilities at three locations</p>

Comment No.	Comment	Response
		<p>along the Atlantic Coast, including an area near the proposed Project area (Maryland WEA) (Bejarano et al. 2013). Results of the model indicated a catastrophic, or maximum-case scenario, release of 129,000 gallons (488,318 liters) of oil mixture has a “Very Low” probability of occurring, meaning it could occur one time in 1,000 or more years. The modeling effort also revealed the most likely type of spill (i.e., non-routine event) to occur is from the WTGs at a volume of 90 to 440 gallons (341 to 1,666 liters), at a rate of one time in 1 to 5 years, or a diesel fuel spill of up to 2,000 gallons (7,571 liters) at a rate of one time in 91 years.</p>
BOEM-2023-0030-1566-0006	<p>Given the unprecedented 8.7 mile distance from the shore off LBI what is the likelihood that spill containment will be viable before making landfall and what agency or agencies will be liable for the impacts that the inevitable environmental disasters will have on the inhabitants of our coastline and beyond?</p>	<p>The likelihood of a catastrophic spill is low, as modeling results show in Sections 3.4.2.3 and 3.4.2.5 under the Accidental Releases IPF of the EIS. Additionally, Atlantic Shores has developed and would implement its OSRP that meets USCG and 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 Lessee’s liability under section 9 of its lease extends to loss of damage to natural resources, the release of any petroleum or any hazardous materials, other environmental injury of any kind, and injury to persons.</p>
BOEM-2023-0030-1568-0001	<p>oil and chemical leaks that once detected would be difficult to resolve in ocean waters</p>	<p>Atlantic Shores has developed and would implement its OSRP that meets USCG and 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.</p>
BOEM-2023-0030-1568-0003	<p>buried cables generating heat creating warmer ocean temperatures and-the surface water turbulence created by hundreds of spinning turbines affecting water circulation and also potentially creating warmer ocean temperatures furthering impacts of climate change</p>	<p>The EIS covers the effects from the presence of wind turbines on water quality under the presence of structures IPF in Sections 3.4.2.3 and 3.4.2.5; the analysis includes effects on water temperature and turbulence. The analysis is based on extensive modeling BOEM conducted in the mid-Atlantic Bight—<i>Hydrodynamic Modeling, Particle Tracking and Agent-</i></p>

Comment No.	Comment	Response
		<p><i>Based Modeling of Larvae in the U.S. Mid-Atlantic Bight.</i> Details can be found in the report here: https://epis.boem.gov/final%20reports/BOEM_2021-049.pdf.</p>
BOEM-2023-0030-1575-0003	<p>Another is the lack of analysis as to the impact on the fresh water aquifers that exist under the ocean floor. Drilling into the sea bed and disturbing the aquifer could potentially impact a major source of our drinking water.</p>	<p>An assessment of impacts to onshore reservoirs or aquifers by proposed offshore wind activities is required by BOEM. As stated in EIS Sections 3.4.2.3 and 3.4.2.5 under the Presence of Structures IPF, offshore aquifers are typically found at depths below the seafloor greater than 100 m and contain brackish water that is not purely freshwater and not potable. If piles were to penetrate an aquifer, piles could potentially create a pathway for seawater to flow in or out of the aquifer if it was contained. Any water seepage would be very minor due to the skin friction along the pile. Foundation construction is not expected to reach depths that would impact the aquifers within the project area. Due to the difference between the depth of the aquifers near the project area and the possible foundation penetration depths, impacts are not anticipated. For a general overview of literature surrounding offshore groundwater please reference these articles: https://www.nature.com/articles/s41598-019-44611-7, https://www.boem.gov/sites/default/files/documents/renewable-energy/Offshore-Aquifers-White-Paper.pdf, and https://www.nature.com/articles/nature12858.</p>
BOEM-2023-0030-1592-0004	<p>These turbines are not clean and not green. They run on generators which are powered by oil. They leak oil and chemical by-products into our ocean. The NJ ocean water quality will suffer as a result.</p>	<p>The WTGs and OSSs are generally self-contained and do not generate discharges under normal operating conditions. In the event of a spill related to an allision or other unexpected or low-probability event, impacts on water quality from discharges from the WTGs or OSSs during operation would be short term. Additionally, Atlantic Shores has developed and would implement its OSRP that meets USCG and 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</p>

Comment No.	Comment	Response
		<p>releases, including spills resulting from catastrophic events. The plan was written to comply with all federal, state, and local oil spill response regulations.</p> <p>Additionally, generators are only used in the event of a grid outage. They allow for safe shutdown of the WTG and the saving of operational data. Other power systems such as portable generators and/or battery systems may be used in cases of longer-term grid outages. See COP Vol. I, Section 4.3.1 for further details.</p>
BOEM-2023-0030-1606-0025	<p>There are many instances of deficiency or missing information with regard to water quality in the area of the Proposed Action. Pg E-1 of Appendix E specifically subsection E.1.1.2 states that “No incomplete or unavailable information related to the analysis of impacts on water quality was identified.” This claim is grossly inaccurate. Some of the adverse impacts and issues that have been oversimplified and inadequately addressed in the DEIS are described below.</p>	<p>See responses to comments BOEM-2023-1606-0026 and BOEM-2023-1606-0027.</p>
BOEM-2023-0030-1606-0026	<p>Chlorophyll a is a measure of how much photosynthetic life is present. Chlorophyll a levels are sensitive to changes in other water parameters making it a good indicator of ecosystem health. USEPA considers estuarine and marine levels of chlorophyll a under 5 micrograms per liter ([microgram]/L) to be good 5 to 20 [microgram]/L to be fair and over 20 [microgram]/L to be poor. Table 3.4.2.1 (pg. 3.4.2- 6) shows that none of the 23 sites tested good for Chlorophyll a with eight sites actually exceeding the threshold values and rated “poor.” The proposed project and its offshore and nearshore activities will adversely impact and add to the chlorophyll burden on these environments and has not been discussed in the DEIS.</p>	<p>A study with regards to offshore wind production and Chlorophyll-<i>a</i> was conducted at 38 offshore wind farms in Europe and China. This study found that offshore wind farms have the potential to alter the spatial distribution and aggregation of Chlorophyll-<i>a</i>. The study also concluded that for 10 of the 38 offshore wind farms studied, no significant trends in spatial distribution patterns of Chlorophyll-<i>a</i> were found after construction. The effects from offshore wind farms to Chlorophyll-<i>a</i> seems to be situationally dependent.</p> <p>https://www.frontiersin.org/articles/10.3389/fmars.2022.1008005/full.</p>
BOEM-2023-0030-1606-0027	<p>Eutrophication in coastal waters has been a growing problem of concern threatening the ecosystem health of coastal and estuarine environments. Table 3.4.2.1. also shows that dissolved inorganic nutrients are a source of concern and the</p>	<p>As with Chlorophyll-<i>a</i>, offshore wind farms can have the potential to influence the spatial distribution of nutrients but would not be a source of new inputs. The main source of nutrient level increases in coastal waters is onshore runoff,</p>

Comment No.	Comment	Response
	DEIS fails to state how the proposed activities onshore along the ECC and in offshore environments will not exacerbate this pollution source.	not offshore activities. The construction of onshore components will not result in any additional nutrient inputs into coastal waters. Additionally, Atlantic Shores will abide by NJPDES permitting requirements in addition to all federal, state, and local laws related to ground and surface water quality standards.
BOEM-2023-0030-1606-0028	Nearly all water quality assessment units of Barnegat Bay Great Egg Harbor Bay the Delaware River and associated tidal tributaries within the geographic analysis area in New Jersey are listed as 303(d) impaired. These waters are non-attaining for fish consumption ecological function or recreation with causes including pathogens turbidity oxygen depletion pesticides and PCBs. Waters along all the ocean-side barrier island shorelines in the geographic analysis area are non-attaining for ecological function due to oxygen depletions (pg. 3.4.2-10). Table 3.4.2.2 further shows that the Monmouth Landfall Site Monmouth ECC Atlantic Landfall Site and Atlantic ECC are unsupportive of general aquatic life and fish consumption is largely undetermined while shellfish harvesting is largely unsupportive for Monmouth Landfall Site and Atlantic Landfall Site. NJDEP monitors coastal waters during the summer under the Cooperative Coastal Monitoring Program and both these areas routinely have pathogen exceedances that have resulted in beach closures. The DEIS fails to address additional impacts to these impaired waters from the proposed project.	Atlantic Shores would need to ensure that any action that would affect surface waters, including those listed as impaired under Section 303(d), would not result in exceedances of water quality standards, and would comply with any existing total maximum daily load requirements for any waters designated as impaired under CWA Section 303(d).
BOEM-2023-0030-1606-0029	Specific to Monmouth County/Larrabee onshore project area the DEIS fails to prove how the proposed activities will ensure the safety drinking water supply to the local communities. The private New Jersey American Water company manages a public community water system that supplies Howell Township with drinkable water through fourteen groundwater wells and one surface water source (DEIS pg. 3.4.2-13). According to the DEIS these groundwater wells and surface water are not shown or discussed in the COP as they	Atlantic Shores will abide by all federal, state, and local laws related to ground and surface water quality standards by obtaining all applicable permits. Atlantic Shores would be required to implement the terms and conditions of the applicable permits.

Comment No.	Comment	Response
	<p>are over one mile from the onshore project area. Approximately 60 percent of the drinking water for the Monmouth County communities of Sea Girt Borough and Wall Township as well as other communities is sourced from the Manasquan Reservoir in Howell Township. This reservoir is managed by the New Jersey Water Supply Authority and is located over 1000 feet (305 meters) to the northwest of the Onshore Project area at its nearest point (DEIS pg. 3.4.2-13).How did the DEIS arrive at the conclusion that the onshore activities of the proposed project will not impact these vital drinking water sources? What criteria did BOEM use to determine this find?</p>	
BOEM-2023-0030-1606-0075	<p>The spill response plan does not take into account plans for chemical spills in the project area.</p>	<p>The Oil Spill Response Plan covers the offshore wind energy generation project – Atlantic Shores Offshore Wind Project 1 and Atlantic Shores Offshore Wind Project 2 (known collectively in the plan as “the Project”) within Lease Area OCS-A 0499. The National Oil and Hazardous Substances Pollution Contingency Plan, Regional Response Team 2 Regional Contingency Plan, and the Delaware Bay Area Contingency Plan were reviewed, and the plan was written to comply with all federal, state, and local oil spill response regulations.</p>
BOEM-2023-0030-1606-0076	<p>There is also concern that the development of these wind projects in close proximity will displace transit corridors and create narrow lanes where vessels are expected to travel. This could lead to an increase in accidents and spills.</p>	<p>As stated in EIS Section 3.4.2.5 under the Accidental Releases heading, collisions and allisions are anticipated to be unlikely based on the following factors that would be considered for the proposed Project: USCG requirement for lighting on vessels, NOAA vessel speed restrictions, the proposed spacing of WTGs and OSSs, the lighting and marking plan that would be implemented, and the inclusion of proposed Project components on navigation charts.</p>
BOEM-2023-0030-1606-0091	<p>For WAT-06 project facilities will avoid public water supplies/wellhead protection areas to the maximum extent practicable what happens if there are links between facilities and public water supply? Is there any kind of insurance in</p>	<p>Atlantic Shores is evaluating insurance options to ensure coverage in the unlikely event that a potential pollution or contamination event occurs. For example, a Contractors Pollution Liability (CPL) insurance policy could be used. CPL would protect against sudden and gradual pollution releases</p>

Comment No.	Comment	Response
	place for potential impacts to public water? Why is this measure not requires/enforceable?	migrating into an aquifer used to supply the public with potable water. Atlantic Shores has requested that all contractors carry sufficient CPL coverage or (relating to the use of vessels) Protection & Indemnity insurance. Atlantic Shores will also have an Owner's Interest Commercial General Liability insurance for the project prior to starting construction. This would include coverage for sudden and accidental pollution incidents causing bodily injury or property damage. Atlantic Shores is also evaluating an Owner's Interest Pollution Liability policy for additional coverage including clean-up costs. All contractors using vessels will be required to have Protection & Indemnity insurance in place including Vessel Pollution coverage.
BOEM-2023-0030-1606-0103	In addition to the impacts to marine life as described herein COA also raises additional issues of safety and navigation which the DEIS fails to adequately address. First the DEIS and Applicant [Bold: lacks a Spill Response Plan for major oil chemical or other hazardous harmful or floatable materials from container ships].	As stated in the EIS, Atlantic Shores has developed and would implement its OSRP that meets USCG and 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 plan was written to comply with all federal, state, and local oil spill response regulations.
BOEM-2023-0030-1606-0105	The protection of water quality marine life and shoreline ecosystems from the devastation to coastal communities or other economies resulting from the spills is essential. BOEM fails to adequately assess these risks and the Atlantic Shores South DEIS fails to provide detailed response plans for such a plausible and potential catastrophic event(s).	The likelihood of a catastrophic spill is low, as modeling results show in Sections 3.4.2.3 and 3.4.2.5 under the Accidental Releases heading. Additionally, Atlantic Shores has developed and would implement its OSRP that meets USCG and 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.
BOEM-2023-0030-1606-0106	While Appendix I-D of the COP includes an Oil Spill Response plan which does mention "Spills from vessels resulting from vessel collisions and groundings attributable to presence of the facility" there is no plan.	As stated in the EIS, Atlantic Shores has developed and would implement its OSRP that meets USCG and 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

Comment No.	Comment	Response
		resulting from catastrophic events. The plan was written to comply with all federal, state, and local oil spill response regulations.
BOEM-2023-0030-1606-0107	Moreover, the word “insurance” does not appear in the Oil Spill Response Plan. The Applicants as well as the bulk carriers and cargo ships must be fully insured to fund the cleanup of a catastrophic spill including natural resources damages and impacts to communities.	Atlantic Shores is evaluating insurance options to ensure coverage in the unlikely event that a potential pollution or contamination event occurs. For example, a Contractors Pollution Liability (CPL) insurance policy could be used. CPL would protect against sudden and gradual pollution releases migrating into an aquifer used to supply the public with potable water. Atlantic Shores has requested that all contractors carry sufficient CPL coverage or (relating to the use of vessels) Protection & Indemnity insurance. Atlantic Shores will also have an Owner’s Interest Commercial General Liability insurance for the project prior to starting construction. This would include coverage for sudden and accidental pollution incidents causing bodily injury or property damage. Atlantic Shores is also evaluating an Owner’s Interest Pollution Liability policy for additional coverage including clean-up costs. All contractors using vessels will be required to have Protection & Indemnity insurance in place including Vessel Pollution coverage.
BOEM-2023-0030-1606-0108	Throughout the documents safety from spills or risks to marine life and human life are not comprehensively evaluated or assessed. This includes risks from many impacts in addition to the above such as storms and hurricanes impaired radar risks to military readiness and response such as the Coast Guard. For example, in Atlantic Shores’ Appendix I-E Health Safety Security and Environmental (HSSE) Safety Management System is a total of 30 pages including extraneous pages. The environment is barely referenced and the tasks of the Environmental Coordinator are incomplete.	The Safety Management System (SMS) documentation is a draft at the COP stage. The final version is provided and approved prior to construction start and updated throughout the life of the project. The SMS is not intended to be an environmental document but solely related to the safety of personnel. Additionally, BOEM has a set framework regarding Terms and Conditions and what information is to be included in the SMS and OSRP.
BOEM-2023-0030-1624-0002	The solvent used to lubricate (700-800 gallons/9 months) = harmful to ocean.	The WTGs and OSSs are generally self-contained and do not generate discharges under normal operating conditions. In the event of a spill related to an allision or other unexpected or low-probability event, impacts on water quality from

Comment No.	Comment	Response
		discharges from the WTGs or OSSs during operation would be short term. Additionally, Atlantic Shores has developed and would implement its OSRP that meets USCG and the 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 plan was written to comply with all federal, state, and local oil spill response regulations.
BOEM-2023-0030-1681-0004	What effects would the proposed turbines have on causing cooling pools in the ocean estuaries etc?	Impacts from the presence of wind turbines on aquatic resources, including the Atlantic cold pool, are addressed in EIS Section 3.5.2, <i>Benthic Resources</i> , and Section 3.5.5, <i>Finfish, Invertebrates, and Essential Fish Habitat</i> , specifically the presence of structures IPF analysis for both the Proposed Action and offshore wind (not including the Proposed Action) sections.
BOEM-2023-0030-1681-0007	What toxic substances especially fluids are involved?	Appendix D (Table D.A2-3) of the EIS presents types and volumes of fluids involved with the Project.
BOEM-2023-0030-1715-0002	Alright how will these large numbers of huge turbines effect the air temperature the water temperature the humidity and the wave height?	The EIS covers the effects from the presence of wind turbines on water quality under the presence of structures IPF in Sections 3.4.2.3 and 3.4.2.5; the analysis includes effects on water temperature and turbulence. The analysis is based on extensive modeling BOEM conducted in the mid-Atlantic Bight— <i>Hydrodynamic Modeling, Particle Tracking and Agent-Based Modeling of Larvae in the U.S. Mid-Atlantic Bight</i> . Details can be found in the report here: https://epis.boem.gov/final%20reports/BOEM_2021-049.pdf .
BOEM-2023-0030-1791-0002	Number two these projects are not green at all. There is going to be gas grease and coolant chemical spills that are going to occur during the maintenance the repair and the decommissioning periods.	The WTGs and OSSs are generally self-contained and do not generate discharges under normal operating conditions. In the event of a spill related to an allision or other unexpected or low-probability event, impacts on water quality from discharges from the WTGs or OSSs during operation would be short term. Additionally, Atlantic Shores has developed and

Comment No.	Comment	Response
		<p>would implement its OSRP that meets USCG and 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 plan was written to comply with all federal, state, and local oil spill response regulations.</p>
BOEM-2023-0030-1815-0018	<p>After construction each wind turbine will have large quantities of grease hydraulic oil gear oil dielectric fluid diesel fuel propylene and ethylene glycol that have to be transferred and changed at regular intervals with inevitable spills. The substations will have huge quantities of transformer oil diesel fuel and hydraulic oil. Could a Category 4 or 5 hurricane knock out a number of wind turbines or substations causing a major pollution disaster? Sport divers need clean water!</p>	<p>The WTGs and OSSs are generally self-contained and do not generate discharges under normal operating conditions. In the event of a spill related to an allision or other unexpected or low-probability event, impacts on water quality from discharges from the WTGs or OSSs during operation would be short term. Atlantic Shores has developed and would implement its OSRP that meets USCG and 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 plan was written to comply with all federal, state, and local oil spill response regulations.</p> <p>The wind turbines and project facilities are designed to withstand weather conditions according to design codes and standards. As hurricanes are a reality along the New Jersey coast, developers are required to consider these and other storm events in their design. Standard design methodology includes a 50 to 100-year storm design check with standard safety factors typical to designs across all industries. Because of the variability in the meteorological and oceanographic conditions, additional robustness checks ensure survival of the foundations, support structures, and towers to the 500 to 1000-year storm level.</p>

N.6.5 Bats

Table N.6-5. Responses to Comments on Bats

Comment No.	Comment	Response
BOEM-2023-0030-0926-0003	Please explain the justification for exceptions made to Fish and Wildlife and light and noise rules and regulations that have been made to accommodate this project.	<p>The USFWS noise and lighting guidance and BMPs are voluntary and are not enforceable regulations. Although USFWS does not have jurisdiction over offshore structures, proposed lighting of onshore and offshore structures follows the same USFWS voluntary guidance and BMPs for communications towers and onshore wind farms. As recommended by USFWS, red flashing lights will be located on the nacelle. Additionally, Atlantic Shores proposes to implement an Aircraft Detection Lighting System (ADLS), as recommended by USFWS, which activates aviation obstruction lights when aircraft approach, which would greatly reduce the amount of time the aviation obstruction lights are illuminated. General outdoor OSS and onshore substation lighting will be down-shielded to the extent practicable. Atlantic Shores has agreed to seasonal restrictions on some construction activities to minimize impacts to bats and birds.</p> <p>Please refer to Table N.6-7 for an additional response to this comment.</p>
BOEM-2023-0030-1542-0011	Birds and Bats. Offshore wind development may cause negative impacts to bird and bat populations from collisions with turbines and habitat displacement. Rotor speed rotor size the amount of turbines turbine location turbine lighting and the cumulative impact of other turbine projects are all factors that BOEM must examine and mandate mitigation measures to reduce negative impacts as much as possible. These factors can greatly affect the level of negative interaction between turbines and birds and bats. Offshore wind development may also displace bird and bat populations from foraging and migration grounds or cause avoidance of wind farms altogether. [Footnote 17: Loss S;	<p>Mitigation measures for birds and bats are presented in EIS Sections 3.5.1, <i>Bats</i> and 3.5.3, <i>Birds</i> as well as in Appendix G, <i>Mitigation and Monitoring</i>.</p> <p>Potential bird/bat collisions and habitat displacement in the offshore environment due to presence of offshore wind infrastructure are addressed in EIS Sections 3.5.1, and 3.5.3, under the Presence of structures IPF. BOEM acknowledges that the number, size, and location of WTGs can influence the magnitude of the impacts on bats/birds and has analyzed impacts under the maximum-case scenario, which means that any potential variances in the Project build-out would result</p>

Comment No.	Comment	Response
	<p>Will T; Marra P. 2013. Estimates of bird collision mortality at wind facilities in the contiguous United States. <i>Biological Conservation</i>: Vol. 168 Pp. 201–209. Available at: www.fws.gov/migratorybirds/pdf/management/lossetal2013windfacilities.pdf; Footnote 18: Smallwood K. 2013. Comparing bird and bat fatality-rate estimates among North American wind-energy projects. <i>Wildlife Society Bulletin</i>: Vol. 37 No. 1 Pp. 19-33. Available at: onlinelibrary.wiley.com/doi/abs/10.1002/wsb.260; Footnote 19: Sjollem A. Gates J. Hilderbrand R. & Sherwell J. 2014. Offshore Activity of Bats Along the Mid-Atlantic Coast. <i>Northeastern Naturalist</i>: Vol. 21 No. 2 Pp. 154-163. Available at: doi.org/10.1656/045.021.0201. Impacts of avoidance should be examined through an ecosystem based management lens to determine the overall footprint of this disturbance with careful monitoring and evaluation mechanisms clearly communicated in a transparent and public manner in place to address any adjustments that might help mitigate negative outcomes.</p>	<p>in impacts similar to or less than those described in the EIS. BOEM also reiterates that the current understanding of bird and bat use of the offshore wind environment is that they are present in low numbers compared to the onshore environment; this is stated (with supporting references) in EIS Sections 3.5.1 and 3.5.3.</p> <p>As part of its Bird and Bat Monitoring Plan (BBMP), the Applicant will use acoustic monitor monitoring of bat presence in the vicinity of the Project, provide annual and quarterly monitoring reports including raw data to USFWS and BOEM, report dead or injured birds and bats as they occur and in annual reports to USFWS and BOEM, and provide annual reports summarizing monthly turbine operational data to USFWS, BOEM, and BSEE. These activities will aid in the understanding of the impacts of offshore wind farms to birds and bats and will be used to refine avian collision risk models.</p> <p>Please refer Table N.6-7 for an additional response to this comment.</p>
BOEM-2023-0030-1556-0067	<p>In this Draft EIS BOEM dismisses impacts to bats from offshore wind as negligible[Footnote 186: E.g., at AS DEIS at 3.5.1-18 both impacts of the proposed action and cumulative impacts are classified as negligible.] even though there is insufficient research on bats offshore to support such a conclusion. Although limited data exist on bats’ use of the offshore environment and their interactions with offshore WTGs, research at land-based wind facilities reveals that bat fatalities are common[Footnote 187: Arnett Edward B. and Erin F. Baerwald. 2013. “Impacts of Wind Energy Development on Bats: Implications for Conservation.” In <i>Bat Evolution Ecology and Conservation</i> 435–56. New York NY: Springer New York. https://doi.org/10.1007/978-1-4614-7397-8_21.] with the potential for cumulative impacts to cause population-level declines.[Footnote 188: Frick W. F. E.</p>	<p>The information presented in the EIS represents the best available science regarding bat presence in the offshore environment. BOEM will continue to collect information on bat presence in the offshore environment to help inform the assessment of potential impacts on bats from construction and operation off offshore wind farms. Although studies have documented the presence of bats offshore, they occur in much lower numbers than in onshore areas (e.g., Lagerveld and Mostert 2023), with the number of detections decreasing with increasing distance from the coast (e.g., Brabant et al. 2021). and have been observed to exhibit micro-avoidance behaviors in the presence of WTGs (e.g., Normandeau 2022). Additionally, onshore impacts to bats due to land disturbance/loss are anticipated to be minimal. Based on these factors and the mitigation measures that will be</p>

Comment No.	Comment	Response
	<p>F. Baerwald J. F. Pollock R. M. R. Barclay J. A. Szymanski T. J. Weller A. L. Russell S. C. Loeb R. A. Medellin and L. P. Mcguire. 2017. "Fatalities at Wind Turbines May Threaten Population Viability of a Migratory Bat." <i>Biological Conservation</i> 209: 172–77. https://doi.org/10.1016/j.biocon.2017.02.023; Population-Level Risk to Hoary Bats Amid Continued Wind Energy Development: Assessing Fatality Reduction Targets Under Broad Uncertainty. EPRI Palo Alto CA: 2020. 3002017671; Friedenberg N. A. & Frick W. F. (2021). Assessing fatality minimization for hoary bats amid continued wind energy development. <i>Biological Conservation</i> 262 109309. https://doi.org/10.1016/J.BIOCON.2021.109309.] Because all bat species in New Jersey have documented collisions with land-based wind energy facilities[Footnote 189: Arnett and Baerwald 2013 and Zimmerling J.R and Francis C.M. 2016. "Bat Mortality Due to Wind Turbines in Canada." <i>The Journal of Wildlife Management</i> 80 no. 8 (2016): 1360–69. http://www.jstor.org/stable/44132784.] and significant uncertainties exist around bats' use of the offshore environment[Footnote 190: These uncertainties are repeatedly acknowledged in the DEIS. E.g., AS DEIS at 3.5.1-4 3.5.1-16 Appendix E at E-1 E-2.] BOEM should not interpret a lack of data as a lack of impacts and instead work with Atlantic Shores South the RWSC and other developers to implement monitoring regimes to enable better understanding of bat impacts from offshore wind development.</p>	<p>employed by Atlantic Shores, and likely to be employed at other offshore wind farms, impacts to bats will likely be unmeasurable, resulting in an impact determination of "negligible". This impact determination is consistent with the impact determinations for bats presented in other Atlantic OSW EISs.</p> <p>The referenced papers all discuss bat fatalities at inland wind farms, where bat presence is much greater than in offshore areas, thus results from these studies do not represent potential bat fatalities at offshore wind farms. Additionally, three of these studies (Frick et al. 2017; EPRI 2020; Friedenberg and Frick 2021) discuss impacts to hoary bats and use fatality per megawatt estimates based on fatalities at inland wind farms. Although, as stated in these studies, hoary bats constitute a large proportion of fatalities at inland wind farms, only 37 of a total of 1,124 detections in the Atlantic Shores Lease Area were identified as the hoary bat.</p> <p>As part of its Bird and Bat Monitoring Plan (BBMP), the Applicant will use acoustic monitor monitoring of bat presence in the vicinity of the Project, provide annual and quarterly monitoring reports including raw data to USFWS and BOEM, report dead or injured birds and bats as they occur and in annual reports to USFWS and BOEM, and provide annual reports summarizing monthly turbine operational data to USFWS, BOEM, and BSEE. These activities will aid in the understanding of the impacts of offshore wind farms to birds and bats and will be used to refine avian collision risk models.</p>
BOEM-2023-0030-1556-0068	As discussed above assessing cumulative effects is essential to understanding impacts and this is particularly important for bats where the best available scientific information indicates that cumulative impacts from land-based wind energy[Footnote 191: The DEIS specifically notes that data from bats and offshore wind are lacking and therefore	The referenced papers all discuss bat fatalities at inland wind farms, where bat presence is much greater than in offshore areas, thus results from these studies do not represent potential bat fatalities at offshore wind farms. Additionally, these studies (Frick et al. 2017; EPRI 2020; Friedenberg and Frick 2021) discuss impacts to hoary bats and use fatality per

Comment No.	Comment	Response
	<p>collision risk from land-based wind was used to analyze impacts. AS DEIS Appendix E at E-2.] have the potential to cause significant population-level declines.[Footnote 192: Frick et al. 2017; EPRI 2020; Friedenber g & Frick 2021.] Based on an incomplete and spatially limited[Footnote 193: Acoustic data assessed in the COP was subset to only include calls within the Lease Area plus a 1.6 mi (2.5 km) buffer (AS COP Appendix II-F4 at 7). This both limits the data assessed when data are already sparse on bats’ offshore use and is likely not reflective of how bats are using the offshore environment—no research is presented to support that a bat detected more than 2.5 km from the Lease Area could not pass through and be exposed to the Lease Area.] review of the already limited offshore bat data[Footnote 194: AS DEIS and COP are both missing an extensive review of acoustic surveys from other offshore wind developments (see Sunrise Wind Revolution Wind and Empire Wind for more comprehensive reviews of acoustic data) including acoustic surveys in support of nearby South Fork Wind which detected northern long-eared bat calls offshore including in the Lease Area.] BOEM concludes that the Proposed Action and other ongoing and planned activities will result in negligible cumulative impacts to bats.[Footnote 195: AS DEIS at 3.5.1-19 2-64 and ES-13.] As noted below insufficient research is provided to support this claim.</p>	<p>megawatt estimates based on fatalities at inland wind farms. Although, as stated in these studies, hoary bats constitute a large proportion of fatalities at inland wind farms, only 37 of a total of 1,124 detections in the Atlantic Shores Lease Area were identified as the hoary bat.</p> <p>The EIS includes information on bat acoustic surveys conducted for the Coastal Virginia Offshore Wind Project (CVOW), Block Island Wind Farm, and Empire Wind and its summary of bat acoustic surveys is comparable to those found in other EISs. Information regarding acoustic surveys conducted in support of the South Fork Wind Farm has been added to Section 3.5.1, <i>Bats</i> of the EIS.</p> <p>The information presented in the EIS represents the best available science regarding bat presence in the offshore environment. BOEM and will continue to collect information on bat presence in the offshore environment to help inform the assessment of potential impacts on bats from construction and operation off offshore wind farms. Although studies have documented the presence of bats offshore, they occur in much lower numbers than in onshore areas (e.g., Lagerveld and Mostert 2023), with the number of detections decreasing with increasing distance from the coast (e.g., Brabant et al. 2021). and have been observed to exhibit micro-avoidance behaviors in the presence of WTGs (e.g., Normandeau 2022). Additionally, onshore impacts to bats due to land disturbance/loss are anticipated to be minimal. Based on these factors and the mitigation measures that will be employed by Atlantic Shores, and likely to be employed at other offshore wind farms, impacts to bats will likely be unmeasurable, resulting in an impact determination of “negligible”. This impact determination is consistent with the impact determinations for bats presented in other Atlantic OSW EISs.</p>

Comment No.	Comment	Response
BOEM-2023-0030-1556-0069	<p>Of particular concern for the accuracy of BOEM’s cumulative impact analysis for bats is the geographic analysis area. BOEM defines the geographic analysis area as 100 mi offshore and 5 mi inland.[Footnote 196: AS DEIS at 3.5.1-1 and Appendix D at D-2.] This is at odds with the geographic analysis area used for bats for Vineyard Wind 1 where the area extended 100 mi inland.[Footnote 197: Vineyard Wind 1 Final EIS at A-10.] BOEM presents no research in the Draft EIS to support the assumption that bats found offshore exclusively use near-coast habitat on land (i.e., five miles or less from the coasts) to support this limited geographic scope.</p>	<p>Differences in GAA delineations across BOEM EISs are due to consideration, when possible, of more site-specific information about the environmental resource. For instance, more site-specific information of bats in the Mid-Atlantic Bight portion of this area and the proposed location of the Project was available and incorporated into the development of the GAA for Atlantic Shores South.</p>
BOEM-2023-0030-1556-0070	<p>A quick survey of available research on bat migration does not support BOEM’s rationale for their limited inland geographic analysis area in Atlantic Shores South’s Draft EIS. Although the migratory movements of bats especially migratory tree bats are poorly understood many species of bats—both long-distance migrants like migratory tree bats but also cave bats—are capable of fairly long distance flights in excess of 100 km (62 mi) indicating that bats found offshore in wind development areas could also be found significant distances inland. Research from Canada found that 20 percent of little brown bat movements exceeded 500 km (311 mi)[Footnote 198: Norquay K. J. O. Martinez-Nuñez F. Dubois J. E. Monson K. M. & Willis C. K. R. (2013). Long-distance movements of little brown bats (<i>Myotis lucifugus</i>). Source: <i>Journal of Mammalogy</i> 94(2) 506–515. https://doi.org/10.1644/12-MAMM-A-065.1] which is further supported by data from tracked little brown bats which shows individuals using both coastal areas and making long-distance flights to locations significantly further inland than five miles.[Footnote 199: Bird Studies Canada 2018.] In addition to little brown bats data in Motus includes tracks of individual silver-haired bats eastern red bats hoary bats eastern small-footed bats and Indiana bats between coastal areas on the east coast and areas in excess of 100 mi inland.[Footnote 200: Bird Studies Canada 2018.] Hoary bats</p>	<p>Differences in GAA delineations across BOEM EISs are due to consideration, when possible, of more site-specific information about the environmental resource. For instance, more site-specific information of bats in the Mid-Atlantic Bight portion of this area and the proposed location of the Project was available and incorporated into the development of the GAA for Atlantic Shores South.</p>

Comment No.	Comment	Response
	<p>which are capable of long distance flights over water[Footnote 201: Hoary bats have colonized the Hawaiian Islands from the mainland multiple times. Russell A. L. Pinzari C. A. Vonhof M. J. Olival K. J. & Bonaccorso F. J. (2015). Two Tickets to Paradise: Multiple Dispersal Events in the Founding of Hoary Bat Populations in Hawai'i. PLOS ONE 10(6) e0127912. https://doi.org/10.1371/journal.pone.0127912] have been recorded traveling over 1000 km (621 mi)[Footnote 202: Weller T. J. Castle K. T. Liechti F. Hein C. D. Schirmacher M. R. & Cryan P. M. (2016). First Direct Evidence of Long- distance Seasonal Movements and Hibernation in a Migratory Bat. Scientific Reports 6(1) 1–7. https://doi.org/10.1038/srep34585] and are thought capable of migrations in excess of 2000 km (1243 mi).[Footnote 203: Cryan P. M. Bogan M. A. Rye R. O. Landis G. P. & Kester C. L. (2004). Stable Hydrogen Isotope Analysis of Bat Hair as Evidence for Seasonal Molt and Long-Distance Migration. In Source: Journal of Mammalogy (Vol. 85 Issue 5).] These data do not support a geographic analysis area that extends only five miles inland but rather suggest that bats exposed to offshore wind energy projects could be found far inland (and therefore exposed to land- based wind energy facilities) and that a geographic analysis area that extends 100 mi inland would be more appropriate.</p>	
BOEM-2023-0030-1556-0071	<p>BOEM should conduct a thorough review of the literature on bat migration and radio- and GPS-tagged bats and select a boundary that better reflects the potential habitat use of exposed bats. This revised boundary will likely require an updated analysis to reflect that bats exposed to offshore wind projects could be exposed to multiple land-based wind energy projects as well as multiple offshore wind energy projects.</p>	<p>Differences in GAA delineations across BOEM EISs are due to consideration, when possible, of more site-specific information about the environmental resource. For instance, more site-specific information of bats in the Mid-Atlantic Bight portion of this area and the proposed location of the Project was available and incorporated into the development of the GAA for Atlantic Shores South.</p>
BOEM-2023-0030-1556-0072	<p>The limited data analyzed to support BOEM's impact analysis were predominantly collected in the offshore environment in the absence of offshore wind turbine structures. The</p>	<p>The data presented on bat presence in the offshore environment represents the best available science. Currently, only 7 operational WTGs (5 off of MA and 2 off of VA) are</p>

Comment No.	Comment	Response
	<p>Proposed Action would significantly change the habitat by adding up to 210 new structures (up to 200 WTGs and 10 offshore substations[Footnote 206: AS COP Volume 1 at E-6.]). Bats are attracted to structures including wind turbines[Footnote 207: Cryan Paul M. P. Marcos Gorresen Cris D. Hein Michael R. Schirmacher Robert H. Diehl Manuela M. Huso David T. S. Hayman et al. 2014. “Behavior of Bats at Wind Turbines.” Proceedings of the National Academy of Sciences of the United States of America. National Academy of Sciences.] and this attraction is acknowledged in the Draft EIS and COP.[Footnote 208: E.g. AS COP Volume II at 4-59 and AS DEIS at 3.5.1-3 and 3.5.1-12.] Given the addition of structures post-construction and bats’ known attraction to structures including wind turbines basing post-construction impact analyses on pre-construction data or other data collected in the absence of turbines is inappropriate.</p>	<p>present off the U.S. Atlantic coastline. Data collected by post-construction monitoring conducted in relation to these existing projects, as well as currently in-construction and planned OSW projects, will aid in the understanding of bat presence in OSW farms and will be incorporated into future impacts analyses.</p> <p>The possibility of bat attraction to wind turbines was considered in Section 3.5.1, <i>Bats</i>. BOEM concluded that given the relatively low numbers of bats in the offshore environment, the wide spacing of the wind turbines, and the patchiness of projects, the likelihood of collisions is expected to be low; therefore, impacts on bats would be expected to be negligible.</p> <p>Mitigation measures would be implemented to minimize the potential for any light-driven attraction of bats or their insect prey, which would reduce the effects of light on potential collisions of bats. Additionally, any conservation measures related to minimizing the risk of bat collisions with structures and included by USFWS in its Biological Opinion would be required conditions of BOEM’s approval of the Project.</p>
BOEM-2023-0030-1556-0073	<p>BOEM must consider the potential that bats could be attracted to offshore wind turbines—which would dramatically increase collision risk—and update the impact assessment accordingly.</p>	<p>The possibility of bat attraction to wind turbines was considered in Section 3.5.1, <i>Bats</i>. BOEM concluded that given the relatively low numbers of bats in the offshore environment, the wide spacing of the wind turbines, and the patchiness of projects, the likelihood of collisions is expected to be low; therefore, impacts on bats would be expected to be negligible. Mitigation measures would be implemented to minimize the potential for any light-driven attraction of bats or their insect prey, which would reduce the effects of light on potential collisions of bats. Additionally, any conservation measures related to minimizing the risk of bat collisions with structures and included by USFWS in its Biological Opinion</p>

Comment No.	Comment	Response
		would be required conditions of BOEM's approval of the Project.
BOEM-2023-0030-1556-0074	<p>Given the potential for the species to use the offshore environment the detection of a northern long-eared bat during South Fork Wind Farm surveys and the lack of survey efforts to provide evidence of absence BOEM should not consider exposure and risk to northern long-eared bats and other cave bats to be negligible. Instead as BOEM prepares its Biological Assessment and consults with the U.S. Fish and Wildlife Service BOEM should note that northern long-eared bats could be present in the offshore Project Area and that insufficient research exists to dismiss potential collision impacts from Atlantic Shores South's operations. BOEM should thus require Atlantic Shores South to conduct or support monitoring to better understand the potential presence of and collision risk to northern long-eared bats in the Lease Area.</p>	<p>The results of pre-construction boat-based acoustic surveys conducted throughout the Lease Area in 2020 and 2021 are presented in EIS Section 3.5.1, <i>Bats</i> and COP Volume II, Appendix F4 (Atlantic Shores 2024). In the two years of surveys, there were 34 detections of cave-dwelling bats out of a total of 1,124 bat detections. Due to insufficient information that would allow for a species identification, 478 recordings were categorized into the big brown/silver bat group. Cave-hibernating bats were likely among those categorized in this group, however, based on the number of positively identified silver-haired bats (80) compared to the number of positively identified big brown bats (26), big brown bats likely only proportionally account for one-third (an estimated 157 recordings) of the recordings in this group. BOEM also notes that no NLEB were observed during these surveys.</p> <p>The EIS considers the impacts of primary IPFs to all bat species, including ESA-listed species, that use onshore and offshore habitats, including both resident bat species that use the Project area during all (or portions of) the year and migrating bat species with the potential to pass through the Project area. Impacts to ESA-listed bats, including collision risks, are examined more in detail in the USFWS BA, available here: https://swm.boem.gov/sites/default/files/documents/renewable-energy/state-activities/AtlanticShoresSouth_USFWS_BA.pdf.</p> <p>Both the EIS and BA rely on surveys completed by the Applicant, as well as others to determine the likelihood that species would be present in the offshore wind environment. BOEM concluded that given the relatively low numbers of bats in the offshore environment, the wide spacing of the</p>

Comment No.	Comment	Response
		<p>wind turbines, and the patchiness of projects, the likelihood of collisions is expected to be low; therefore, impacts on bats would be expected to be negligible.</p> <p>The Applicant is required to develop and implement a Bird and Bat Monitoring Plan (BBMP) in coordination with USFWS and other relevant regulatory agencies. This measure is included as an applicant-proposed measure in the Final EIS (BIR-16 and BAT-13, in Table G-1 of Appendix G, <i>Mitigation and Monitoring</i>).</p> <p>Prior to commencing offshore construction activities, Atlantic Shores must submit the BBMP for BOEM and USFWS review. BOEM and USFWS will review the BBMP and provide any comments. The Applicant must resolve all comments on the BBMP to BOEM and USFWS's satisfaction before implementing the plan.</p> <p>Annual monitoring reports will be used to determine the need for adjustments to monitoring approaches, consideration of new monitoring technologies, and/or additional periods of monitoring.</p>

N.6.6 Benthic Resources

Table N.6-6. Responses to Comments on Benthic Resources

Comment No.	Comment	Response
BOEM-2023-0030-0489-0002	An article published by Rutgers in 2021 (https://marine.rutgers.edu/announcements/offshore-wind-turbines-could-affect-mid-atlantic-cold-pool-study-shows/) notes the negative impacts of wind farms on water temperature particularly at deeper ocean levels which could destroy scallop and sea clam habitats.	The referenced article (Miles et al. 2021) proposed that the effects of offshore foundations on the Cold Pool, where seasonal stratification is strong and tidal currents are weaker, may not be as pronounced as those observed in Northern Europe, where seasonal stratification is weaker, tidal currents are stronger, and turbulence is greater. Due to these differences in oceanographic characteristics, previous models

Comment No.	Comment	Response
		<p>of impacts on stratification in European waters may be more indicative of impacts on Cold Pool stratification during spring and fall when stratification is weaker, and structure-induced mixing may not be substantial enough to significantly affect the stronger stratification present in the Cold Pool during the summer (Miles et al. 2021).</p>
BOEM-2023-0030-0563-0005	<p>Each offshore wind turbine tower requires 1.3 acres of stone per 49-foot diameter tower to prevent scouring of the foundations. The total stone for the 550 turbines planned for Atlantic Shores & Ocean Wind projects will cover 715 acres. This stone will substantially change the east coast predominately sandy shallow shelf & natural environment. With 3400 towers eventually planned off the Jersey Coast there will be 4420 acres of stone around the 49-foot diameter steel towers. Clearly this will introduce a completely new habitat which will forever destroy the existing natural environment.</p>	<p>Impacts of the Ocean Wind 1 project are analyzed separately in the Ocean Wind 1 Final EIS available here: https://www.boem.gov/renewable-energy/state-activities/ocean-wind-1-final-environmental-impact-statement-feis-commercial.</p> <p>There are only 1,352 WTGs planned for construction off the New York/New Jersey coasts; a total of 3,091 WTGs are planned for construction off the Atlantic OCS, extending from South Carolina to Massachusetts in addition to the 81 existing WTGs. The 200 Atlantic Shores South WTG foundations and associated scour protection would have a benthic footprint of approximately 261 acres. Combined, the Mid-Atlantic OCS (Delaware to North Carolina) and North Atlantic OCS (Maine to New Jersey) include entire Atlantic OCS includes 205.15 million acres of submerged lands, subsoil, and seabed (https://www.boem.gov/oil-gas-energy/atlantic-ocs-facts-and-figures) and thus the seafloor area that will be permanently converted to hard-bottom due to the Projects is a small fraction (0.00013%) relative to the Atlantic OCS.</p>
BOEM-2023-0030-0916-0237	<p>The DEIS should have presented the level of impacts on restructuring of marine ecosystems on energy extraction both above and below sea level. In addition impacts on the regional atmosphere multiple physical biological and chemical impacts on the marine system must be identified in the project PEIS. Complicating these effects underwater structures such as foundations and piles may cause turbulent current wakes which impact circulation stratification mixing and sediment resuspension.</p>	<p>Further discussion of the possible atmospheric and hydrodynamic impacts from the presence of foundation structures and operational wind turbine generators, as well as data gaps, has been added to Section 3.5.2, <i>Benthic Resources</i>. This added discussion focuses on impacts to the Mid-Atlantic Bight Cold Pool in consideration of its stratification and current characteristics. Please also refer to Section 3.5.5, <i>Finfish, Invertebrates, and Essential Fish Habitat</i> for further discussion of atmospheric and</p>

Comment No.	Comment	Response
		hydrodynamic impacts. As stated in the EIS, any impacts to benthic resources as a result of changes in local scour and sediment transport close to a foundation are expected to be minimal due to the use of scour protection for each foundation. Please also refer to Table N.6-9 and Table N.6-10 for additional responses to this comment.
BOEM-2023-0030-1223-0030	The analysis should clearly state the differences in expected impacts between HVAC vs. HVDC cabling and how that interacts with small medium or large offshore substations to affect fish invertebrates and EFH. Specifically different configurations of cables and substations will alter interarray cable layouts and the width of export cable corridors potentially running cables through additional areas of sand ridge habitats. We are also concerned about differences in impacts between HVAC and HVDC on electrosensitive fishes. Our previous understanding was that closed loop cooling systems for AC to DC power converter stations were not economically or technically feasible at this time. We are encouraged to see this type of system proposed as it avoids entrainment related impacts to fish eggs and larvae. The FEIS should provide more clarity on if this is in fact a viable technology if it is being considered as an alternative to HVAC cabling.	<p>Impacts of EMF to fish (including fish eggs and larvae and electrosensitive fishes), invertebrates, and EFH are discussed in Section 3.5.5, <i>Finfish, Invertebrates, and Essential Fish Habitat</i>.</p> <p>A statement is present in Section 3.5.2.3 noting that magnetic fields from HVAC cables are greater than from HVDC cables. The current analysis considers the maximum case scenario of benthic disturbance associated with export and interarray cables, including impacts to sand ridge habitats. Based on these route options, Atlantic Shores expects that cable routes would require the removal or disturbances to sand ridge and other bedform habitats of up to 20 percent of export cable corridors and 10 percent of interarray cable corridors.</p> <p>Atlantic Shores has proposed to use closed-cycle cooling for the offshore converter station. Additional details on the use of closed-cycle cooling systems are not currently available.</p> <p>Please also refer to Table N.6-9 for an additional response to this comment.</p>
BOEM-2023-0030-1257-0006	Atlantic Shores South should employ micrositing of export cables and foundations to avoid and minimize impacts to benthos particularly avoiding complex hard bottom habitat.	Atlantic Shores has made considerable efforts to avoid or minimize impacts to complex and/or sensitive habitats in the siting of our Projects. Atlantic Shores will consider further micrositing to avoid complex and/or sensitive habitats when it is technically and economically feasible to do so; however, while it may be possible to microsite cables within an ECC, it is not feasible to microsite the corridor itself. As described in Chapter 3.5.2, <i>Benthic Resources</i> , Section 3.5.2.7, Alternative

Comment No.	Comment	Response
		C and its sub-alternatives involve micrositing of project structures to reduce impacts to important habitats within the Lobster Hole (AOC 1), NMFS-identified sand ridge complex in the southernmost portion of the Lease Area (AOC 2), and/or a demarcated sand ridge complex within the Lease Area through the micrositing or removal of up to 29 WTGs, 1 OSS, and associated interarray cables.
BOEM-2023-0030-1305-0001	It is quite clear no one knows what the cumulative effects will be. First when I questioned the environmental impacts of scallops and the endangered horseshoe crabs I was informed that no such studies have been done. The EIS clearly states there will be irreversible major impacts yet no one is looking into how this will affect the ocean's ecosystem? I also asked about sand eels since there habitat will be changed forever and again no answers.	Impacts to fish, including sand eels, and commercially important invertebrate species such as scallops are addressed in Section 3.5.5, <i>Finfish, Invertebrates, and Essential Fish Habitat</i> . The American horseshoe crab (<i>Limulus polyphemus</i>) is not currently an ESA-listed species, although it is listed as “vulnerable” by the IUCN (International Union for Conservation of Nature). Project activities are not anticipated to negatively impact horseshoe crab spawning, juvenile, or adult habitats. Possible impacts to beach spawning habitats would be avoided by the use of HDD at export cable landfalls. HDD would also be used to traverse Inner Thorofare and Great Thorofare, thus avoiding impacts to any juvenile or adult horseshoe crab habitat that may be present there. Additionally, adult horseshoe crabs generally reside offshore in depths of 200 meters or greater when not spawning (NJ Sea Grant, n.d.), which is much deeper than the Lease Area. Atlantic Shores has developed and would implement a benthic habitat monitoring plan (COP Volume II, Appendix II-H; Atlantic Shores 2024) to measure and assess the disturbance and recovery of marine benthic habitats and communities occurring due to Project construction and operation.
BOEM-2023-0030-1339-0025	It also should be made clear to the public that decommissioning does not mean the wind energy area will be restored to its prior condition. Large amounts of materials required for OSW projects will likely remain in the ocean e.g., scour protection materials and cables. This represents the permanent conversion of soft sediment areas to those	The EIS examines the maximum impacts of the PDE, which includes full removal of Project components at decommissioning, which are expected to be the same as or similar to impacts during Project construction. Prior to decommissioning, Atlantic Shores will submit a Decommissioning Plan that will be subject to environmental

Comment No.	Comment	Response
	<p>with hard structure especially for the Atlantic Shores South area which is dominated by soft bottom (page 3.5.2-8). The DEIS identifies this conversion as a benefit as this is believed to create habitat however insufficient discussion of the impacts on species naturally occurring in the Atlantic Shores South area is provided. It is unclear whether this newly created habitat will give other species a competitive advantage over species that prefer or rely on soft bottom for their life cycle. The primary concern regarding cables remaining in the water is the dynamic nature of the seabed – scour protection is required because sediment moves and therefore cables can become uncovered. It is unclear who is responsible for uncovered cables left in the ocean after decommissioning. These cables are a major safety concern for fishing vessels operating mobile bottom tending gear as they can hang-up on cables</p>	<p>review through the NEPA process. The NEPA review of the Decommissioning Plan will examine the impacts of various decommissioning scenarios and will include EFH and ESA consultations.</p>
BOEM-2023-0030-1404-0012	<p>My understanding is that Atlantic Shores plans to minimize sediment plumes by lining large areas of the ocean floor around the base of each turbine with large rocks. Lining the ocean floor with large rocks has the potential to kill all the shellfish in the area and will not only destroy our clam and scallop industry but could also have irreversible damage to the ocean environment as we know it killing many other species that feed and depend on the clams, scallops and other life that lives on the ocean floor. What steps will BOEM take to protect the sea life that will be destroyed by lining the ocean floor with rocks?</p>	<p>Impacts to commercially important invertebrate species such as scallops are addressed in Section 3.5.5, <i>Finfish, Invertebrates, and Essential Fish Habitat</i>. Potential impacts to fisheries, including scallop and clam fisheries are discussed in Section 3.6.1, <i>Commercial Fisheries and For-Hire Recreational Fishing</i>. The locations of lease areas for offshore wind projects have been designated, in part, to avoid, when possible, sensitive habitats for shellfish species and areas where those species are known to be concentrated. Some of the soft-bottom habitat where scour protection or cable protection is placed will not necessarily contain shellfish. The 200 Atlantic Shores South WTG foundations and associated scour protection would have a benthic footprint of approximately 261 acres. The entire Lease Area is approximately 102,124 acres in size, thus the seafloor area that would be permanently converted to hard-bottom due to the Project is small relative to the soft-bottom habitats located in the Lease Area.</p>

Comment No.	Comment	Response
BOEM-2023-0030-1478-0001	Despite the fact that “heat” from cables is acknowledged there is no information presented to support the statements that “heat impacts on benthic fauna would be biologically insignificant...” and “impacts from planned activities on benthic resources would be minor.” (EIS 3.5.2-19)	As stated in the EMF and Heat IPF in Section 3.5.2.3, <i>Impacts of Alternative A – No Action on Benthic Resources</i> heat from cables will be highly localized to the sediments within the immediate vicinity of the cables and is not anticipated to have population level effects on benthic organisms. Based on controlled experiments, Emeana and others (2016) measured > 10°C increases in sediment temperature at distances ranging from 40 centimeters to over a meter from a cable source that varied depending on sediment substrate type and source temperature of the cable. Additionally, the affected area represents a very small portion of the available benthic habitat in the Lease Area. Based on the impact level definitions for benthic resources, an impact determination of minor is appropriate because impacts to sensitive habitats will be avoided, and no population-level impacts would occur.
BOEM-2023-0030-1499-0011	Or how about the heat generated by the cabling that will warm the ocean and affect its CO2 absorption and affect the norm of the marine life...	BOEM is not aware of any studies demonstrating increases in water column temperatures and decreases in CO ₂ absorption as a result of the thousands of miles of existing operational submarine electric transmission cables.
BOEM-2023-0030-1499-0012	The effects of tidal sediment flows strewing from the ocean floor mounts continuously is not discussed. These are expected to create enough consistent clouding of the water to make the habitat unlivable for marine life to eat and breath.	As stated in the EIS in the Presence of Structure IPFs of Sections 3.5.2.3, <i>Impacts of Alternative A – No Action on Benthic Resources</i> and 3.5.2.5, <i>Impacts of Alternative B – Proposed Action on Benthic Resources</i> , once Project construction is complete, the presence of the WTG, OSS, and met tower foundations could result in some alteration of local water currents, which could cause changes in local scour and sediment transport close to a foundation that may alter sediment grain sizes and benthic community structure (Lefaible et al. 2019). This impact is expected to be minimal due to the use of scour protection for each foundation.
BOEM-2023-0030-1518-0034	Scallops ocean quahogs surf clams and various other shellfish as well as small surface burrowing fauna small tube-building fauna and clam beds play a crucial role in providing ecosystem services like water filtration and nutrient recycling. However human activities such as anchoring dredging	Impacts to commercially important invertebrate species such as scallops and ocean quahogs are addressed in Section 3.5.5, <i>Finfish, Invertebrates, and Essential Fish Habitat</i> , and in Section 3.6.1, <i>Commercial Fisheries and For-Hire Recreational Fishing</i> . The impacts of Project-related anchoring, dredging,

Comment No.	Comment	Response
	currents cable laying pile driving and other actions can lead to increased turbidity and physical damage. These activities pose a significant threat to benthic habitats potentially suffocating existing species and causing the relocation or complete loss of thriving benthic ecosystems.	cable emplacement, pile driving, and other construction O&M, and decommissioning on benthic organisms are discussed in detail in Section 3.5.2, <i>Benthic Resources</i> . No population-level impacts to benthic invertebrate species are anticipated to occur as a result of Project activities.
BOEM-2023-0030-1518-0035	The Township is deeply concerned that the construction operation and decommissioning activities associated with these human interventions could bring about permanent ecological changes to the seafloor and benthic habitats. Such changes have the potential to disrupt nutrient cycles and disturb feeding patterns for fish and other species that depend on benthic organisms existing at the bottom of the food chain.	As described in Dorrell et al. (2022), seasonal stratification cycles on continental shelf seas play an important role in carbon and nutrient cycling, phytoplankton production, and secondary production; and large-scale changes in seasonal stratification may impact these natural processes and cycle. Although research on the potential disruptions to the Mid-Atlantic Bight Cold Pool from offshore wind structures is ongoing (BOEM 2021), a recent review by Miles and others (2021) proposed that offshore foundation effects on the Cold Pool, where seasonal stratification is strong and tidal currents are weaker, may not be as pronounced as those in Northern Europe, where seasonal stratification is weaker, tidal currents are stronger, and turbulence is greater. Due to these differences in oceanographic characteristics, previous models of impacts on stratification in European waters may be more indicative of impacts on Cold Pool stratification during spring and fall when stratification is weaker, and structure-induced mixing may not be substantial enough to significantly affect the stronger stratification present in the Cold Pool during the summer (Miles et al. 2021). Although future research is needed, current available information suggests that the consequences for benthic resources of hydrodynamic disturbances due to the presence of offshore structures are anticipated to be undetectable to small, to be localized, and to vary seasonally. Analysis of impact producing factors for benthic resources has determined that no population-level impacts to benthic invertebrates are anticipated as a result of Project-related activities and, as such, benthic prey for fish will not be significantly impacted by the Project. Additionally, the provision of hard surfaces may be beneficial in that it would provide habitat for encrusting/attached organisms

Comment No.	Comment	Response
		which may serve as potential prey for fish that forage on the structure.
BOEM-2023-0030-1518-0036	<p>The impact of electromagnetic fields (EMFs) on marine organisms is a subject of growing concern and scientific investigation. EMFs originate from underwater power cables transmitting energy from offshore wind turbines to offshore substations before connecting to the energy grid on land. These fields can interfere with the natural behaviors and sensory mechanisms of marine organisms such as migration navigation foraging and communication. Studies have shown that EMFs can disrupt the behavior of fish affecting their ability to detect predators or locate prey. Marine invertebrates including crustaceans and mollusks have also demonstrated altered responses to EMFs which can impact their feeding reproduction and overall survival. Additionally sensitive species like certain marine mammals and sea turtles might experience physiological and behavioral changes due to EMF exposure. Further research is necessary to fully understand the extent of these effects. BOEM states in the DEIS that impacts from electromagnetic frequencies (EMFs) are not well studied. However, studies cited in the following subsection Electromagnetic Fields (EMF) Generated from Cables conclude that EMF has measurable impacts on the development of benthic creatures. Such species are highly sensitive to noise vibration and EMF. There are currently no existing studies that investigate the simultaneous impacts from noise vibration and EMF on benthic species. The developer states that transmission cables may be left in place following decommissioning and such determinations would be made following future environmental assessments and consultations with federal state and municipal resource agencies. The Township is concerned that the developer does not plan to leave the ocean in the same way it was found and requests that BOEM require the developer to return the waters off of Long Beach Township to their original condition following the decommissioning of the project. In addition, the</p>	<p>Impacts of EMF to fish, invertebrates, and EFH are discussed in Section 3.5.5. The effects of EMF on benthic invertebrate species have not been extensively studied, and studies have mostly been limited to commercially important species such as lobster and crab. The best available science on this topic has been reviewed in the EIS and indicates that EMF impacts on benthic invertebrates would be biologically insignificant, highly localized, and limited to the immediate vicinity of cables, undetectable beyond a short distance, but persistent as long as cables are in operation. For mobile benthic invertebrate species, most exposure is expected to be of short duration, and the affected area would represent an insignificant portion of the available habitat; therefore, impacts on benthic invertebrates are expected to be minor. Impacts of substrate-borne vibrations to benthic invertebrates are discussed in Section 3.5.2, <i>Benthic Resources</i>. Benthic invertebrates are sensitive only to the particle motion component of noise. Because marine invertebrates detect sound via particle motion and not acoustic pressure, they are not likely to experience barotrauma from pile driving. Very few studies have examined the effects of substrate vibrations from pile driving, yet many have recently acknowledged that this is a field of urgently needed research (Hawkins et al. 2021; Popper et al. 2022b; Wale et al. 2021). Detectable particle motion effects on invertebrates include startle responses, valve closure, and changes to respiration or oxygen consumption rates (Carroll et al. 2017; Edmonds et al. 2016; Hawkins and Popper 2014; Payne et al. 2007). Given that most benthic species in the region are either mobile as adults or planktonic as larvae, disturbed areas would likely be recolonized naturally and in the short term, and the overall impact on benthic resources would be minor.</p>

Comment No.	Comment	Response
	Township urges BOEM to require the developer to hold a bond that guarantees the costs of decommissioning.	<p>The EIS examines the maximum impacts of the PDE, which includes full removal of Project components at decommissioning, which are expected to be the same as or similar to impacts during Project construction. Prior to decommissioning, Atlantic Shores will submit a Decommissioning Plan that will be subject to environmental review through the NEPA process. The NEPA review of the Decommissioning Plan will examine the impacts of various decommissioning scenarios.</p> <p>Atlantic Shores is required to hold a bond of financial assurance for Project decommissioning (30 CFR 585.626(b)(19); 30 CFR 585.515; 30 CFR 585.516).</p>
BOEM-2023-0030-1523-0024	The impact of electromagnetic fields (EMFs) on marine organisms is a subject of growing concern and scientific investigation. EMFs originate from underwater power cables transmitting energy from offshore wind turbines to offshore substations before connecting to the energy grid on land. These fields can interfere with the natural behaviors and sensory mechanisms of marine organisms such as migration navigation foraging and communication. Studies have shown that EMFs can disrupt the behavior of fish affecting their ability to detect predators or locate prey. Marine invertebrates including crustaceans and mollusks have also demonstrated altered responses to EMFs which can impact their feeding reproduction and overall survival. Additionally sensitive species like certain marine mammals and sea turtles might experience physiological and behavioral changes due to EMF exposure. Further research is necessary to fully understand the extent of these effects.	The effects of EMF on benthic invertebrate species have not been extensively studied, and studies have mostly been limited to commercially important species such as lobster and crab. Information available (and reviewed in the EIS) indicates EMF impacts on benthic invertebrates would be biologically insignificant, highly localized, and limited to the immediate vicinity of cables, undetectable beyond a short distance, but persistent as long as cables are in operation. For mobile benthic invertebrate species, most exposure is expected to be of short duration, and the affected area would represent an insignificant portion of the available habitat; therefore, impacts on finfish, invertebrates, and EFH would be expected to be minor. Impacts of EMF to marine mammals and sea turtles are discussed in Section 3.5.6 and Section 3.5.7, respectively.
BOEM-2023-0030-1523-0026	Furthermore, the DEIS admits that “The addition of offshore wind structures would convert soft-bottom habitat to complex structured habitat” and would introduce approximately 5405 acres of hard scour protection around foundations and another 2576 acres of hard protection	Combined, the Mid-Atlantic OCS (Delaware to North Carolina) and North Atlantic OCS (Maine to New Jersey) include 205.15 million acres of submerged lands, subsoil, and seabed (https://www.boem.gov/oil-gas-energy/atlantic-ocs-facts-and-figures) and thus the seafloor area that will be

Comment No.	Comment	Response
	<p>around export and interarray cables. BOEM attempts to minimize this massive disturbance by stating that the area is small relative to the existing soft bottom habitat while it is clear to any reader that 7981 acres is a significant amount of habitat that is being destroyed regardless of its relative size. BOEM anticipates that hard structures would be colonized by fouling communities (macroalgae mussels barnacles) and champions this fact while neglecting that such massive transformations of habitats could result in introducing dangerous amounts of filter-feeders that would reduce the amount of entrained zooplankton and other microorganisms and consequently impact food sources that migrating whales rely on.</p>	<p>permanently converted to hard-bottom due to proposed and current offshore wind projects (7,981 acres) is a small fraction (0.0039%) relative to the Atlantic OCS. While filter-feeders do reduce plankton abundance through their feeding activities, the role of offshore structures as artificial reefs is well documented, and they attract invertebrates and pelagic and demersal fish, many species of which feed on filter-feeding heterotrophs. Their feeding activities will keep the filter-feeder population in check and the proportional effect of filter-feeders on plankton abundances will be reduced. Finally, BOEM is not aware of any scientific studies documenting a decrease in plankton abundance in the presence of other offshore structures such as oil and gas rigs in locations such as the Gulf of Mexico, which currently has over 4,000 rigs.</p>
BOEM-2023-0030-1542-0010	<p>Water Quality and Benthic Habitat. BOEM must analyze and mitigate impacts to water quality and habitat from offshore wind projects. During installation of the turbine foundations and power cables sediment will become suspended and impact the marine environment especially if the sediment contains any toxic materials from historical offshore dumping. Careful analysis of turbine siting should be conducted to minimize the impact from such pollution during construction. Impacts from any fluids released from turbines and substations during operation such as lubricating oils and coolants must be monitored and mitigated to the greatest extent possible. BOEM must mandate the use of closed loop cooling systems if the Project decides to use high voltage DC power cords. Open loop cooling used on offshore wind substations can kill fish larvae and is an unnecessary environmental impact as closed loop technology is now commercially available. [Footnote 16: NRDC. Power plant cooling and associated impacts. Available at: nrdc.org/sites/default/files/power-plant-cooling-1B.pdf].</p>	<p>Impacts to water quality and related mitigation measures are discussed in Section 3.4.2, <i>Water Quality</i>. The Proposed Action would comply with all laws regulating at-sea discharges of vessel-generated waste and Atlantic Shores would implement an SPCC plan, further reducing the likelihood of an accidental release (GEO-16). Atlantic Shores has developed an Oil Spill Response Plan with measures to avoid accidental releases and a protocol to respond to such a release (BEN-06). Atlantic Shores would also implement an HDD Contingency Plan to minimize potential releases and inadvertent return of HDD fluid at export cable landfall sites if needed (BEN-02). Because offshore construction activities would disturb predominantly sandy, sediments these activities are not anticipated to contain toxic concentrations of contaminants. In addition, mapped ocean disposal sites will be avoided. Atlantic Shores has proposed to use closed-cycle cooling for the offshore converter station. Additional details on the use of closed-cycle cooling systems are not currently available.</p>

Comment No.	Comment	Response
BOEM-2023-0030-1556-0006	Benthic Invertebrates Finfish and Essential Fish Habitat: Require micrositing of the export cables and wind turbine generators to avoid minimize and mitigate impacts to complex and sensitive benthic habitats. Use quiet foundation types to the maximum extent possible to minimize noise impacts to marine mammals sea turtles fish marine birds and benthic and pelagic invertebrates.	Atlantic Shores has made considerable efforts to avoid or minimize impacts to complex and/or sensitive habitats in the siting of our Projects. Atlantic Shores will consider further micrositing to avoid complex and/or sensitive habitats when it is technically and economically feasible to do so; however, while it may be possible to microsite cables within an ECC, it is not feasible to microsite the corridor itself. As described in Section 3.5.2, <i>Benthic Resources</i> , Subsection 3.5.2.7, Alternative C and its sub-alternatives involve micrositing of project structures to reduce impacts to important habitats within the Lobster Hole (AOC 1), NMFS-identified sand ridge complex in the southernmost portion of the Lease Area (AOC 2), and/or a demarcated sand ridge complex within the Lease Area through the micrositing or removal of up to 29 WTGs, 1 OSS, and associated interarray cables. Potential noise impacts to marine species and noise mitigation measures are discussed for fish and pelagic invertebrates (Section 3.5.5), marine mammals (Section 3.5.6), and sea turtles (Section 3.5.7). Noise impacts to benthic invertebrates as a result of pile driving are discussed in Section 3.5.2. Given that most benthic species in the region are either mobile as adults or planktonic as larvae, disturbed areas would likely be recolonized naturally and in the short term, and the overall impact on benthic resources would be minor.
BOEM-2023-0030-1556-0091	To minimize and mitigate potential scour protection impacts for all foundation types BOEM should consider requiring scour protection design to follow a Nature-Based Design approach. Nature-Based Design refers to options that can be integrated with or added to the design of offshore wind infrastructure to create suitable habitat for species or communities whose natural habitat has been modified degraded or reduced.[Footnote 271: Sensu Hermans et al. 2020. Nature-Inclusive Design: A catalog for offshore wind infrastructure. https://edepot.wur.nl/518699]	BOEM has funded a field study for (FY 2022-2026) that will test the effectiveness of different scour protection materials with nature-based design considerations in promoting marine growth and enhancing habitat. (https://www.boem.gov/sites/default/files/documents/environment/environmental-studies/Evaluating%20Effectiveness%20of%20Nature%20Inclusive%20Design%20Materials.pdf).

Comment No.	Comment	Response
BOEM-2023-0030-1562-0001	The draft Environmental Impact Statement for Atlantic Shores Offshore Wind South is deficient in its coverage of the possible environmental and marine life damage from both heat and vibration noise emanating from the offshore export/transmission cables and the interarray cables that link the turbines together.	The information presented in the EIS represents the best available science. There are few existing studies available on the impacts of cable heat on benthic organisms and few existing studies available on the impacts of substrate-borne vibrations on benthic organisms. Additional information regarding heat emitted from offshore cables and impacts to benthic organisms has been added to the EMF and Heat IPFs of subsections 3.5.2.3 and 3.5.2.5 of Section 3.5.2, <i>Benthic Resources</i> .
BOEM-2023-0030-1562-0002	Despite the fact that “heat” from cables is acknowledged there is no information presented to support the statements that “heat impacts on benthic fauna would be biologically insignificant...” and “impacts from planned activities on benthic resources would be minor.” (EIS 3.5.2-19)	Heat from cables will be highly localized to the sediments within the immediate vicinity of the cables and is not anticipated to have population level effects on benthic organisms. Based on controlled experiments, Emeana and others (2016) measured > 10°C increases in sediment temperature at distances ranging from 40 centimeters to over a meter from a cable source that varied depending on sediment substrate type and source temperature of the cable. There are few existing studies available on the impacts of cable heat on benthic organisms; however, additional information regarding heat emitted from offshore cables and impacts to benthic organisms has been added to the EMF and Heat IPFs of subsections 3.5.2.3 and 3.5.2.5 of Section 3.5.2, <i>Benthic Resources</i> . The affected area represents a very small portion of the available benthic habitat in the Lease Area. Based on the impact level definitions for benthic resources, an impact determination of minor is appropriate because impacts to sensitive habitats will be avoided, and no population-level impacts would occur.
BOEM-2023-0030-1562-0003	The EIS fails to discuss the nature of the terrain sediment type water depth and water temperature that it has previously stated appears to indicate how much heat will be generated from these cables.	Information regarding heat transmittance through various sediment types has been added to the EMF and Cable Heat IPF of subsections 3.5.2.3 and 3.5.2.5 of Section 3.5.2, <i>Benthic Resources</i> .
BOEM-2023-0030-1562-0004	The EIS (Executive Summary ES-8) states that project 1 will utilize up to 274 miles of HVAC interarray cables and that project 2 will use up to 274 miles of HVAC cables (according	Information regarding heat transmittance through various sediment types and water temperatures has been added to

Comment No.	Comment	Response
	to the EIS export and interarray cables from other planned projects will add an additional 1616 miles of buried cable making this quite a significant issue). BOEM notes in the above reference that sediment water depth and temperature all play a part how much heat these cables will generate yet that information is not discussed in the EIS in relation to the hundreds of miles of planned interarray cables that will be buried in the seabed.	the EMF and Cable Heat IPF of subsections 3.5.2.3 and 3.5.2.5 of Section 3.5.2, <i>Benthic Resources</i> .
BOEM-2023-0030-1562-0005	Regarding the 441 miles of miles of HVAC offshore export cables on page 3.5.2-7 of the EIS figure 3.5.2-2 indicates that the Monmouth Export Cable Corridor will be for the most part through “gravelly sand.” It is known that “coarser sediment grains” transmit heat more readily (see reference above BOEM 2023) yet that is not mentioned in the EIS.	Information regarding heat transmittance through various sediment types has been added to the EMF and Cable Heat IPF of subsections 3.5.2.3 and 3.5.2.5 of Section 3.5.2, <i>Benthic Resources</i> .
BOEM-2023-0030-1562-0006	It is known (BOEM 2023 as referenced above) that “Heated sediment may experience altered oxygen content or changes in chemical properties that could affect microorganism profiles and bacterial growth which could also affect seafloor inhabitants if the conditions of the sediment no longer support life function.	Additional information regarding cable heat impacts has been added to the EMF and Cable Heat IPF of subsection 3.5.2.5 of Section 3.5.2, <i>Benthic Resources</i> ; however, it should be noted that field studies on the impacts of cable heat to benthic invertebrates are lacking and the information presented in the EIS represents the best available science.
BOEM-2023-0030-1562-0007	In 2006 a report was issued funded by the Federal Agency of Nature Conservation Germany’s central authority for international nature conservation stating “almost nothing is known about ecological consequences of heat release into the bottom of the sea.” BOEM has not indicated in the EIS that any important advancements have been made in that area	There are few existing studies available on the impacts of cable heat on benthic organisms; however, additional information regarding heat emitted from offshore cables and impacts to benthic organisms has been added to the EMF and Heat IPFs of subsections 3.5.2.3 and 3.5.2.5 of Section 3.5.2, <i>Benthic Resources</i> .
BOEM-2023-0030-1599-0001	We request that partial decommissioning be made the default for all offshore wind projects. It would be nonsensical to establish thriving reef communities only to be ripped out at the end of the wind project’s energy cycle.	The EIS examines the maximum impacts of the PDE, which includes full removal of Project components at decommissioning, which are expected to be the same as or similar to impacts during Project construction. Prior to decommissioning, Atlantic Shores will submit a Decommissioning Plan that will be subject to environmental review through the NEPA process. The NEPA review of the

Comment No.	Comment	Response
		Decommissioning Plan will examine the impacts of various decommissioning scenarios and will include EFH and ESA consultations.
BOEM-2023-0030-1599-0002	As described in Smyth et al.'s 2015 paper on "Renewables to Reefs" a partial decommissioning plan maximizes environmental benefits that can persist beyond the lifetime of the windmills themselves. The DEIS currently allows for this option to be pursued by the developer but the default is a full decommissioning. We are concerned that leaving this decision to the discretion of a private company will result in the loss of reefs if their lawyers deem it more expedient to remove any potential liabilities with a full decommissioning. Rather than placing the burden on the developer to figure out a way to make partial decommissioning work there should be a concrete pathway established by which reefs will be left in place as the default and responsibility transferred to the state or federal government.	The EIS examines the maximum impacts of the PDE, which includes full removal of Project components at decommissioning, which are expected to be the same as or similar to impacts during Project construction. Prior to decommissioning, Atlantic Shores will submit a Decommissioning Plan that will be subject to environmental review through the NEPA process. The NEPA review of the Decommissioning Plan will examine the impacts of various decommissioning scenarios and will include EFH and ESA consultations.
BOEM-2023-0030-1606-0073	Introducing hard substructures into the marine environment creates artificial reefs leading to the settlement of marine organisms in the area. This can be positive as well as negative. It increases biodiversity but can also potentially introduce new harmful species (including invasive species) and disrupt food chains. The creation of these large homogenous changes to the sea floor will significantly change the environment and the impact it has on marine life is uncertain and could result in displacement. How did BOEM determine such widespread physical change of a habitat will not be impactful to habitat?	The positive and negative aspects of habitat conversion and the reef effect, including the potential for invasive species colonization, are discussed under the Presence of Structures IPF in Section 3.5.2, <i>Benthic Resources</i> . The 200 Atlantic Shores South WTG foundations and associated scour protection would have a benthic footprint of approximately 261 acres. The entire Lease Area is approximately 102,124 acres in size, thus the seafloor area that will be permanently converted to hard-bottom due to the Projects is small relative to the soft-bottom habitats located in the Lease Area and is not homogenous across the Lease Area.
BOEM-2023-0030-1606-0082	Specific mitigation of impacts to wetlands seagrass beds and other habitat are not specifically analyzed in the DEIS.	As stated in the EIS, no SAV was observed during site-specific surveys in the Offshore Project Area (COP Volume II, Appendix II-G3: Atlantic Shores 2024). The Monmouth ECC does not traverse any known SAV resources near landfall; however, as also stated in the EIS, a 1979 NJDEP map of seagrass resources near Atlantic City shows the presence of seagrass along the Atlantic ECC route through Inner

Comment No.	Comment	Response
		<p>Thorofare and Great Thorofare. Atlantic Shores will use HDD to install the export cables in these back bay areas to avoid impacts to any SAV that may be present. To avoid any impacts associated with the excavation of an in-water HDD pit, HDD would originate on land at Bader Field, traverse under Great Thorofare, and terminate on land in one of three locations identified in the COP (COP Volume I, Section 4.8.1; Atlantic Shores 2024). Additionally, Atlantic Shores would implement an HDD Contingency Plan to minimize potential releases and inadvertent return of HDD fluids. Based on the use of HDD to traverse back-bay areas where seagrass may be present, no Project-related impacts to seagrass are anticipated, and thus no mitigation strategies have been proposed. Impacts to wetlands are discussed in Section 3.5.8. Please also refer to Table N.6-12 for an additional response to this comment.</p>
BOEM-2023-0030-1606-0083	<p>Particular attention should be paid to the seasonality of seagrass beds. Further analysis of the impacts to seagrass beds should be analyzed beyond turbidity. The spatio-temporal variability in the distribution of vulnerable species should also be considered.</p>	<p>All offshore and nearshore benthic sampling was conducted during the growing season for eelgrass (<i>Zostera marina</i>) and widgeon grass (<i>Ruppia maritima</i>), although it should be noted that offshore areas are not suitable for seagrass growth. Benthic grab samples and associated underwater imagery were collected in the WTA and along the export cable corridors in July and September 2020, SPI and PV images were collected in the WTA and along the export cable routes in July 2020, and towed video surveys were conducted along the offshore export cable routes in June 2021. No SAV surveys were conducted in inshore and back bay areas; however, based on the use of HDD to traverse back-bay areas where seagrass may be present, no Project-related impacts to seagrass are anticipated.</p>
BOEM-2023-0030-1606-0093	<p>For BEN-08 – implement a benthic habitat monitoring plan to measure and assess the disturbance and recovery of marine benthic habitats and communities because of Project construction and operation –who will be onboard</p>	<p>The Benthic Habitat Monitoring Plan employs a Before-After-Gradient (BAG) statistical design in which benthic samples are taken pre-construction and for up to five years post-construction along a distance gradient from WTGs and cables. The Benthic Habitat Monitoring Plan does not involve</p>

Comment No.	Comment	Response
	<p>construction vessels to handle monitoring and proper execution of plan?</p>	<p>sampling during construction activities. Benthic monitoring will be conducted by environmental consultants contracted by Atlantic Shores. BSEE will have oversight on benthic monitoring required as a term and condition of COP approval to ensure compliance.</p>
<p>BOEM-2023-0030-1815-0026</p>	<p>WTA One appears to come very close to the Atlantic City Artificial Reef. How close is not mentioned but a 100-meter buffer is desirable as dive boats may try to drag in with a grapple. The Monmouth Export Cable appears to be very close to the Manasquan Inlet and Axel Carson Artificial Reefs (Figure 2.2-7). I couldn't find the actual stated distance but 50 meters would be inadequate for reasons already stated. All artificial reef wrecks are made of metal.</p>	<p>One WTG is located approximately 70 meters off the Atlantic City Artificial Reef. As described in Chapter 2, <i>Alternatives</i>, Table 2-6 of the EIS, BOEM considered an alternative where no WTGs would be located within 125 meters of the Atlantic City Reef per recommendations from MAMFC and NEMFC. The 125-meter-buffer is shown in Figure 2.2-6 in EIS, Chapter 2, As this approach would only include one location, BOEM determined that it would be more suitable to address this approach as a mitigation measure. Refer to Appendix G for BOEM's recommended measures to avoid or minimize impacts on artificial reefs through WTG installation (Table G-3; NOAA/NMFS-Proposed Mitigation Measure #1). Please note that one WTG is conceived for potential removal under Alternatives D1 and D2 and evaluated throughout the EIS, including potential impacts to benthic resources in <i>Section 3.5.2, Benthic Resources</i>.</p> <p>As described in Chapter 2, Table 2-6 of the EIS, BOEM considered an alternative establishing a 75-meter buffer for cable installation around artificial reef sites (as shown in Figure 2.2-7); however, it was determined that such a buffer would not allow for adequate cable spacing for cable repairs or localized cable routing, thereby making the Project technically infeasible. Atlantic Shores sited the proposed export cable corridors to avoid significant marine constraints and protected resources, including the artificial reefs.</p> <p>Existing constraints such as historic shipwrecks, sand resources, and other cables in the area near the Monmouth ECC landfall limited the shore approaches of the Monmouth ECC. As described in Chapter 2 of the EIS, a 246-foot (75-</p>

Comment No.	Comment	Response
		<p>meter) buffer was considered as an alternative, but ultimately dismissed. A 246-foot (75-meter) would allow a total of approximately 1,640 feet (500 meters) for Atlantic Shores to install up to five export cables as part of the proposed Monmouth ECC; however, this width does not provide adequate cable spacing (328–656 feet [100–200 meters] between each cable) to account for cable repairs or localized cable routing that may be required. When all factors were considered, the chosen Monmouth ECC route represents the option with the least impact to resources while maintaining adequate ECC width for cable installation and repair. The Project’s proposed ECCs are sited to avoid significant marine constraints and protected resources, including the boundaries of the artificial reefs. In addition, the proposed ECCs are sited to ensure cable constructability and reliability, as well as minimize impacts on marine users. Atlantic Shores will maintain a minimum of 50 meters of separation between their activities and the Manasquan Inlet and Axel Carlson Artificial Reefs. Potential impacts to artificial reefs associated with cable installation are described in Section 3.5.5, <i>Finfish, Invertebrates and Essential Fish Habitat</i>.</p>
BOEM-2023-0030-1953-0001	<p>First it has taken us years in NJ to build up our Oyster beds. We have cleaned up our Barnegat Bay reduced toxins from entering into our water eco-system.</p>	<p>No Project activities will occur in or have impacts to Barnegat Bay. Because export cable corridor routes do not cross any known oyster habitat and no oysters were observed or collected during site-specific sampling, Project-related impacts to oyster beds are not anticipated.</p>
BOEM-2023-0030-1954-0008	<p>the installation and operation of offshore wind turbines have the potential to deplete the natural ecosystem. The construction process often involves dredging which can disrupt the seabed and the delicate balance of marine flora and fauna. The artificial structures of the turbines can also impact the natural flow of water potentially affecting sediment transport and nutrient cycling which are vital for the overall health of marine ecosystems.</p>	<p>Project-related dredging activities were considered when determining the impact level designation for the Cable Emplacement and Maintenance IPF and the Connected Action Port Utilization IPF. Based on previous studies, the soft-bottom habitat that will be disturbed by dredging is expected to recover fairly quickly from disturbance. Impacts to water flow and seasonal stratification were considered when determining the impact level designation for the</p>

Comment No.	Comment	Response
		<p>Presence of Structures IPF. Local changes in scour and sediment transport close to a foundation are expected to be minimal due to the use of scour protection for each foundation. Please also refer to Table N.6-9 for an additional response to this comment.</p>
BOEM-2023-0030-1974-0001	<p>What assurances do you have that the extensive damage to the sea floor caused EXCLUSIVELY by you will recover?</p>	<p>The impact designations presented in the EIS are based on the best-available science. Estimates of recovery time following disturbance vary by region, species, and type of disturbance. Studies on benthic community recovery at European offshore wind farms after cable emplacement have found recovery times in the range of months to less than 5 years. For example, a study by Daan et al. (2006) found that, 6 months after construction of a wind farm in the Dutch North Sea, the benthic community in sandy areas between monopile foundations was not significantly different in terms of species composition, diversity, density, and biomass from five of six reference locations. Another study by Leonhard and Pedersen (2006) documenting the recovery of the soft-sediment benthic community after the construction of a wind farm in the Dutch North Sea found no significant differences in the infaunal community between pre-construction and 3-year post-construction sampling. Although the post-construction recovery of benthic communities along export and interarray cable routes was not monitored for Block Island Wind Farm in Massachusetts, BOEM documented the recovery of seafloor sediments and found that approximately 62 percent of the export cable scar had recovered within 4 months of cable-laying activities, with the remainder of the export cable scar being partially recovered. Forty-one percent of the interarray cable scar had completely recovered 2 years after cable-laying activities (HDR 2020).</p>

N.6.7 Birds

Table N.6-7. Responses to Comments on Birds

Comment No.	Comment	Response
BOEM-2023-0030-0213-0005	As another example an interesting article in Power Technology May 17, 2023 describes how Dutch offshore wind farms were shut down to allow bird migration. That same article states that ecologists fear the impact of offshore wind on birds and warned that the ecological consequences of large-scale offshore wind projects should be researched before their development starts. Have such detailed studies been done yet by BOEM for preparation of the DEIS? Will shutting down the turbines during migratory periods be considered as a mitigation technique by BOEM?	<p>The EIS references several studies that have been conducted to determine the sensitivity of birds to collision and displacement due to offshore wind in the Atlantic OCS, bird occurrence on the Atlantic OCS, and estimates of the number of bird collisions with offshore wind turbines on the Atlantic OCS, some of which have been funded by BOEM. Additionally, Atlantic Shores, as well as other offshore wind developers, will conduct pre-and post-construction avian monitoring in coordination with USFWS, NJDEP, and other relevant regulatory agencies to further assess avian presence in the offshore project area and any project impacts to avian populations.</p> <p>As part of the agency-proposed measures outlined in the BA, BOEM will require Atlantic Shores develop a Bird and Bat Monitoring Plan (BBMP), and includes provisions for the addition of additional monitoring, technical refinements, and the inclusion of new technologies as deemed appropriate.</p>
BOEM-2023-0030-0591-0001	I live on the beach in Brigantine NJ right behind a bird sanctuary is there information on how this will affect the bird population that is federally protected?	<p>The EIS considers the impacts of primary IPFs to all bird species, including ESA-listed species, that use onshore and offshore habitats, including both resident bird species that use the Project area during all (or portions of) the year and migrating bird species with the potential to pass through during fall or spring migration. Impacts to ESA-listed species are further evaluated in the BA, which is available here: www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/AtlanticShoresSouth_USFWS_BA.pdf</p> <p>Edwin B. Forsythe National Wildlife Refuge is known to be an important shorebird migratory stopover and breeding habitat, including the piping plover. BOEM has added some</p>

Comment No.	Comment	Response
		additional text in Section 3.5.3, <i>Birds</i> to note the importance of this area.
BOEM-2023-0030-0916-0017	would potentially decimate the local threatened piping plover bird population that must now cross the turbine complex to nest on the Island in conflict with the ESA	<p>The EIS considers the impacts of primary IPFs to all bird species, including ESA-listed piping plover, that use onshore and offshore habitats, including both resident bird species that use the Project area during all (or portions of) the year and migrating bird species with the potential to pass through during fall or spring migration. Impacts to ESA-listed species are further evaluated in the BA, which is available here: www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/AtlanticShoresSouth_USFWS_BA.pdf</p> <p>Edwin B. Forsythe National Wildlife Refuge is known to be an important shorebird migratory stopover and breeding habitat, including the piping plover. BOEM has added some additional text in Section 3.5.3, <i>Birds</i> to note the importance of this area.</p>
BOEM-2023-0030-0916-0046	Piping Plover. It does not disclose the risk of collision to the piping plover as it crosses the wind complex to get to its Island nesting grounds. That significant risk is presented in Enclosure I Section 11	<p>The EIS considers the impacts of primary IPFs to all bird species, including ESA-listed species, that use onshore and offshore habitats, including both resident bird species that use the Project area during all (or portions of) the year and migrating bird species with the potential to pass through during fall or spring migration. Impacts to ESA-listed species are further evaluated in the BA, which is available here: www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/AtlanticShoresSouth_USFWS_BA.pdf</p> <p>Edwin B. Forsythe National Wildlife Refuge is known to be an important shorebird migratory stopover and breeding habitat, including the piping plover. BOEM has added some additional text in Section 3.5.3, <i>Birds</i> to note the importance of this area.</p>

Comment No.	Comment	Response
BOEM-2023-0030-0916-0072	the impact on migratory birds passing through the Hudson South and one of the other two areas to get to onshore nesting grounds	The EIS considers the impacts of primary IPFs to all bird species, including ESA-listed species, that use onshore and offshore habitats, including both resident bird species that use the Project area during all (or portions of) the year and migrating bird species with the potential to pass through during fall or spring migration.
BOEM-2023-0030-0916-0080	The DEIS release was not coordinated with the Section 7 consultation on the problem of the piping plover needing to cross the wind complex to get to its nesting grounds on the Island. It speaks to a preliminary BA prepared but does not provide it or any impact analyses from it.	<p>As part of the FAST-41 Federal Infrastructure Permitting Process, all relevant agencies must coordinate to develop and maintain a project-specific, publicly available timetable for all required environmental review and permitting actions. The FAST-41 Permitting Timetable for the Atlantic Shores South Project is available here: https://www.permits.performance.gov/permitting-project/fast-41-covered-projects/atlantic-shores-south. This timetable requires that some environmental review documents are developed concurrently. Under Section 7 of the endangered Species Act, federal agencies, such as BOEM, must consult with USFWS if it is possible that their funded, authorized, or permitted actions may affect ESA-listed species or their designated critical habitats. An important step of this consultation is the completion of a Biological Assessment (BA), which serves as the document for ESA consultation. As stated in the EIS, consultation with USFWS was ongoing at the time of the release of the Draft EIS for public comment. USFWS deemed the Atlantic Shores South BA complete on July 19, 2023, and it is available here: www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/AtlanticShoresSouth_USFWS_BA.pdf.</p> <p>Results of the consultation are presented in the Final EIS. BOEM issues a public notice at the time the Final EIS is published in the Federal Register. The Final EIS will also be subject to a public review period prior to BOEM's issuance of its ROD for the environmental review.</p>

Comment No.	Comment	Response
BOEM-2023-0030-0916-0198	<p>The piping plover is a threatened bird species. Considerable effort has been made at the Edwin P. Forsythe National Wildlife Refuge in southern LBI and in Barnegat Light Township to protect its nesting grounds and allow it to breed. It migrates north-south off the project area and a substantial number would now have to cross the wind turbine complex to get to its nesting ground. Reasonable estimates (see I.11) indicate that 31% of those crossing may die annually in the process. Therefore, the project adversely affects its population and its nesting ground habitat by obstructing entry to and exit from it. The project development is inconsistent with this rule provision and the State must object to this request for concurrence in the federal consistency certification and to any future consistency determinations.</p>	<p>The EIS considers the impacts of primary IPFs to all bird species, including ESA-listed piping plover, that use onshore and offshore habitats, including both resident bird species that use the Project area during all (or portions of) the year and migrating bird species with the potential to pass through during fall or spring migration. Impacts to ESA-listed species are further evaluated in the BA, which is available here: www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/AtlanticShoresSouth_USFWS_BA.pdf</p> <p>Edwin B. Forsythe National Wildlife Refuge is known to be an important shorebird migratory stopover and breeding habitat, including the piping plover. BOEM has added some additional text in Section 3.5.3, <i>Birds</i> to note the importance of this area.</p>
BOEM-2023-0030-0916-0202	<p>The DEIS presents no assessment of the turbine collision risk to the local endangered piping plover population that nests on the Island and must now cross the wind complexes to get there and back to its offshore migration routes. It discusses the existence of a preliminary biological assessment (BA) prepared for consultation under the Endangered Species Act but presents no results of that analysis in the DEIS. It says that the final biological assessment will be available in the final EIS but that prevents the public from reviewing and commenting on this important impact. This is another example of lack of full disclosure and lack of coordination with other environmental reviews to the fullest extent practicable. This is another impact that must be presented in a supplemental DEIS for public review.</p>	<p>As part of the FAST-41 Federal Infrastructure Permitting Process, all relevant agencies must coordinate to develop and maintain a project-specific, publicly available timetable for all required environmental review and permitting actions. The FAST-41 Permitting Timetable for the Atlantic Shores South Project is available here: https://www.permits.performance.gov/permitting-project/fast-41-covered-projects/atlantic-shores-south. This timetable requires that some environmental review documents are developed concurrently. Under Section 7 of the endangered Species Act, federal agencies, such as BOEM, must consult with USFWS if it is possible that their funded, authorized, or permitted actions may affect ESA-listed species or their designated critical habitats. An important step of this consultation is the completion of a Biological Assessment (BA), which serves as the document for ESA consultation. As stated in the EIS, consultation with USFWS was ongoing at the time of the release of the Draft EIS for public comment. USFWS deemed the Atlantic Shores South BA complete on July 19, 2023, and it is available here:</p>

Comment No.	Comment	Response
		<p>www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/AtlanticShoresSouth_USFWS_BA.pdf. Results of the consultation are presented in the Final EIS. BOEM issues a public notice at the time the Final EIS is published in the Federal Register. The Final EIS will also be subject to a public review period prior to BOEM's issuance of its ROD for the environmental review.</p>
BOEM-2023-0030-0916-0203	<p>Regarding turbine collision on page 3.5.3-18 the DEIS purports to minimize the collision risk by pointing to a study by Madsen et.al. in 2012 that showed a 99% avoidance when turbines were spaced greater than 0.6 miles. The avoidance rate used in the DEIS is not well defined but it appears to be the probability that the bird will avoid the entire wind complex this needs to be clarified. But that study was for a particular bird species (the common elder) and a much smaller wind complex that it was able to fly around which the modeling then depicted. In the case here the piping plover considering both the Ocean Wind and the Atlantic Shores projects faces a 32-mile long barrier to making landfall. In addition, the turbines proposed off LBI are much more powerful and carry greater pressure changes and turbulence one cannot just take results from small turbines and assume they hold for large ones.</p>	<p>The EIS paragraphs in which the Madsen et al. (2012) paper is referenced are concerning adverse impacts of additional energy expenditure due to minor course corrections or complete avoidance of offshore wind lease areas, not collision risk. Madsen et al. (2012) examined the number of birds flying through the wind farm through the spacing between turbines, not around the entire wind farm, which is clearly stated in the EIS. Additionally, although data on only the common eider was collected, the model simulations explored permeability scenarios to account for bird species with various levels of wind farm avoidance. Although WTGs to be used in the Proposed Action are larger, and may result in greater pressure changes and turbulence than smaller turbines, and greater in number than the wind farm from which data was collected in the Madsen et al. (2012) study, the spacing between the Proposed Action WTGs will also be greater, as stated in the EIS: "The 0.6- to 1-nautical mile (1.1- to 1.9-kilometer) spacing estimated for most structures that will be proposed on the Atlantic OCS is greater than the distance at which 99 percent of the birds passed through in the model."</p>
BOEM-2023-0030-0916-0204	<p>In addition, that study did not show the collision risk to those birds that entered the wind complex which is the critical issue here facing the piping plover as well as the red knot. Further that study was for much smaller turbines with much different pressure and turbulence characteristics than the larger turbines proposed here. Finally, it is unclear whether the piping plover has similar avoidance traits as the elder bird.</p>	<p>The EIS paragraphs in which the Madsen et al. (2012) paper is referenced are concerning adverse impacts of additional energy expenditure due to minor course corrections or complete avoidance of offshore wind lease areas, not collision risk. This discussion is a general one and does not focus on any one bird species in particular; however, although data on only the common eider was collected, the</p>

Comment No.	Comment	Response
	<p>Therefore, the relevance of that study to the situation facing the piping plover is highly questionable. And there are other studies as shown below that present a much different and much greater risk to the plover which should have been presented in the DEIS.</p>	<p>model simulations explored permeability scenarios to account for bird species with various levels of wind farm avoidance. Although WTGs to be used in the Proposed Action are larger, and may result in greater pressure changes and turbulence than smaller turbines, and greater in number than the wind farm from which data was collected in the Madsen et al. (2012) study, the spacing between the Proposed Action WTGs will also be greater, as stated in the EIS: “The 0.6- to 1-nautical mile (1.1- to 1.9-kilometer) spacing estimated for most structures that will be proposed on the Atlantic OCS is greater than the distance at which 99 percent of the birds passed through in the model.”</p> <p>Impacts to ESA-listed birds, including the piping plover, are examined more in detail in the USFWS BA, available here: https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/AtlanticShoresSouth_USFWS_BA.pdf.</p>
BOEM-2023-0030-0916-0205	<p>The BOEM needs to do a current realistic assessment of the risk of injury and fatalities here in its BA. It cannot rely on the BAND model as it did for the Vineyard Wind 1 Biological Assessment based on the model’s limitations described above and other major drawbacks expressed by the U.S. Fish and Wildlife Service PP3.</p>	<p>The BA includes Band model results and input for the piping plover (Appendix B) and rufa red knot (Appendix C), and SCRAM model inputs and results for the piping plover (Appendix D), rufa red knot (Appendix E), and roseate tern (Appendix F). Additionally, the limitations of the Band and SCRAM models are presented on pages 112-113 of the BA. A report on the SCRAM (Adams et al. 2022) model is available at https://espis.boem.gov/Final%20Reports/BOEM_2022-071.pdf.</p>
BOEM-2023-0030-0916-0206	<p>Collision Risk Models (CRMs): we expect that BOEM will apply CRMs to evaluate avian impacts in its BA. While limited CRMs are one of the only tools available to hypothesize potential impacts to birds from collision in the offshore environment. As such CRMs provide a mechanism for testing outcomes (e.g. observed collision rates) against the model predictions (e.g. expected collision rates) and BOEM must address the need to collect the data necessary to test these hypotheses.</p>	<p>The BA includes Band model results and input for the piping plover (Appendix B) and rufa red knot (Appendix C), and SCRAM model inputs and results for the piping plover (Appendix D), rufa red knot (Appendix E), and roseate tern (Appendix F). Additionally, the limitations of the Band and SCRAM models are presented on pages 112-113 of the BA. As part of its Bird and Bat Monitoring Plan (BBMP), Atlantic Shores will use radio-tags to monitor movement of ESA-listed birds in the vicinity of the Project, provide annual and</p>

Comment No.	Comment	Response
		quarterly monitoring reports including raw data to USFWS and BOEM, report dead or injured birds as they occur and in annual reports to USFWS and BOEM, and provide annual reports summarizing monthly turbine operational data to USFWS, BOEM, and BSEE.
BOEM-2023-0030-0916-0207	<p>BOEM must be transparent in its CRM application. These models are extremely sensitive to the input parameters. A study by Cook et al. (2014) found that estimations of avoidance and collision risk from Band models were highly sensitive to the flux rate (total number of birds passing through the wind farm) corpse detection rate rotor speed and bird speed. Factors such as weather (i.e. wind speed and visibility) and habitat use would also affect the accuracy of these estimates as such factors would greatly influence avian flight patterns and behavior (2). Therefore the Draft EIS must provide the inputs used in its analysis for public comment and transparency. Providing CRM results without transparency to the inputs and analytical process would never be acceptable from a scientific perspective and therefore should not be acceptable from BOEM. Providing inputs would show whether BOEM followed the guidance provided by Band in assessing collision risk. These details regarding inputs should include but not be limited to avoidance behavior flight height flight activity flux rate corpse detection rate rotor speed bird speed and collision risk.(1) McGregor RM King S Donovan CR Caneco B Webb A. 2018. A Stochastic Collision Risk Model for Seabirds in Flight:61. https://tethys.pnnl.gov/sites/default/files/publications/McGregor-2018- Stochastic.pdf.(2) Cook ASCP Humphreys EM Masden EA Burton NHK. 2014. The Avoidance Rates of Collision Between Birds and Offshore Turbines. Scottish Marine and Freshwater Science 5:263. 62</p>	<p>Detailed descriptions of the Band and SCRAM model inputs and outputs are presented in the BA, as well as a discussion of the limitations of each model. The BA includes Band model results and input for the piping plover (Appendix B) and rufa red knot (Appendix C), and SCRAM model inputs and results for the piping plover (Appendix D), rufa red knot (Appendix E), and roseate tern (Appendix F). The limitations of the Band and SCRAM models are presented on pages 112-113 of the BA. A report on the SCRAM model (Adams et al. 2022) is available at https://epis.boem.gov/Final%20Reports/BOEM_2022-071.pdf</p>
BOEM-2023-0030-0926-0002	What will be the impact on the endangered North American Right Whales and other migratory birds that the wind	Impacts to marine mammals, including the North Atlantic Right Whale (NARW), are discussed in Section 3.5.6, <i>Marine</i>

Comment No.	Comment	Response
	<p>turbines will be in the direct migratory path of? How much "Take" is too much?</p>	<p><i>Mammals</i>. Impacts on birds, including migratory species, are discussed in Section 3.5.3, <i>Birds</i>.</p> <p>BOEM is required to undertake Section 7 ESA consultation with both NMFS and USFWS for the Proposed Action. Impacts on ESA-listed aquatic species, including the NARW are examined in more detail in the NMFS BA, available here: https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/Atlantic%20Shores%20South%20NMFS%20BA.pdf.</p> <p>Impacts to ESA-listed birds are examined more in detail in the USFWS BA, available here: https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/AtlanticShoresSouth_USFWS_BA.pdf.</p> <p>Results of both consultations are presented in the Final EIS, which includes environmental conservation measures to avoid, minimize, and mitigate impacts on environmental resources, including the NARW and migratory birds.</p> <p>Additionally, Atlantic Shores South is required to seek authorization from NMFS under the Marine Mammal Protection Act, for the potential take of marine mammals, including, but not limited to the NARW. The proceedings associated with the Incidental Take Authorization can be viewed here: https://www.fisheries.noaa.gov/action/incidental-take-authorization-atlantic-shores-offshore-wind-llc-construction-atlantic-shores.</p> <p>Please refer to Table N.6-10 for an additional response to this comment.</p>

Comment No.	Comment	Response
BOEM-2023-0030-0926-0003	Please explain the justification for exceptions made to Fish and Wildlife and light and noise rules and regulations that have been made to accommodate this project.	<p>The USFWS noise and lighting guidance and BMPs are voluntary and are not enforceable regulations. Although USFWS does not have jurisdiction over offshore structures, proposed lighting of onshore and offshore structures follows the same USFWS voluntary guidance and BMPs for communications towers and onshore wind farms. As recommended by USFWS, red flashing lights will be located on the nacelle. Additionally, Atlantic Shores proposes to implement an Aircraft Detection Lighting System (ADLS), as recommended by USFWS, which activates aviation obstruction lights when aircraft approach, which would greatly reduce the amount of time the aviation obstruction lights are illuminated. General outdoor OSS and onshore substation lighting will be down-shielded to the extent practicable. Atlantic Shores has agreed to seasonal restrictions on some construction activities to minimize impacts to bats and birds.</p> <p>Please refer to Table N.6-5 for an additional response to this comment.</p>
BOEM-2023-0030-1257-0010	The FEIS should consider the full scope of impacts to federally and state protected birds and bird species that trigger conservation obligations and address collision risk for species most at risk of collision.	<p>BOEM is required to consider the full scope of impacts to physical, biological, cultural, and social resources potentially impacted by the Proposed Action under NEPA through preparation of the EIS, coordination and consultation with other agencies with regulatory or consultancy authority of the Proposed Action.</p> <p>In addition, potential impacts to federally-listed protected birds is reviewed under the Section 7 ESA consultation between BOEM and USFWS. An important step of this consultation is the completion of a Biological Assessment (BA), which serves as the document for ESA consultation. As stated in the EIS, consultation with USFWS was ongoing at the time of the release of the Draft EIS for public comment. USFWS deemed the Atlantic Shores South BA complete on July 19, 2023, and it is available here:</p>

Comment No.	Comment	Response
		<p>www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/AtlanticShoresSouth_USFWS_BA.pdf.</p> <p>Results of the ESA consultation are presented in the Final EIS. BOEM issues a public notice at the time the Final EIS is published in the Federal Register. The Final EIS will also be subject to a public review period prior to BOEM's issuance of its ROD for the environmental review.</p>
BOEM-2023-0030-1346-0003	The projects will also kill and destroy habitat for seabirds and other birds such as gannets loons auks scoters other ducks terns migratory birds and endangered birds such as the red knot piping plover and roseate tern. Your DEIS admits that the projects will destroy bird habitat and that the wind turbines will cause bird mortality.	The EIS considers the impacts of primary IPFs to all bird species, including ESA-listed species, that use onshore and offshore habitats, including both resident bird species that use the Project area during all (or portions of) the year and migrating bird species with the potential to pass through during fall or spring migration. The EIS acknowledges potential impacts to bird habitat as well as mortality risks; however, impacts to birds are not anticipated to have population-level effects.
BOEM-2023-0030-1353-0003	What is the impact to commercial fishing recreational fishing birds and as mentioned above marine mammals?	<p>Impacts to commercial and recreational fishing are discussed in Section 3.6.1, <i>Commercial Fisheries and For-Hire Recreational Fishing</i>. Impacts to birds are discussed in Section 3.5.3, <i>Birds</i>. Impacts to marine mammals are discussed in <i>Chapter 3.5.6 Marine Mammals</i>.</p> <p>Please see Table N.6-10 and Table N.6-13 for additional responses to this comment.</p>
BOEM-2023-0030-1362-0001	I am concerned about the welfare of migrating ocean birds. What's to keep them from being mutilated for awaiting sharks and other predators below? Can the windmills be turned off on nights of major migration as predicted by Birdcast? (https://birdcast.info) Radar detection at the sites could be connected to a program to turn off the blades. Warblers e.g. the Blackpoll Warbler and Sandpipers also take the oceanic route to Central and South America. How will they be affected? On land cables and towers also present a hazard. Can these be put underground?	<p>The EIS Section 3.5.3, <i>Birds</i> considers the impacts of primary IPFs to all bird species, including ESA-listed species, that use onshore and offshore habitats, including both resident bird species that use the Project area during all (or portions of) the year and migrating bird species with the potential to pass through the Project area.</p> <p>All onshore cables will be buried underground in concrete duct banks; there are no overhead onshore cables proposed in the Project, eliminating any collision risk attributed to</p>

Comment No.	Comment	Response
		<p>those types of structures. Towers may be part of the O&M facility or onshore substation/ converter station may have a communication tower. The Applicant has committed that the communication antenna will be designed in accordance with USFWS guidelines, to the extent practicable, including lighting and support system characteristics in order to minimize potential risk to avian species.</p> <p>As part of the agency-proposed measures outlined in the BA, BOEM will require Atlantic Shores develop a Bird and Bat Monitoring Plan (BBMP), and includes provisions for the addition of additional monitoring, technical refinements, and the inclusion of new technologies as deemed appropriate.</p>
BOEM-2023-0030-1488-0007	The Piping Plover risk of crossing the wind complex to get to nesting grounds in Holgate not addressed in draft EIS.	<p>Collision risk for the piping plover and other ESA-listed bird species is assessed with both the Band and SCRAM models in the BA. Detailed descriptions of the Band and SCRAM model inputs and outputs are presented in the BA, as well as a discussion of the limitations of each model. The BA includes Band model results and input for the piping plover in Appendix B and SCRAM model inputs and results for the piping plover in Appendix D).</p> <p>USFWS deemed the Atlantic Shores South BA complete on July 19, 2023, and it is available here: www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/AtlanticShoresSouth_USFWS_BA.pdf.</p> <p>Results of the consultation are presented in the Final EIS.</p> <p>Edwin B. Forsythe National Wildlife Refuge (which includes parts of Holgate, NJ), is known to be an important shorebird migratory stopover and breeding habitat, including the piping plover. BOEM has added some additional text in Section 3.5.3, <i>Birds</i> to note the importance of this area.</p>

Comment No.	Comment	Response
BOEM-2023-0030-1516-0045	<p>The DEIS presents no assessment of the turbine collision risk to the local endangered piping plover and red knot population that nests on the Island and must now cross the wind complexes to get there and back to its offshore migration routes. It discusses the existence of a preliminary biological assessment (BA) prepared for 112 consultations under the Endangered Species Act but presents no results of that analysis in the DEIS. It says that the final biological assessment will be available in the final EIS but that prevents the public from reviewing and commenting on this important impact. This is another example of lack of full disclosure and lack of coordination with other environmental reviews to the fullest extent practicable. This is another impact that must be presented in a supplemental DEIS for public review.</p>	<p>Unlike piping plovers, red knots do not nest in the US, so there is no risk to nesting red knots. As part of the FAST-41 Federal Infrastructure Permitting Process, all relevant agencies must coordinate to develop and maintain a project-specific, publicly available timetable for all required environmental review and permitting actions. The FAST-41 Permitting Timetable for the Atlantic Shores South project is available here: https://www.permits.performance.gov/permitting-project/fast-41-covered-projects/atlantic-shores-south. This timetable requires that some environmental review documents are developed concurrently. Under Section 7 of the Endangered Species Act, federal agencies, such as BOEM, must consult with USFWS if it is possible that their funded, authorized, or permitted actions may affect ESA-listed species or their designated critical habitats. An important step of this consultation is the completion of a Biological Assessment (BA), which serves as the document for ESA consultation. As stated in the EIS, consultation with USFWS was ongoing at the time of the release of the Draft EIS for public comment. USFWS deemed the Atlantic Shores South BA complete on July 19, 2023, and it is available here: www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/AtlanticShoresSouth_USFWS_BA.pdf. Results of the consultation are presented in the Final EIS.</p>
BOEM-2023-0030-1516-0059	<p>The DEIS fails to rigorously review the project's harm to the Piping Plover via the risk of crossing the wind complex to get to nesting grounds in Brigantine not addressed in the draft EIS damage local tourism.</p>	<p>The EIS considers the impacts of primary IPFs to all bird species, including ESA-listed piping plover, that use onshore and offshore habitats, including both resident bird species that use the Project area during all (or portions of) the year and migrating bird species with the potential to pass through during fall or spring migration. Impacts to ESA-listed birds are examined more in detail in the USFWS BA, available here: https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/AtlanticShoresSouth_USFWS_BA.pdf</p>

Comment No.	Comment	Response
		Impacts to local tourism are discussed in Section 3.6.8, <i>Recreation and Tourism</i> .
BOEM-2023-0030-1516-0111	BOEM has a responsibility under the Endangered Species Act (ESA) to assess the risks of offshore wind energy development to listed species. The red knot piping plover and roseate tern are listed species that can migrate through areas developed for offshore wind. BOEM’s study program costs \$273374 specifically for the development of a transparent modeling of collision risk for three federally listed bird species to offshore wind development. The final report was due on January 2023. The objective is to develop a user-friendly Collision Risk Model that can inform risk assessments of offshore wind development to three federally listed species (Roseate Tern Piping Plover and Red Knot) on the Atlantic OCS. The problem was stated as estimating the number of fatalities of federally-listed birds migrating through offshore wind energy facilities. BOEM states that this information is essential for understanding the potential for rare or uncommon species to encounter conflicts with renewable energy development in these areas for NEPA assessments and ESA consultations. Obviously BOEM does not believe that it has information necessary to determine the impact of offshore wind development on the red knot and piping plover if they are spending \$273374 to develop a new tool to determine the impact. BOEM ESP Ongoing Studies Template [Link: https://www.boem.gov/sites/default/files/documents/environmental-studies/Transparent%20modeling%20of%20collision%20risk%20for%20three%20federally-listed%20bird%20species%20to%20offshore%20wind%20development_0.pdf]	<p>As indicated in the comment, BOEM must consult with USFWS if it is possible that their funded, authorized, or permitted actions may affect ESA-listed species or their designated critical habitats. An important step of this consultation is the completion of a Biological Assessment (BA), which serves as the document for ESA consultation. As stated in the EIS, consultation with USFWS was ongoing at the time of the release of the Draft EIS for public comment. Subsequent to the Draft EIS publication, USFWS deemed the Atlantic Shores South BA complete on July 19, 2023, and it is available here: www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/AtlanticShoresSouth_USFWS_BA.pdf. Results of the consultation are presented in the Final EIS.</p> <p>BOEM continues to work to identify other means and methods for assessing baseline conditions for physical and biological resources, as well as the potential impacts of offshore wind development through its environmental studies program.</p> <p>The final report on the SCRAM model (Adams et al. 2022) is available at https://espis.boem.gov/Final%20Reports/BOEM_2022-071.pdf.</p>
BOEM-2023-0030-1516-0112	The DEIS presents no assessment of the turbine collision risk to the local endangered piping plover population that nests on the Island and must now cross the wind complexes to get	As stated, consultation with USFWS was ongoing at the time of the release of the Draft EIS for public comment. Subsequent to the Draft EIS publication, USFWS deemed the

Comment No.	Comment	Response
	<p>there and back to its offshore migration routes. It discusses the existence of a preliminary biological assessment (BA) prepared for consultation under the Endangered Species Act but presents no results of that analysis in the DEIS. It says that the final biological assessment will be available in the final EIS but that prevents the public from reviewing and commenting on this important impact. This is another example of lack of full disclosure and lack of coordination with other environmental reviews to the fullest extent practicable. This is another impact that must be presented in a supplemental DEIS for public review.</p>	<p>Atlantic Shores South BA complete on July 19, 2023, and it is available here: www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/AtlanticShoresSouth_USFWS_BA.pdf.</p> <p>Results of the consultation are presented in the Final EIS. BOEM issues a public notice at the time the Final EIS is published in the Federal Register. The Final EIS will also be subject to a public review period prior to BOEM's issuance of its ROD for the environmental review.</p>
BOEM-2023-0030-1516-0113	<p>Regarding turbine collision on page 3.5.3-18 the DEIS purports to minimize the collision risk by pointing to a study by Madsen et.al. in 2012 that showed a 99% avoidance when turbines were spaced greater than 0.6 miles. The avoidance rate used in the DEIS is not well defined but it appears to be the probability that the bird will avoid the entire wind complex this needs to be clarified. But that study was for a particular bird species (the common elder) and a much smaller wind complex that it was able to fly around which the modeling then depicted. In the case here the piping plover considering both the Ocean Wind and the Atlantic Shores projects faces a 32-mile long barrier to making landfall. In addition the ASOWNJ turbines are much more powerful and carry greater pressure changes and turbulence one cannot just take results from small turbines and assume they hold for large ones. In addition that study did not show the collision risk to those birds that entered the wind complex which is the critical issue here facing the piping plover as well as the red knot. Further that study was for much smaller turbines with much different pressure and turbulence characteristics than the larger turbines proposed here. Finally it is unclear whether the piping plover has similar avoidance traits as the elder bird. Therefore the relevance of that study to the situation facing the piping plover is highly questionable. There are other studies as shown below that present a much</p>	<p>The EIS paragraphs in which the Madsen et al. (2012) paper is referenced are concerning adverse impacts of additional energy expenditure due to minor course corrections or complete avoidance of offshore wind lease areas, not collision risk. This discussion is a general one and does not focus on any one bird species in particular. Madsen et al. (2012) examined the number of birds flying through the wind farm through the spacing between turbines, not around the entire wind farm, which is clearly stated in the Draft EIS.</p> <p>Additionally, although data on only the common eider was collected, the model simulations explored permeability scenarios to account for bird species with various levels of wind farm avoidance. Although WTGs to be used in the Proposed Action are larger, and may result in greater pressure changes and turbulence than smaller turbines, and greater in number than the wind farm from which data was collected in the Madsen et al. (2012) study, the spacing between the Proposed Action WTGs will also be greater, as stated in the EIS: "The 0.6- to 1-nautical mile (1.1- to 1.9-kilometer) spacing estimated for most structures that will be proposed on the Atlantic OCS is greater than the distance at which 99 percent of the birds passed through in the model."</p>

Comment No.	Comment	Response
	different and much greater risk to the plover which should have been presented in the DEIS.	Impacts to ESA-listed birds, including piping plover, are examined more in detail in the USFWS BA, available here: https://sww.boem.gov/sites/default/files/documents/renewable-energy/state-activities/AtlanticShoresSouth_USFWS_BA.pdf .
BOEM-2023-0030-1516-0114	<p>In either case the BOEM cannot assume a 99 percent turbine avoidance by simply referencing studies which reference other studies which in turn are based on much smaller turbines (e.g. 216-foot diameters) other bird species and different circumstances. On its face it does not seem at all realistic to expect a small bird to easily and often escape multiple rows of rotating turbine blades with diameters more than two football fields long a rotor swept area 13 times that used in previous studies and wind tip speeds approaching 200 miles an hour causing significant disruptions in air currents. Prior studies [Bold: (2)] acknowledge that the avoidance rate for the piping plover is simply not known. If the BOEM uses an avoidance percentage number it needs to provide a plausible explanation for it. Otherwise it should be conservative in its analysis. If the avoidance percentage is of the entire complex then the assumption of 99 percent avoidance is especially unfounded when we know historically that the piping plover’s instincts are driving it towards its nesting ground on the Island and the direct path from its migratory routes to it is through the wind complex. There seems no basis to assume it will go tens of miles out of its way from that direct 113 path to get there. So the avoidance rate is likely to be closer to zero than it is to 99 percent. Rather for a bird approaching these large turbines and their aerodynamics suggest otherwise. First it is not clear that the bird can even detect the rotating blades especially the outer part which are now moving at very high speeds. This causes vision blur and paradoxically is now greater with a larger turbine again because of their outward tip speeds approaching 200 miles an hour. If the bird does detect an obstacle and tries to change course there are additional</p>	<p>The EIS paragraphs in which the Madsen et al. (2012) paper is referenced are concerning adverse impacts of additional energy expenditure due to minor course corrections or complete avoidance of offshore wind lease areas, not collision risk. This discussion is a general one and does not focus on any one bird species in particular. Madsen et al. (2012) examined the number of birds flying through the wind farm through the spacing between turbines, not around the entire wind farm, which is clearly stated in the EIS. Additionally, although data on only the common eider was collected, the model simulations explored permeability scenarios to account for bird species with various levels of wind farm avoidance. Although WTGs to be used in the Proposed Action are larger, and may result in greater pressure changes and turbulence than smaller turbines, and greater in number than the wind farm from which data was collected in the Madsen et al. (2012) study, the spacing between the Proposed Action WTGs will also be greater, as stated in the EIS: “The 0.6- to 1-nautical mile (1.1- to 1.9-kilometer) spacing estimated for most structures that will be proposed on the Atlantic OCS is greater than the distance at which 99 percent of the birds passed through in the model.” No assertions that the piping plover will fly around the entire wind turbine area are made.</p> <p>Impacts to ESA-listed birds, including piping plover, are examined more in detail in the USFWS BA, available here: https://sww.boem.gov/sites/default/files/documents/renewable-energy/state-activities/AtlanticShoresSouth_USFWS_BA.pdf.</p>

Comment No.	Comment	Response
	<p>difficulties. If it is approaching the turning blades against the wind it will experience a very significant pressure drop in front of the blades which will suck it in to the blade swept area. If it is approaching the turning blades with the wind behind it and seeks to change course it has the counter that wind speed which is likely to be significant during operation of the turbine. If it passes through the swept area it will experience that same pressure drop behind the blades. All of this suggests that a 99 percent avoidance through multiple rows of such situations is completely arbitrary and the BOEM needs to go back and present something realistic.</p>	<p>Collision risk for the piping plover and other ESA-listed bird species is assessed with both the Band and SCRAM models in the BA. Detailed descriptions of the Band and SCRAM model inputs and outputs are presented in the BA, as well as a discussion of the limitations of each model. The BA includes Band model results and input for the piping plover in Appendix B and SCRAM model inputs and results for the piping plover in Appendix D). Although the avoidance rate for the piping plover has not been determined, the average avoidance rate of 95.01% for all gulls and terns for the Extended BAND model (Cook 2021) was used when running the piping plover Band model for the BA. SCRAM uses bird passage rates based on modeled flight paths of birds fitted with nanotag transmitters, rather than avoidance rates (Gilbert et al. 2022). The final report on the SCRAM model (Adams et al. 2022) is available at https://epis.boem.gov/Final%20Reports/BOEM_2022-071.pdf.</p>
BOEM-2023-0030-1516-0115	<p>It is not known if the BOEM is using the “BAND” model in its Biological Assessment (BA) to analyze collision risk as the bird goes through the wind complex. The description of the BAND model in other literature as a “static” model indicates that it scores a collision only when a bird actually hits a blade. The blades are relatively thin and the area occupied by the blades compared to the entire area swept by the rotation is very small so obviously using only that the risk of collision will be small. This does not account for the risk of injury or fatality from the extreme turbulence and pressure changes that the bird would experience as it passes through the rotor swept area and beyond it especially just downwind of the turbine. It ignores all the turbulence pressure changes and wind shear effects occurring in between and downwind of the blades which could also maim or kill a bird. Any use of the model without modification would seem especially inappropriate considering the huge 110-meter blade length and blade tip tangential speeds approaching 200 miles per hour. The BOEM</p>	<p>Collision risk is assessed with both the Band and SCRAM models in the BA. Detailed descriptions of the Band and SCRAM model inputs and outputs are presented in the BA, as well as a discussion of the limitations of each model. The BA includes Band model results and input for the piping plover (Appendix B) and rufa red knot (Appendix C), and SCRAM model inputs and results for the piping plover (Appendix D), rufa red knot (Appendix E), and roseate tern (Appendix F). The limitations of the Band and SCRAM models are presented on pages 112-113 of the BA. The final report on the SCRAM model (Adams et al. 2022) is available at https://epis.boem.gov/Final%20Reports/BOEM_2022-071.pdf.</p>

Comment No.	Comment	Response
	<p>needs to do a current realistic assessment of the risk of injury and fatalities here in its BA. It cannot rely on the BAND model as it did for the Vineyard Wind 1 Biological Assessment based on the model’s limitations described above and other major drawbacks expressed by the U.S. Fish and Wildlife Service. [Bold: (3)]</p>	
BOEM-2023-0030-1516-0116	<p>It is expected that BOEM will apply CRMs to evaluate avian impacts in its BA. While limited CRMs are one of the only tools available to hypothesize potential impacts to birds from collision in the offshore environment. As such CRMs provide a mechanism for testing outcomes (e.g. observed collision rates) against the model predictions (e.g. expected collision rates) and BOEM must address the need to collect the data necessary to test these hypotheses. 114 The DEIS should include a CRM-driven collision risk analysis for all species of conservation obligation which may occur within 20 km of the Atlantic Shores footprint and for which a current CRM would be appropriate even if the species has not been documented within the footprint. This should include a recent stochastic derivation of the Band model such as the McGregor (2018) version [Bold: (1A)] . BOEM must be transparent in its CRM application. These models are extremely sensitive to the input parameters. A study by Cook et al. (2014) found that estimations of avoidance and collision risk from Band models were highly sensitive to the flux rate (total number of birds passing through the wind farm) corpse detection rate rotor speed and bird speed. Factors such as weather (i.e. wind speed and visibility) and habitat use would also affect the accuracy of these estimates as such factors would greatly influence avian flight patterns and behavior [Bold: (2A)].</p>	<p>COP Appendix II-F2 Avian Appendix (Atlantic Shores 2024) provides a detailed assessment of birds present in the onshore and offshore Project Areas. Most of the species were assessed within general taxonomic groupings (e.g., wading birds), but ESA-listed and candidate species were individually assessed. The Appendix details exposure and vulnerability of marine birds and coastal birds. A discussion of collision risk for bird species present in the onshore and offshore Project Areas is included in Section 3.5.3.3.</p> <p>Collision risk to ESA-listed species is assessed with both the Band and SCRAM models in the BA. Detailed descriptions of the Band and SCRAM model inputs and outputs are presented in the BA, as well as a discussion of the limitations of each model. The BA includes Band model results and input for the piping plover (Appendix B) and rufa red knot (Appendix C), and SCRAM model inputs and results for the piping plover (Appendix D), rufa red knot (Appendix E), and roseate tern (Appendix F). The limitations of the Band and SCRAM models are presented on pages 112-113 of the BA. The final report on the SCRAM model (Adams et al. 2022) is available at https://epis.boem.gov/Final%20Reports/BOEM_2022-071.pdf.</p>
BOEM-2023-0030-1516-0117	<p>Therefore the Draft EIS must provide the inputs used in its analysis for public comment and transparency. Providing CRM results without transparency to the inputs and analytical process would never be acceptable from a scientific perspective and therefore should not be acceptable from</p>	<p>Collision risk to ESA-listed species is assessed with both the Band and SCRAM models in the BA. Detailed descriptions of the Band and SCRAM model inputs and outputs are presented in the BA, as well as a discussion of the limitations of each model. The BA includes Band model results and input</p>

Comment No.	Comment	Response
	<p>BOEM. Providing inputs would show whether BOEM followed the guidance provided by Band in assessing collision risk. These details regarding inputs should include but not be limited to avoidance behavior flight height flight activity flux rate corpse detection rate rotor speed bird speed and collision risk.</p>	<p>for the piping plover (Appendix B) and rufa red knot (Appendix C), and SCRAM model inputs and results for the piping plover (Appendix D), rufa red knot (Appendix E), and roseate tern (Appendix F). The limitations of the Band and SCRAM models are presented on pages 112-113 of the BA.</p>
<p>BOEM-2023-0030-1516-0118</p>	<p>BOEM Cannot Assume that Larger Turbines Further Apart Reduces Risks to Birds There is no substantial evidence to suggest that larger turbines spaced farther apart reduces risks to birds and it should be a goal of BOEM to understand the effects of displacement and mortality relative to turbine size and spacing. The size of turbines has grown substantially over the past decade and this trend is expected to continue. In its Vineyard Wind 1 project Vineyard Wind plans to use GE’s 12 MW Haliade-X turbine which has a 220-meter rotor swept zone and is estimated to reach a maximum height of 260 meters above sea level. University of Virginia is currently developing 200-meter-long blades to power a 50-mw turbine with a potential rotor swept zone of approximately 400 meters. Given that the tower height would need to be more than 200 meters in height to accommodate rotor blades of this size turbines could soon reach heights greater than 400 meters above sea level. Studies Karas (2009)([Bold: 6A]) and Johnston et al. (2014)([Bold: 7A]) which suggest that fewer larger turbines reduce avian collision risk are based on turbines less than 5 mw. As turbines increase in size they are more likely to encroach on airspace occupied by nocturnal migrants [Bold: (8A)] while not necessarily avoiding airspace occupied by relatively lower flying foraging marine (6) Smallwood KS Karas B. 2009. Avian and Bat Fatality Rates at Old-Generation and Repowered Wind Turbines in California. The Journal of Wildlife Management 73:1062–1071.(7) Johnston A. A.S.C.P. Cook L.J. Wright E.M. Humphreys and N.H.K. Burton. 2014. Modeling Flight Heights of Marine Birds to More Accurately Assess Collision Risk with Offshore Wind</p>	<p>As part of its Bird and Bat Monitoring Plan (BBMP), Atlantic Shores will use radio-tags to monitor movement of ESA-listed birds in the vicinity of the Project, provide annual and quarterly monitoring reports including raw data to USFWS and BOEM, report dead or injured birds as they occur and in annual reports to USFWS and BOEM, and provide annual reports summarizing monthly turbine operational data to USFWS, BOEM, and BSEE. These activities will aid in the understanding of the impacts of offshore wind farms to birds and will be used to refine avian collision risk models.</p>

Comment No.	Comment	Response
	Turbines. Journal of Applied Ecology 51 31-41. (8) Id. 64 bird species.	
BOEM-2023-0030-1516-0119	<p>Furthermore, greater space between turbines may increase collision risk if species vulnerable to collision end up using the wind farm more frequently. Unfortunately, these are all unknowns and BOEM will need to fund studies to answer these questions. The Draft EIS should have included a risk assessment considering the full range of the potential rotor swept zone provided in the COP to assess 1) impacts from collision and barrier effects to migrating birds including the piping plover and 2) potential increased habitat loss that may need to occur. Similarly, the federally threatened and State endangered red knot is likely crossing the lease area as well and a similar analysis should be done for it. It has a critical habitat in the Holgate and North Brigantine areas during its fall migration (PP4). The results of all Atlantic Shore’s Phase 1 and subsequent studies of its migration routes should have been included in the DEIS. The list of project authorizations should also include compliance with the Migratory Bird Protection Act and the criteria used to determine that.</p>	<p>Section 3.5.3, <i>Birds</i>, assesses IPFs for bird species, including collision risk and potential for habitat loss. Collision risk to ESA-listed species is assessed with both the Band and SCRAM models in the BA. Detailed descriptions of the Band and SCRAM model inputs and outputs are presented in the BA, as well as a discussion of the limitations of each model. The BA includes Band model results and input for the piping plover (Appendix B) and rufa red knot (Appendix C), and SCRAM model inputs and results for the piping plover (Appendix D), rufa red knot (Appendix E), and roseate tern (Appendix F). The limitations of the Band and SCRAM models are presented on pages 112-113 of the BA.</p> <p>The Applicant has committed to implementing certain measures to reduce attraction and/or disorientation from birds that may be flying in proximity to the WTA (e.g., anti-perching, down-shielding lighting).</p> <p>As part of its Bird and Bat Monitoring Plan (BBMP), the Applicant will use radio-tags to monitor movement of ESA-listed birds in the vicinity of the Project, provide annual and quarterly monitoring reports including raw data to USFWS and BOEM, report dead or injured birds as they occur and in annual reports to USFWS and BOEM, and provide annual reports summarizing monthly turbine operational data to USFWS, BOEM, and BSEE. These activities will aid in the understanding of the impacts of offshore wind farms to birds and will be used to refine avian collision risk models.</p> <p>Section 3.5.3, <i>Birds</i>, includes avian species that may be found in the Project area that are protected under the Migratory Bird Treaty Act of 1918 (MBTA; see Table 3.5.3-2). Additional information has also been included regarding MBTA.</p>

Comment No.	Comment	Response
BOEM-2023-0030-1518-0026	and also directly through migration routes for endangered migratory birds.	Collision risk to ESA-listed species is assessed with both the Band and SCRAM models in the BA. Detailed descriptions of the Band and SCRAM model inputs and outputs are presented in the BA, as well as a discussion of the limitations of each model. The BA includes Band model results and input for the piping plover (Appendix B) and rufa red knot (Appendix C), and SCRAM model inputs and results for the piping plover (Appendix D), rufa red knot (Appendix E), and roseate tern (Appendix F). The limitations of the Band and SCRAM models are presented on pages 112-113 of the BA.
BOEM-2023-0030-1518-0038	<p>The Township is concerned about impacts to migrating avian species through and around offshore windfarms as this area of study is not well understood. Conservative estimates project that at least 681000 birds are killed by collisions with wind turbine blades each year with an emphasis on smaller birds [Footnote 33: How Many Birds Are Killed by Wind Turbines https://abcbirds.org/blog21/wind-turbine-mortality/]. On land wind farms are responsible for the death of over 150 bald and golden eagles due to blunt force trauma from turbine blades [Footnote 34: Wind Energy Company to Pay \$8 Million in Killings of 150 Eagles https://www.nytimes.com/2022/04/10/us/bald-eagles-dead-wind-farms.html]. As wind-power grows across America and into open-water areas that are used for migration these numbers are likely to be severely underestimated based on both the lack of current information available on bird-deaths and the rapid increase of the number of turbines in operation.</p>	<p>USFWS estimates that 140,000 to 500,000 (mean = 320,000) birds are killed annually from about 49,000 onshore wind turbines in 39 states (USFWS 2018). Bird collisions with onshore turbines in the eastern United States is estimated at 6.86 birds per turbine per year (USFWS 2018). Based on this mortality rate, an estimated 19,693 birds could be killed annually from the 2,974 WTGs that would be added for offshore wind development. Using this same mortality rate, an estimated total of 1,372 birds may be killed annually by the Project's 200 turbines combined. These estimates represent a maximum-case scenario and does not consider mitigating factors, such as landscape and weather patterns, or bird species that are expected to occur in the offshore Project area. Potential annual bird kills from offshore WTGs would be relatively low compared to other causes of migratory bird deaths in the United States; feral cats are the primary cause of migratory bird deaths in the United States (2.4 billion per year), followed by collisions with building glass (599 million per year), collisions with vehicles (214.5 million per year), poison (72 million per year), collisions with electrical lines (25.5 million per year), collisions with communication towers (6.6 million per year), and electrocutions (5.6 million per year) (USFWS 2021). Bald eagles generally remain near shore in marine environments. Williams et al. (2015) observed bald eagles only within 3.7 miles (6 kilometers) of shore in digital aerial</p>

Comment No.	Comment	Response
		<p>surveys of the mid Atlantic offshore region, and no eagles were observed offshore during the NJDEP vessel-based surveys (COP Volume II, Appendix II-F2; Atlantic Shores 2024). Golden eagles are also not expected to fly offshore. Both eagle species primarily rely on thermal updrafts for flight, which are largely absent or weak over water, thus discouraging long-distance flights of these and most other raptors over large bodies of water (Kerlinger 1985). Because of these reasons bald and golden eagles are not expected to occur in the Lease Area.</p>
BOEM-2023-0030-1518-0039	<p>A 2020 study of tagged Piping Plovers showed evidence that the migratory path of this species is directly through as many as 12 of BOEM’s wind-energy lease areas [Footnote 35: Loring Pamela & McLaren James & Goyert Holly & Paton Peter & Loring Pamela & McLaren J & Goyert H & Paton P. (2020). Supportive wind conditions influence offshore movements of Atlantic Coast Piping Plovers during fall migration 2 Piping Plover migration. The Condor. 122. 1-16. 10.1093/condor/duaa028.]. These migratory paths are part of the Atlantic Flyway and are shown in [Bold: Figure 2]. Various stopover areas along the Atlantic Flyway such as Cape May Meadows Stone Harbor Point and the Forsythe National Wildlife Refuge are recognized as critical points for migratory birds. As avian species migrate over water at night as the 2020 study showed most piping plovers do they may be attracted to lighting components of the wind farms that could result in blind collisions with turbines due to poor nighttime visibility haze fog or other weather conditions that reduce visibility. Such collisions would go undetected and would occur far from shore where their deaths would be unable to be recorded and monitored. BOEM suggests that this impact would be localized. However, The Township is concerned that BOEM is substantially underestimating the adverse impact posed to avian species. Atlantic Shores South spans more than 100000 acres and is just one of 48 or more planned wind farms along the Eastern Seaboard many of</p>	<p>The presence of piping plovers in the offshore Project area (and other OSW lease areas on the Atlantic OCS) is discussed in the USFWS BA, available here: https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/AtlanticShoresSouth_USFWS_BA.pdf.</p> <p>Loring et al. (2020) found that only 12 percent (2 out of 17) of the radio-tagged plovers leaving breeding areas in Massachusetts and Rhode Island during fall migration flew through lease areas off New Jersey, although it is possible that additional plovers flew beyond the range of the land-based receiver network and passed through or near the lease areas without detection. These numbers also represent a course estimation of interpolated flight paths that is based on a subset of individuals (17 of 52; 33 percent) that were detected anywhere south of eastern Long Island (Loring et al. 2020) and may not be representative of plover populations departing from locations outside of Massachusetts and Rhode Island. In spring, 2 of 10 plovers fitted with transmitters in the Bahamas had enough detections to estimate flight paths and traveled north, close to shore and west of the Project (Appendix I in Loring et al. 2019). One of these two birds had a flight speed between detections in the Bahamas and South Carolina that suggested a potential flight trajectory that crossed the OCS, 124 miles (200 kilometers)</p>

Comment No.	Comment	Response
	<p>which together cover substantially larger acreage than Atlantic Shores South. To categorize the impact of one wind farm that spans more than 100000 acres as ‘localized’ is a failure to consider the cumulative impacts of multiple wind farm arrays that will exist adjacent to one another and is a violation of NEPA guidelines for cumulative impacts.</p>	<p>from shore. Otherwise, the northbound migratory routes of piping plovers from wintering grounds to breeding grounds in the northeastern United States remain largely unknown.</p> <p>To minimize impacts of lighting of offshore structures on birds, Atlantic shores will implement the following protection measures:</p> <ul style="list-style-type: none"> • BIR-03: Limit lighting during offshore operations to the minimum required by regulation and for safety, minimizing the potential for any light driven attraction of birds. • BIR-05: 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. • BIR-06: Use down-lighting and down-shielding to the maximum extent practicable. <p>The term “localized” was applied to other OSW and Project-related impacts relating to lighting, noise, accidental releases and cable emplacement and maintenance due to the fact that these types of impacts do not spread far beyond their source. Additionally, the term “localized” was not used when describing cumulative impacts, but in relation to the impacts of individual projects. Cumulative Impacts of the No Action Alternative and the No Action Alternative are described separately and do not describe any impacts as “localized”.</p>
BOEM-2023-0030-1518-0040	<p>BOEM also states that wind farms may have a beneficial impact on bird populations due to the artificial reef effect which may create greater foraging opportunities. While this may be true it places birds at greater risk of colliding with turbine blades. Research has shown that as birds seek prey they tend not to look in the direction of travel which makes</p>	<p>The Applicant has committed to implementing certain measures to reduce attraction and/or disorientation of birds that may be flying in proximity to the WTA (e.g., anti-perching, down-shielding lighting). As part of its Avian and Bat Post-Construction Monitoring Plan, the Applicant will use radio-tags to monitor movement of ESA-listed birds in the</p>

Comment No.	Comment	Response
	<p>them effectively blind in the direction of travel greatly increasing their risk of collision with a turbine blade [Footnote 36: Understanding bird collisions with man-made objects: a sensory ecology approach https://onlinelibrary.wiley.com/doi/10.1111/j.1474-919X.2011.01117.x; Footnote 37: Windmill Hits Eagle https://www.youtube.com/watch?v=rrBONPNNllc].</p>	<p>vicinity of the Project, provide annual and quarterly monitoring reports including raw data to USFWS and BOEM, report dead or injured birds as they occur and in annual reports to USFWS and BOEM, and provide annual reports summarizing monthly turbine operational data to USFWS, BOEM, and BSEE. These activities will aid in the understanding of the impacts of offshore wind farms to birds and will be used to refine avian collision risk models.</p>
BOEM-2023-0030-1520-0012	<p>It is also in the path of the Piping Plover a threatened species of bird that nests in the Holgate Wildlife Refuge.</p>	<p>Collision risk for the piping plover and other ESA-listed bird species is assessed with both the Band and SCRAM models in the BA. Detailed descriptions of the Band and SCRAM model inputs and outputs are presented in the BA, as well as a discussion of the limitations of each model. The BA includes Band model results and input for the piping plover in Appendix B and SCRAM model inputs and results for the piping plover in Appendix D).</p> <p>USFWS deemed the Atlantic Shores South BA complete on July 19, 2023, and it is available here: www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/AtlanticShoresSouth_USFWS_BA.pdf. Results of the consultation are presented in the Final EIS.</p> <p>Edwin B. Forsythe National Wildlife Refuge (which includes parts of Holgate, NJ), is known to be an important shorebird migratory stopover and breeding habitat, including the piping plover. BOEM has added some additional text in Section 3.5.3, <i>Birds</i> to note the importance of this area.</p>
BOEM-2023-0030-1523-0027	<p>The County is concerned about the impacts to migrating avian species through and around offshore windfarms as this area of study is not well understood. Conservative estimates project that at least 681000 birds are killed by collisions with wind turbine blades each year with an emphasis on smaller birds.³⁵ On land wind farms are responsible for the death of over 150 bald and golden eagles due to blunt force trauma</p>	<p>USFWS estimates that 140,000 to 500,000 (mean = 320,000) birds are killed annually from about 49,000 onshore wind turbines in 39 states (USFWS 2018). Bird collisions with onshore turbines in the eastern United States is estimated at 6.86 birds per turbine per year (USFWS 2018). Based on this mortality rate, an estimated 19,693 birds could be killed annually from the 2,974 WTGs that would be added for</p>

Comment No.	Comment	Response
	<p>from turbine blades.³⁶ As wind-power grows across America and into open-water areas that are used for migration these numbers are likely to be severely underestimated based on both the lack of current information available on bird-deaths and the rapid increase of the number of turbines in operation.</p>	<p>offshore wind development. Using this same mortality rate, an estimated total of 1,372 birds may be killed annually by the Project's 200 turbines combined. These estimates represent a maximum-case scenario and does not consider mitigating factors, such as landscape and weather patterns, or bird species that are expected to occur in the offshore Project area. Potential annual bird kills from offshore WTGs would be relatively low compared to other causes of migratory bird deaths in the United States; feral cats are the primary cause of migratory bird deaths in the United States (2.4 billion per year), followed by collisions with building glass (599 million per year), collisions with vehicles (214.5 million per year), poison (72 million per year), collisions with electrical lines (25.5 million per year), collisions with communication towers (6.6 million per year), and electrocutions (5.6 million per year) (USFWS 2021).</p> <p>Bald eagles generally remain near shore in marine environments. Williams et al. (2015) observed bald eagles only within 3.7 miles (6 kilometers) of shore in digital aerial surveys of the mid Atlantic offshore region, and no eagles were observed offshore during the NJDEP vessel-based surveys (COP Volume II, Appendix II-F2; Atlantic Shores 2024). Golden eagles are also not expected to fly offshore. Both eagle species primarily rely on thermal updrafts for flight, which are largely absent or weak over water, thus discouraging long-distance flights of these and most other raptors over large bodies of water (Kerlinger 1985). Because of these reasons bald and golden eagles are not expected to occur in the Lease Area.</p> <p>The Applicant has committed to implementing certain measures to reduce attraction and/or disorientation of birds that may be flying in proximity to the WTA (e.g., anti-perching, down-shielding lighting). As part of its Bird and Bat Monitoring Plan (BBMP), the Applicant will use radio-tags to</p>

Comment No.	Comment	Response
		<p>monitor movement of ESA-listed birds in the vicinity of the Project, provide annual and quarterly monitoring reports including raw data to USFWS and BOEM, report dead or injured birds as they occur and in annual reports to USFWS and BOEM, and provide annual reports summarizing monthly turbine operational data to USFWS, BOEM, and BSEE. These activities will aid in the understanding of the impacts of offshore wind farms to birds and will be used to refine avian collision risk models.</p>
BOEM-2023-0030-1523-0028	<p>A 2020 study of tagged Piping Plovers showed evidence that the migratory path of this species is directly through as many as 12 of BOEM’s wind-energy lease areas.³⁷ These migratory paths are part of the Atlantic Flyway and are shown in Figure 2. Various stopover areas along the Atlantic Flyway such as Cape May Meadows Stone Harbor Point and the Forsythe National Wildlife Refuge are recognized as critical points for migratory birds. As avian species migrate over water at night as the 2020 study showed most piping plovers do they may be attracted to lighting components of the wind farms that could result in blind collisions with turbines due to poor nighttime visibility haze fog or other weather conditions that reduce visibility. Such collisions would go undetected and would occur far from shore where their deaths would be unable to be recorded and monitored. BOEM suggests that this impact would be localized. However the County is concerned that BOEM is substantially underestimating the adverse impact posed to avian species. Atlantic Shores South spans 100000 acres and is just one of 48 planned wind farms along the Eastern Seaboard many of which cover substantially larger acreage than Atlantic Shores South. To categorize the impact of one wind farm that spans nearly 100000 acres as ‘localized’ is a failure to consider the cumulative impacts of multiple wind farm arrays that will exist adjacent to one another and is a violation of NEPA guidelines for cumulative impacts. BOEM also states that wind farms may have a beneficial impact on bird populations</p>	<p>The presence of piping plovers in the offshore Project area (and other OSW lease areas on the Atlantic OCS) is discussed in the USFWS BA, available here: https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/AtlanticShoresSouth_USFWS_BA.pdf.</p> <p>The Applicant has committed to implementing certain measures to reduce attraction and/or disorientation of birds that may be flying in proximity to the WTA (e.g., anti-perching, down-shielding lighting, red flashing lights).</p> <p>The term “localized” was applied to other OSW and Project-related impacts relating to lighting, noise, accidental releases and cable emplacement and maintenance due to the fact that these types of impacts do not spread far beyond their source. Additionally, the term “localized” was not used when describing cumulative impacts, but in relation to the impacts of individual projects. Cumulative Impacts of the No Action Alternative and the No Action Alternative are described separately and do not describe any impacts as “localized”.</p> <p>Bird collisions with onshore turbines in the eastern United States is estimated at 6.86 birds per turbine per year (USFWS 2018). Based on this mortality rate, an estimated 19,693 birds could be killed annually from the 2,974 WTGs that would be added for offshore wind development. Using this same</p>

Comment No.	Comment	Response
	<p>due to the artificial reef effect which may create greater foraging opportunities. While this may be true it places birds at greater risk of colliding with turbine blades. Research has shown as birds seek prey they tend not to look in the direction of travel which makes them effectively blind in the direction of travel greatly increasing their risk of collision with a turbine blade.3839</p>	<p>mortality rate, an estimated total of 1,372 birds may be killed annually by the Project's 200 turbines combined.</p>
<p>BOEM-2023-0030-1542-0011</p>	<p>Birds and Bats. Offshore wind development may cause negative impacts to bird and bat populations from collisions with turbines and habitat displacement. Rotor speed rotor size the amount of turbines turbine location turbine lighting and the cumulative impact of other turbine projects are all factors that BOEM must examine and mandate mitigation measures to reduce negative impacts as much as possible. These factors can greatly affect the level of negative interaction between turbines and birds and bats. Offshore wind development may also displace bird and bat populations from foraging and migration grounds or cause avoidance of wind farms altogether. [Footnote 17: Loss S; Will T; Marra P. 2013. Estimates of bird collision mortality at wind facilities in the contiguous United States. <i>Biological Conservation</i>: Vol. 168 Pp. 201–209. Available at: www.fws.gov/migratorybirds/pdf/management/lossetal2013windfacilities.pdf; Footnote 18: Smallwood K. 2013. Comparing bird and bat fatality-rate estimates among North American wind-energy projects. <i>Wildlife Society Bulletin</i>: Vol. 37 No. 1 Pp. 19-33. Available at: onlinelibrary.wiley.com/doi/abs/10.1002/wsb.260; Footnote 19: Sjollem A. Gates J. Hilderbrand R. & Sherwell J. 2014. Offshore Activity of Bats Along the Mid-Atlantic Coast. <i>Northeastern Naturalist</i>: Vol. 21 No. 2 Pp. 154-163. Available at: doi.org/10.1656/045.021.0201]. Impacts of avoidance should be examined through an ecosystem based management lens to determine the overall footprint of this disturbance with careful monitoring and evaluation mechanisms clearly communicated in a transparent and</p>	<p>Mitigation measures for birds and bats are presented in Sections 3.5.1, <i>Bats</i> and 3.5.3, <i>Birds</i> as well as in Appendix G, <i>Mitigation and Monitoring</i>.</p> <p>Impacts of displacement and avoidance were considered in the impact determinations presented in the EIS.</p> <p>As part of its Bird and Bat Monitoring Plan (BBMP), the Applicant will use radio-tags to monitor movement of ESA-listed birds in the vicinity of the Project, provide annual and quarterly monitoring reports including raw data to USFWS and BOEM, report dead or injured birds as they occur and in annual reports to USFWS and BOEM, and provide annual reports summarizing monthly turbine operational data to USFWS, BOEM, and BSEE. These activities will aid in the understanding of the impacts of offshore wind farms to birds and will be used to refine avian collision risk models.</p> <p>Please refer to Table N.6-5 for an additional response to this comment.</p>

Comment No.	Comment	Response
	public manner in place to address any adjustments that might help mitigate negative outcomes.	
BOEM-2023-0030-1556-0005	Birds and Bats: Include the proposed measure on the use of novel monitoring technologies for birds and bats in the ROD and explicitly require Atlantic Shores South to commit to deploying collision detection technology once commercially available. Require improved monitoring of bird and bat presence and collision rates by including radar visual and thermal camera systems acoustic detectors and Motus and GPS tracking of both listed and non-listed species. Specify how impacts to bat and bird species will be determined from monitoring data (as the only currently proposed post-construction monitoring is annual reports of carcasses on vessels and structures) as well as what will trigger adaptive management. Consult with the U.S. Fish and Wildlife Service about potential offshore collision impacts to the northern long-eared bat which was recently reclassified as endangered.[Footnote 10: 87 Fed. Reg. 73488 (Nov. 30 2022).]	As stated in the EIS, consultation with USFWS for ESA-listed species was ongoing at the time of the release of the Draft EIS for public comment. Subsequent to the Draft EIS publication, USFWS deemed the Atlantic Shores South BA complete on July 19, 2023, and it is available here: www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/AtlanticShoresSouth_USFWS_BA.pdf . As part of the agency-proposed measures outlined in the BA, BOEM will require Atlantic Shores develop a Bird and Bat Monitoring Plan (BBMP), and includes provisions for the addition of additional monitoring, technical refinements, and the inclusion of new technologies.
BOEM-2023-0030-1556-0055	However, it may be important to consider monitoring Black Rail listed as threatened under the ESA and listed as endangered in New Jersey New York and Connecticut.	Section 3.5.3, <i>Birds</i> considers primary IPFs associated with the Proposed Action on birds, including black rails. In addition, potential impacts to black rails are evaluated as part of the Biological Assessment prepared by BOEM under the Section 7 ESA consultation with USFWS. The BA, is available here: www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/AtlanticShoresSouth_USFWS_BA.pdf . Conclusions of the Section 7 ESA consultation are included in the Final EIS.
BOEM-2023-0030-1556-0062	We also suggest more transparent discussion of areas where minimal risk is assumed based on limited knowledge or high uncertainty. This includes effects of low frequency sound (infrasound) during turbine operations which could potentially interfere with avian navigation. While there is limited information available to test or contextualize	The information presented in the EIS represents the best available science, and the available information on impacts of infrasonic sound on bird navigation is not enough to be able to include an informed discussion in the EIS. As mentioned in Patrick et al. (2021), the hearing abilities of less than 50 species have been measured, and of those only 5 species

Comment No.	Comment	Response
	<p>infrasound impacts on birds[Footnote 159: Patrick SC Assink JD Basille M Clusella-Trullas S Clay TA den Ouden OF Joo R Zeyl JN Benhamou S Christensen-Dalsgaard J Evers LG. 2021. Infrasound as a cue for seabird navigation. <i>Frontiers in Ecology and Evolution</i> 9:812.] more study is necessary.</p>	<p>have been measured in the infrasonic range, and Patrick et al. (2021), only presents a framework for proposed research on the importance of infrasonic sound to avian navigation. A more recent study by Gillies et al. (2023) suggests that wide-ranging seabirds, such as albatrosses, may use microbarom infrasound as a navigational cue. BOEM will continue to evaluate new research on the importance of infrasound to seabird navigation as it becomes available.</p>
BOEM-2023-0030-1556-0063	<p>The indirect effects to marine birds from redistribution of forage fish populations after construction are not discussed. Installation of turbines at Atlantic Shores South likely will affect forage fish by removing existing hard and soft bottom substrates and replacing them with vertical structures that act as artificial reefs. Given high uncertainty in the synergistic effects of these ecosystem-scale alterations on fish[Footnote 160: Methratta ET Dardick WR. 2019. Meta-analysis of finfish abundance at offshore wind farms. <i>Reviews in Fisheries Science & Aquaculture</i> 27:242–260; Perry RL Heyman WD. 2020. Considerations for offshore wind energy development effects on fish and fisheries in the United States. <i>Oceanography</i> 33:28–37.] and secondary consequences for avian habitat use and energetics the potential for such effects should be acknowledged and incorporated into adaptive monitoring frameworks. Furthermore, colonization of other marine organisms (e.g. mussels) on foundations could act as attractants to marine birds (e.g. sea ducks). Additionally, there is emerging evidence that passerines are attracted to insect concentrations around or on turbines.</p>	<p>Impacts on fish, including habitat conversion and the presence of vertical structures, are discussed in Section 3.5.5, <i>Finfish, Invertebrates, and Essential Fish Habitat</i>.</p> <p>The potential for bird attraction to WTGs due to increased aquatic prey is acknowledged in the Presence of Structures IPF in Section 3.5.3.3 of the EIS. Language was added to indicate that this is an indirect effect of the presence of structures. Atlantic Shores has committed to limit lighting during offshore operations to the minimum required by regulation and for safety, minimizing the potential for any light driven attraction of insects.</p>
BOEM-2023-0030-1556-0064	<p>To minimize the potential for light-driven attraction of birds Atlantic Shores South will “...limit lighting during offshore operations to the minimum required by regulation and for safety” and “...use red flashing FAA [Federal Aviation Administration] lights and yellow flashing marine navigation lights on the WTGs instead of constant white light to reduce further bird attraction.” Moreover, the project will</p>	<p>As part of the agency-proposed measures outlined in the BA, BOEM will require Atlantic Shores to develop a Bird and Bat Monitoring Plan (BBMP). Furthermore, the Applicant’s commitment to fund regional science and research presents an opportunity to explore this topic further if it identified as a priority.</p>

Comment No.	Comment	Response
	<p>implement down-lighting and down-shielding to the maximum extent practicable.[Footnote 161:AS DEIS Appendix G at G-11 Measures BIR-03 BIR-05 and BIR-06.] To further reduce long-term phototactic attraction Atlantic Shores South should extend this approach to include use of minimal lighting intensity necessary on vessels WTGs and electric service platforms to permit safe construction operations and decommissioning activities while still reducing potential attraction of birds. Although such reduced lighting practices might reduce the potential impacts to avian species no provisions for studying avian response(s) to lights have been made in the monitoring framework.[Footnote 162: Id.]</p>	
BOEM-2023-0030-1556-0066	<p>Lack of detailed monitoring objectives for offshore birds in the Draft EIS and COP precludes addressing the mitigation actions that might be needed for any observed collision or displacement effects what level of observed impact would trigger such measures or the kind of habitat and/or resource equivalency analysis that would be implemented for computing the offsets used for any restoration actions.</p>	<p>The Applicant is required to develop and implement a Bird and Bat Monitoring Plan (BBMP) in coordination with USFWS and other relevant regulatory agencies. Annual monitoring reports will be used to determine the need for adjustments to monitoring approaches, consideration of new monitoring technologies, and/or additional periods of monitoring.</p>
BOEM-2023-0030-1566-0002	<p>There is substantive research confirming the devastating and debilitating impact of offshore wind development on not only already endangered species but other cetaceans and birds.</p>	<p>Impacts to birds are discussed in Section 3.5.3, <i>Birds</i>, and impacts to ESA-listed bird species are analyzed in detail in the USFWS BA, available here: www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/AtlanticShoresSouth_USFWS_BA.pdf.</p> <p>Impacts to marine mammals are discussed in Section 3.5.6 and impacts to ESA-listed marine mammal species are analyzed in detail in the NMFS BA, available here: boem.gov/sites/default/files/documents/renewable-energy/state-activities/AtlanticShoresSouth_NMFS_BA.pdf.</p>
BOEM-2023-0030-1605-0001	<p>The draft Environmental Impact Statement for Atlantic Shores Offshore Wind South is not only deficient in its analysis of how this project will affect the Piping Plover listed as an endangered species in New Jersey and “Threatened” in the Endangered Species Act of 1973 but the EIS has failed to</p>	<p>The EIS considers the impacts of primary IPFs to all bird species, including ESA-listed species, that use onshore and offshore habitats, including both resident bird species that use the Project area during all (or portions of) the year and migrating bird species with the potential to pass through</p>

Comment No.	Comment	Response
	disclose significant research that is essential to any analysis of this project related to Piping Plovers.	during fall or spring migration. Impacts to ESA-listed species, including the piping plover, are further evaluated in the BA, which is available here: www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/AtlanticShoresSouth_USFWS_BA.pdf .
BOEM-2023-0030-1605-0002	The following statements made in the EIS misrepresent the risk posed to Piping Plovers: EIS 3.5.3-7 “Automated radiotelemetry tracking studies of these species have also found extremely minimal infrequent passage through the Lease Area including the New Jersey WEA (Loring et al. 2018 2019 2021;...”However Loring et al. 2020 provided “the first empirical evidence that Piping Plovers migrate across the Atlantic OCS rather than taking a more circuitous route along the coast addressing a key information gap for this species.”	Information on piping plover migration through the Atlantic OCS as presented in Loring et al. (2020) has been added to the EIS. Impacts to ESA-listed species, including the piping plover, are further evaluated in the BA, which is available here: www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/AtlanticShoresSouth_USFWS_BA.pdf .
BOEM-2023-0030-1605-0003	EIS 3.5.3-19“Occurrence of piping plovers within the WTA has been found to be minimal (Loring et al. 2019). They have also been found to fly relatively high and during clear weather conditions that reduce chances of collisions with structures (Loring et al. 2019).”However Loring et al. 2020 states that “flight altitudes of migratory birds may vary in response to weather as they search to find suitable tailwinds (Shamoun-Baranes et al. 2017 Senner et al. 2018). Migratory birds may also descend to lower altitudes during periods of limited visibility low cloud ceiling and/or inclement weather increasing their risk of collision with offshore wind turbines (Hüppop et al. 2006 Senner et al. 2018).”	The EIS discusses changes in flight altitudes of migratory birds in response to inclement weather and low visibility in the Presence of Structures IPF in Section 3.5.3.5.
BOEM-2023-0030-1605-0004	EIS 3.5.3-27 and 29“Due to the anticipated use of flashing red tower lights restricted seasons of exposure and small number of individuals that could cross the Project area BOEM concluded that the Proposed Action would not likely adversely affect ESA-listed...piping plovers...”Such “flashing red tower lights” however are likely to have the opposite effect. Loring et al 2020 notes that the “risk of collision is potentially higher at night due to reduced visibility of turbines (Exo et al. 2003) and attraction or disorientation effects from	More recent studies on red flashing avian obstruction lights on land-based turbines showed no observable increase in avian mortality compared to unlit wind turbine generators (WTGs) (Kerlinger et al. 2010; Orr et al. 2013). The proposed lighting of offshore structures follows the same USFWS voluntary guidance and BMPs for communications towers and onshore wind farms. As recommended by USFWS, red flashing lights will be located on the nacelle. Additionally, Atlantic Shores proposes to implement an Aircraft Detection

Comment No.	Comment	Response
	artificial lighting on turbine towers (Richardson 2000 Drewitt and Langston 2006).”	Lighting System (ADLS), as recommended by USFWS, which activates aviation obstruction lights when aircraft approach, which would greatly reduce the amount of time the aviation obstruction lights are illuminated. General outdoor OSS and lighting will be down-shielded to the extent practicable.
BOEM-2023-0030-1605-0005	Oddly research done by Loring et al. specifically on Piping Plover migration (Loring 2020) titled “Supportive wind conditions influence offshore movements of Atlantic Coast Piping Plovers during fall migration” is not referenced anywhere in the EIS despite the fact that other research by Loring et al. is noted eight times.	Information on piping plover migration through the Atlantic OCS as presented in Loring et al. (2020) has been added to the EIS.
BOEM-2023-0030-1605-0006	Loring et al. 2020 also noted that “There is presently a lack of information on the movements of Piping Plovers during spring (northbound) migration. Shorebirds may be more likely to migrate during inclement weather in spring due to less stable atmospheric conditions and time constraints to reach breeding areas (O’Reilly and Wingfield 1995). These conditions may lead to increased risk during spring relative to fall including increased exposure to offshore wind turbines and other flight hazards (Richardson 2000).”BOEM has not addressed the risks posed to these endangered birds in the EIS. All BOEM has done is cherry pick positive statements likely taken out of context while keeping vital information from the public related to the risk this project poses to these endangered birds.	<p>The EIS considers the impacts of primary IPFs to all bird species, including ESA-listed piping plover, that use onshore and offshore habitats, including both resident bird species that use the Project area during all (or portions of) the year and migrating bird species with the potential to pass through during fall or spring migration. A discussion of studies on migratory movements of piping plovers in the region is now included in subsection 3.5.3.1 of Section 3.5.3, <i>Birds</i>.</p> <p>Impacts to ESA-listed species, including the piping plover, are further evaluated in the BA, which is available here: www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/AtlanticShoresSouth_USFWS_BA.pdf.</p> <p>In the BA, BOEM used the Band Model to determine an estimation of the risk of collision for the Piping Plover which used flight height determined by Loring et al 2019, in which 62 Piping Plovers were observed. By extrapolating data from fall migrations, it's estimated that 444 adult Piping Plovers could have migrated through the WEA in 2021.</p>
BOEM-2023-0030-1606-0030	Also three protected species – Piping Plover Red Knot and Sea Beach Amaranth can be found in proximity to the Monmouth Export Corridor and Landing Site. The proposed project and its activities will adversely affect these species and BOEM fails to review these details in the DEIS. COA submitted concerns	The EIS considers the impacts of primary IPFs to all bird species, including ESA-listed species, that use onshore and offshore habitats, including both resident bird species that use the Project area during all (or portions of) the year and migrating bird species with the potential to pass through

Comment No.	Comment	Response
	<p>on these as a part of the scoping comments (Atlantic Shores' Application for a General Permit 23 Authorizing Activities Near Asbury Park (Agency Docket Number 1300-22-0001.1 LUP220001) that was submitted in July 2022.</p>	<p>during fall or spring migration. Impacts to ESA-listed species, including the rufa red knot and piping plover, are further evaluated in the BA, which is available here: www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/AtlanticShoresSouth_USFWS_BA.pdf.</p> <p>Information on potential effects on seabeach amaranth can be found in Section 3.5.4, <i>Coastal Habitat and Fauna</i>, as well as in the USFWS BA referenced above.</p>
BOEM-2023-0030-1955-0001	How many birds will be killed with wind turbine blades?	<p>USFWS estimates that 140,000 to 500,000 (mean = 320,000) birds are killed annually from about 49,000 onshore wind turbines in 39 states (USFWS 2018). Bird collisions with onshore turbines in the eastern United States is estimated at 6.86 birds per turbine per year (USFWS 2018). Based on this mortality rate, an estimated 19,693 birds could be killed annually from the 2,974 WTGs that would be added for offshore wind development. Using this same mortality rate, an estimated total of 1,372 birds may be killed annually by the Project's 200 turbines combined. These estimates represent a maximum-case scenario and does not consider mitigating factors, such as landscape and weather patterns, or bird species that are expected to occur in the offshore Project area. Potential annual bird kills from offshore WTGs would be relatively low compared to other causes of migratory bird deaths in the United States; feral cats are the primary cause of migratory bird deaths in the United States (2.4 billion per year), followed by collisions with building glass (599 million per year), collisions with vehicles (214.5 million per year), poison (72 million per year), collisions with electrical lines (25.5 million per year), collisions with communication towers (6.6 million per year), and electrocutions (5.6 million per year) (USFWS 2021).</p>

N.6.8 Coastal Habitat and Fauna

Table N.6-8. Responses to Comments on Coastal Habitat and Fauna

Comment No.	Comment	Response
BOEM-2023-0030-0916-0197	In addition, there are secondary impacts on the coastal zone caused by the project at the foundation construction facility at the Paulsboro port and the turbine staging area at Alloways Creek that need to be described in the DEIS.	As described, as part of the Proposed Action, Atlantic Shores would enter into short-term or long-term lease agreements for use of WTG component staging and construction at New Jersey Wind Port, Paulsboro Marine Terminal, Portsmouth Marine Terminal, Repauno Port and Rail Terminal, and Port of Corpus Christi. To meet the planned demand of the Proposed Action and other planned offshore wind projects, many port entities have plans to upgrade or further develop port facilities in support of the burgeoning offshore wind industry. Potential impacts for those upgrades have been and/or will be analyzed through other permitting actions, as applicable.

N.6.9 Finfish, Invertebrates, and Essential Fish Habitat

Table N.6-9. Responses to Comments on Finfish, Invertebrates, and Essential Fish Habitat

Comment No.	Comment	Response
BOEM-2023-0030-0513-0005	My other concerns are as follows: The effects of EMF emissions from high voltage OSW cables on electrically and magnetically sensitive marine fishes are largely unknown. The installation and operation of offshore wind turbines can have an impact on local marine wildlife and ecosystems including noise pollution habitat loss and the potential for collisions with birds.	BOEM acknowledges that further research and monitoring is needed to more fully understand the impacts of EMF on finfish and invertebrates. For the purposes of this assessment, BOEM has used the best available scientific literature while acknowledging knowledge gaps where they exist.
BOEM-2023-0030-0916-0237	The DEIS should have presented the level of impacts on re-structuring of marine ecosystems on energy extraction both above and below sea level. In addition impacts on the regional atmosphere multiple physical biological and chemical impacts on the marine system must be identified in the project PEIS. Complicating these effects underwater structures such as foundations and piles may cause turbulent	The discussions on impacts from offshore wind structures in Sections 3.5.5.3 and 3.5.5.5 have been expanded to explain energy extraction due to wind wakes and potential consequences to hydrology in addition to the existing discussion on hydrological impacts. Additionally, a short discussion on impacts to lower trophic levels and the food web due to hydrological effects of structures was added.

Comment No.	Comment	Response
	current wakes which impact circulation stratification mixing and sediment resuspension.	
BOEM-2023-0030-1223-0030	<p>The analysis should clearly state the differences in expected impacts between HVAC vs. HVDC cabling and how that interacts with small medium or large offshore substations to affect fish invertebrates and EFH. Specifically different configurations of cables and substations will alter interarray cable layouts and the width of export cable corridors potentially running cables through additional areas of sand ridge habitats. We are also concerned about differences in impacts between HVAC and HVDC on electrosensitive fishes. Our previous understanding was that closed loop cooling systems for AC to DC power converter stations were not economically or technically feasible at this time. We are encouraged to see this type of system proposed as it avoids entrainment related impacts to fish eggs and larvae. The FEIS should provide more clarity on if this is in fact a viable technology if it is being considered as an alternative to HVAC cabling.</p>	<p>A statement was added noting that magnetic fields from HVAC cables are greater than from HVDC cables in Sections 3.5.5.3 and 3.5.5.5. However, the discussions in the sections evaluate impacts to finfish, invertebrates, and EFH based on specific studies from the best available scientific literature. The majority of studies evaluated the effects of EMFs produced by HVAC cables.</p> <p>The analysis in the EIS considers the range of cable route options. Impacts were evaluated based on these options collectively, as explained in Section 2.1.2.1 of the EIS. Based on these route options, Atlantic Shores expects that cable routes would require the removal or disturbances to sand ridge and other bedform habitats of up to 20 percent of export cable corridors and 10 percent of interarray cable corridors (See “Cable emplacement and maintenance” in Section 3.5.5.3).</p> <p>Atlantic Shores has proposed to use closed-cycle cooling for the offshore converter station. Additional details on the use of closed-cycle cooling systems are not currently available.</p>
BOEM-2023-0030-1223-0031	<p>We appreciate that the fish invertebrates and EFH impacts analysis for Alternative F includes a table comparing the acreage of installed structures habitat conversion and scour protection for each foundation type. We had requested this information when commenting on an EIS for another project.</p>	<p>Thank you for your comment.</p>
BOEM-2023-0030-1339-0023	<p>The DEIS lists a number of marine finfish species which are listed as endangered or threatened under the Endangered Species Act. It is concerning that BOEM “is in the process of assessing the impacts of the Proposed Action on ESA-listed fish species”. How is the public supposed to intelligently comment on potential impacts to ESA-listed fish species when the Agency charged with permitting the activities</p>	<p>The potential impacts of the Proposed Action on ESA-listed species are identified and evaluated or discussed in the EIS. The current ESA-listed species subsections in the EIS have been deleted and integrated into the larger IPF evaluations/discussions for each alternative. The analysis of potential impacts to these species that is presented in the EIS is based on the best science available. BOEM prepared a</p>

Comment No.	Comment	Response
	cannot identify those impacts nor the potential population-level impacts on those species? Unless and until the true environmental ecological and social impacts of offshore wind development are identified and better understood the publication of the DEIS is premature	Biological Assessment that evaluates the potential effects of the proposed project on ESA-listed species, and Endangered Species Act consultation with NMFS was completed on December 18, 2023. Proposed mitigation measures listed in Section 3.5.5.9 will minimize or avoid potential impacts to ESA-listed species (e.g., Atlantic sturgeon). Atlantic Shores would be required to comply with any reasonable and prudent measures included in the Biological Opinion that NMFS issued at the conclusion of ESA consultation.
BOEM-2023-0030-1449-0001	There's no way these turbines will not have a negative effect on sharks with sensitive ampullae of Lorenzini. We're seeing echo location disturbances with whales and dolphins while the mapping is happening. Once completed the sharks will start to diminish	The extent of the electric field produced by interarray and export cables will be largely contained within cable shielding (see Gill et al. 2012b) and magnetic fields would be minimized due to the cable burial depth below the seabed. Nonetheless, elasmobranchs within the electromagnetic field are expected to detect it due to their sensory organs and sensitivity to EMFs (Hutchison et al. 2021; Gill et al. 2014). As discussed in the Section 3.5.5, behavioral responses of EMFs have been demonstrated in little skate (Hutchison et al. 2018).
BOEM-2023-0030-1516-0120	BOEM's EIS also fails to adequately consider the latest research published on offshore wind project's impacts on "Finfish Invertebrates and Essential Fish Habitat." A recent study published in the peer-reviewed journal Nature Communications found offshore wind industrial facilities do previously unrecognized harm to marine ecosystems. A team of scientists from various German research institutes and universities examined industrial wind projects in the North Sea where the world's largest offshore wind project is found. Quantitative modeling conducted for the study indicates that the "wind wake" effect of offshore wind farms could dampen annual primary production in the area encompassed and beyond by the wind farms by more than 10 percent. Less food for fish or endangered whales is not a "moderate" or "beneficial" impact. The same modeling indicates offshore industrial wind projects slow ocean currents resulting in decreased cycling of dissolved oxygen in and around wind	The discussion on impacts from presence of structures was expanded to include the study referenced by the commenter from Daewel et al. (2022). This includes a mention of the potential negative consequences from the ± change to local primary productivity and decrease in bottom dissolved oxygen. However, this study, and other studies in the North Sea that evaluate impacts to local stratification, should be applied cautiously to assessments of offshore wind projects proposed for locations in the western Atlantic. Stratification of the water column is much weaker in the North Sea compared to the stratification that produces the mid-Atlantic cold pool where the Proposed Action is located; therefore, the impacts described in studies from the North Sea may not apply to the waters of the Mid-Atlantic Bight. Potential impacts on marine food webs are discussed. Despite the modeling studies, food web impacts from offshore wind structures are still uncertain. Empirical studies suggest that

Comment No.	Comment	Response
	<p>projects which produces low oxygen concentrations. Lower oxygen levels are also detrimental to marine life. The authors ultimately conclude that “off shore wind farm developments can have a substantial impact on the structuring of coastal marine ecosystems on basin scales.” Separately these negative effects on the marine ecosystem in offshore wind farm areas indicate the ASOWNJ project will harm many species and disrupt ecosystem interconnections. Cumulatively the harm will probably be much greater wreaking great harm on all marine life.</p>	<p>local fish abundance increases with the presence of offshore wind structures (Wilber et al. 2022a & b; Methratta and Dardick 2019) with some reef-oriented species potentially benefitting from the structures (Wilber et al. 2022b). BOEM therefore determined that minor to moderate impacts are expected from offshore wind structures on finfish, invertebrates, and EFH.</p>
BOEM-2023-0030-1518-0037	<p>Lobsters and other benthic creatures such as sea scallops ocean quahogs surf clams and blue crabs are the most valuable seafood landings in New Jersey. In fact New Jersey is one of the leading suppliers of surf clams and ocean quahogs to both the nation and the world [Footnote 31: New Jersey Seafood Harvest https://www.nj.gov/seafood/harvest.html]. A 2022 study found that EMF from offshore wind farms could overlap with the brooding and spawning habitats of lobster and crabs and result in deformities that affect larval mortality recruitment and dispersal [Footnote 32: Harsanyi P Scott K Easton BAA de la Cruz Ortiz G Chapman ECN Piper AJR Rochas CMV Lyndon AR. The Effects of Anthropogenic Electromagnetic Fields (EMF) on the Early Development of Two Commercially Important Crustaceans European Lobster <i>Homarus gammarus</i> (L.) and Edible Crab <i>Cancer pagurus</i> (L.). Journal of Marine Science and Engineering. 2022; 10(5):564. https://doi.org/10.3390/jmse10050564]. EMF has a measurable impact on the early life history and consequently the population dynamics of lobsters and crabs. The project between interlinking array cables and export cables includes over 584 miles of subsea cables. Long Beach Township is concerned with the EMF generated from the subsea transmission lines and its impact on marine life.</p>	<p>The EIS acknowledges that shellfish are an important component of the regional commercial fishing industry (see Section 3.6.1). The greatest impacts to shellfish resources are habitat disturbance from cable installation and loss of habitat and fishing access due to presence of offshore wind structures. Those impacts are discussed in Sections 3.5.2 and 3.6.1. The EIS briefly discusses the Harsanyi et al. (2022) study and mentions the overall finding that population-level impacts of EMF are possible for these two species and other crustaceans. However, subsea cables from offshore wind development are expected to affect a relatively small area compared to the amount of habitat that is present. Furthermore, crustaceans, especially lobsters, are attracted to complex habitats which will be minimally disturbed or avoided during cable installation. Lastly, the Harsanyi et al. (2022) study was done in a laboratory that artificially placed early life stages of the two crustacean species in close contact with EMFs. The early life stages of crustaceans are free-living in the water column and would have minimal exposure to EMFs in the natural environment. If they are exposed to EMFs, the exposure period would be expected to be short as these free-living life stages are carried by the currents and would only be exposed in passing for short durations.</p>
BOEM-2023-0030-1523-0023	<p>Scallops ocean quahogs surf clams and other shellfish are critical ocean resources for commercial fishing in Cape May</p>	<p>The EIS considers impacts from burial following resettlement of sediment plumes to benthic organisms that are important</p>

Comment No.	Comment	Response
	<p>County. In addition, small surface burrowing fauna small tube-building fauna and clam beds provide important ecosystem functions such as water filtration and nutrient recycling. Increased turbidity and physical damage from anchoring dredging currents cable laying pile driving and other human activities will result in significant changes to the benthic habitats that could smother existing species and potentially result in the relocation or complete loss of thriving benthic habitats. The County is concerned that impacts from construction operation and decommissioning activities could result in permanent ecological changes to the seafloor and benthic habitats that could alter nutrient cycles and disrupt feeding patterns for fish and other species that rely on benthic creatures that exist at the bottom of the food chain.</p>	<p>to the ecosystem and as fisheries resources (also see Section 3.6.1). The discussion considers that some benthic fauna are mobile and otherwise able to avoid burial while others are resilient to burial (i.e., vertical movements within the sediments by infaunal organisms). The section also acknowledges that some organisms may smother if avoidance is not possible. At areas where cables can't be buried to sufficient depths, cable armoring would be used. Cable armoring could convert soft bottom habitat to complex hard bottom habitat. BOEM concludes that cable emplacement would have moderate adverse impacts to finfish, invertebrates, and EFH. Those impacts would be localized to the area of disturbance within the cable corridor, and would be short term in soft-bottom habitat, which would recover, but potentially permanent in complex habitat.</p>
BOEM-2023-0030-1542-0013	<p>BOEM must continue to monitor and mitigate impacts from electromagnetic fields (EMFs) created by power cords connecting turbines to each other and to land. Many ocean species can detect EMFs and some have been shown to change their behavior because of EMFs including fish sharks turtles and marine mammals. [Footnote 20: BOEM. 2011. Effects of EMFs from Undersea Power Cables on Elasmobranchs and Other Marine Species. Available at: www.boem.gov/ESPIS/4/5115.pdf].</p>	<p>Atlantic Shores would be required to comply with mitigation and monitoring measures contained in the Record of Decision issued by BOEM and any measures contained in the Biological Opinion or EFH Conservation Recommendations issued by NMFS following the completion of ESA and EFH consultation.</p>
BOEM-2023-0030-1542-0015	<p>For each of the environmental impacts listed above BOEM must analyze and mitigate them seasonally as different species have varied sensitivities at different times of the year. Mitigation options to address seasonal movements of marine species must be assessed.</p>	<p>Seasonal occurrences of species were summarized in Section 3.5.5.1. Impacts were evaluated based on seasonal vulnerabilities of sturgeon species and other relevant species (e.g., seasonal occurrences of giant manta ray) where appropriate in added text for the Final EIS. Atlantic Shores has committed to working around seasonal migration periods for ESA-listed species, specifically for migrating sturgeon species. Atlantic Shores would be required to comply with time of year restrictions contained in the Record of Decision issued by BOEM or contained in the Biological Opinion or the EFH Conservation Recommendations issued by NMFS.</p>

Comment No.	Comment	Response
BOEM-2023-0030-1562-0008	Of great concern will be the ongoing vibrations from the HVAC cables which is not covered in the EIS.	Vibrations from buried HVAC cables are not expected to affect finfish, invertebrates, and EFH. BOEM is not aware of any studies investigating noise or vibration from offshore transmission cables.
BOEM-2023-0030-1562-0009	As numerous other wind energy projects several in close proximity to Atlantic Shores will also be emitting ongoing vibration noise from buried cables a new and significant source of unrelenting underwater noise pollution is being created.	Vibrations from buried cables are not expected to be significant sources of noise that would affect finfish or invertebrates compared to other sources (e.g., pile driving and cable emplacement noise).
BOEM-2023-0030-1562-0010	This underwater noise will be continuous throughout however many years these projects are in service.	<p>Continuous low-frequency noise from operating WTGs would persist during the operational life of the Proposed Project. The particle movement component of sound from operating WTGs could be below hearing thresholds for some fish species based on a study at the Block Island Wind Farm (Elliot et al. 2019). However, WTG sizes and capacities are expected increase to meet generation goals. Operating noise for WTGs installations with capacities of 10 MW or greater have yet to be studied.</p> <p>Other noise sources during the operational phase of the project includes boat noise from maintenance activities or biological monitoring surveys. As discussed in Section 3.5.5.5, sound levels from boat operation are anticipated to below harassment or injury thresholds.</p>
BOEM-2023-0030-1581-0008	Assurance for the protection of the Cold Pool phenomenon must be include in the analysis and scientific research ensuring its protection must be completed prior to the COP or approval of the DEIS	Section 3.5.5.3 includes a discussion on the potential impacts of wind wakes and underwater structures on hydrodynamics. This discussion is based on modeling studies in the North Atlantic that have demonstrated potential local hydrodynamic changes around turbine areas (Christiansen et al. 2022; Daewel et al. 2022). Underwater structures are known to generate down-current turbulent mixing impacting local stratification (Floeter et al. 2017; Carpenter et al. 2016; Lass et al. 2008). The other major potential hydrodynamic impact, hydrodynamic effects of wind wakes, is specific to offshore wind turbines. Wind wakes form from a wind speed

Comment No.	Comment	Response
		<p>deficit (i.e., slower wind) on the leeward side of wind turbines that can extend up to 25 miles (40 kilometers) downwind of wind farms depending on the number and size of turbines (Christiansen et al. 2022; Akhtar et al. 2021; Platis et al. 2020). Under stable wind conditions, wind wakes may extend even further, up to 43 miles (70 kilometers) (Cañadillas et al. 2020; Djath et al. 2018). Wind wakes reduce water surface wind stress, an energy deficit that transfers through the water column (Bärfuss et al. 2021; Paskyabi 2015). In the water column changes include reductions in surface flow, surface layer mixing, bottom shear stress, and weakening of stratification in the overall water column (Christiansen et al. 2022; Daewel et al. 2022). In a stratified water column, mixing of water masses occurs. The combined effects of underwater structures and wind wakes weaken summertime stratification in the North Sea. Modelling studies have predicted mixing of the stratified water column under stratification levels experienced in the North Sea (Christiansen et al. 2022; Daewel et al. 2022; Schultze et al. 2020; Cazenave et al. 2016). However, stratification strength in the North Sea is much weaker than that of the Mid-Atlantic Cold Pool. This North Sea stratification strength is more representative of stratification strength during the spring formation and fall dissipation of the Mid-Atlantic Cold Pool (Miles et al. 2017). Modeling studies are needed to better understand potential hydrodynamic impacts to the Mid-Atlantic cold pool specifically. Modelling studies are currently being developed by a number of research teams, including one that is funded by BOEM. The results of those studies will inform future planning, development, and mitigation for offshore wind in the U. S. These studies won't be completed prior to COP approval or EIS development as several have already been developed and approved. The studies currently underway will be valuable, nonetheless.</p>
BOEM-2023-0030-1581-0009	There is also no consideration of the impact of sea cooling of the transmission operations off shore in this draft DEIS. This	Atlantic Shores is committed to exploring closed-cycle cooling for use at offshore converter stations. Impacts due to

Comment No.	Comment	Response
	will have a huge impact on fish and specifically juvenile species and should be better identified considered and addressed.	impingement and entrainment would therefore be largely avoided. Other impacts from these technologies could also be from point-source thermal discharges. Thermal discharges are expected to be quickly diluted in the high energy offshore environment.
BOEM-2023-0030-1588-0004	In addition many forms of sealife are unable to withstand the EMF cables and their warming effects on the marine climate.	Impacts from EMFs and cable heat are evaluated and discussed in Section 3.5.5. While EMFs could induce behavioral responses in finfish, the scientific literature has not provided evidence that these fields act as barriers to fish movement for most species. EMFs were recently shown to elicit behavioral responses in free-living early stages of invertebrates (Harsanyi et al. 2022); however, BOEM does not believe that the controlled laboratory study which directly placed organisms within EMFs would be reality in the marine environment that constantly transports early stages of organisms. Exposure of free-living organism to EMFs would be minimal in the natural environment. Cable heat was evaluated in the section and impacts are not expected given cable burial, armoring, and heat dissipation by the significantly large volume of ambient seawater above the cable.
BOEM-2023-0030-1606-0031	The Monmouth and Atlantic Export Cable Corridor will adversely impact prime fishing grounds including the following artificial reefs: (i) Manasquan Inlet (ii) Axel Carlson (iii) Atlantic City. Additionally, noise from pile driving activities in proposed Projects 1 and 2 will adversely impact existing artificial reefs: (I) Atlantic City (ii) Great Egg and (iii) Little Egg. Moreover, invasive species are a serious threat and monopoles and other associated structures with offshore wind provide a pathway and habitat for them to inhabit the region. How will the Applicants ensure that invasive species will not habitat the region? What monitoring systems will be used? What will be done to eliminate the establishment of the invasive species?	<p>These artificial reef sites are adjacent to but not within the Offshore Project area, including export cable corridors.</p> <p>The Manasquan Inlet and Axel Carlson artificial reef areas are close to the nearshore segment of the Monmouth export cable corridor but there is no overlap. Likewise, the Atlantic City artificial reef area is close to the WTA but does not overlap it.</p> <p>The Great Egg and Atlantic City artificial reef areas are within the 7-mile buffer zone that is expected to experience behavioral impacts to fish due to pile driving noise. The southern boundary of the Little Egg artificial reef area also overlaps the 7-mile buffer zone. Fish within these reef areas</p>

Comment No.	Comment	Response
		<p>would be subject to sound that would influence behavior during pile driving activities. Behavioral responses to pile driving noise include dispersal, diving, habitat displacement; though, fish and invertebrates are expected to resume normal behaviors following pile driving activities. This discussion was added to Section 3.5.5.5.</p> <p>The potential introduction of non-native species is discussed in this section citing the introduction of <i>Didemnum vexillum</i> at the Block Island Wind Farm following accidental releases. Atlantic Shores has not identified monitoring systems to help avoid introductions; however, the risk of introductions is expected to be low. The section also discusses the potential spread of invasive species that may be facilitated by the presence of offshore wind structures. The example discussed is for invasive lionfish that already exist in the geographic analysis area.</p>
BOEM-2023-0030-1606-0037	Regarding impacts to Atlantic Sturgeon from the Atlantic Shores South projects BOEM maintains based on analyses in the Atlantic OCS impacts from HRG survey multibeam echosounders are not likely to adversely affect fish species including ESA-listed fish species such as Atlantic sturgeon (Baker and Howson 2021). However, there are many comments throughout the DEIS that say “likely not likely” in terms of impacts but do not describe qualitatively or quantitatively what is meant by likely and not likely.	Instances of this language were revised throughout the section with “expected to”, “not expected to”, “may”, or “potentially” as appropriate to be consistent with terms used throughout the EIS. These comments are not to be confused with the impact levels defined in Table 3.5.5-1 (negligible, minor, etc.) and used in determinations found in the conclusion sections. Impacts are evaluated both qualitatively and quantitatively in this section and rely largely on the best available science to determine whether or not impacts are expected to (or not expected to) occur for a given IPF.
BOEM-2023-0030-1606-0038	Further it is unacceptable for the information regarding the assessment of impacts to an endangered species such as the Atlantic Sturgeon to be missing from the DEIS. As stated in the document “BOEM is in the process of assessing the impacts of the Proposed Action on ESA- listed fish species in the BA. BOEM will continue to consult with NMFS under the ESA and results of consultation will be included in the Final EIS.” The Final EIS will not have a public review and comment	The evaluation of impacts to ESA-listed species in Section 3.5.5.5 was expanded and integrated into the IPF discussions/evaluations for each alternative. Public comment was requested on the Draft EIS and those comments, including those related to the potential effects of the Proposed Action on ESA-listed species, are taken into consideration and addressed in the document prior to publication of the Final EIS.

Comment No.	Comment	Response
	<p>period and therefore interested groups and individuals that have knowledge and expertise with Atlantic Sturgeon populations and impacts will not be able to submit comments on the assessed impacts and proposed mitigation measures put forth by BOEM after the consultation with NMFS. This is another example of a deficiency in the DEIS.</p>	
BOEM-2023-0030-1606-0039	<p>There is insufficient data to support a lack of adverse effects from OSW activity on sturgeon spawning/mating behavior of Atlantic Sturgeon. The presence of structures emplacement and maintenance of cables and EMFs are impact producing factors (“IPFs”) that may impact migrating Atlantic sturgeon. The Draft EIS does not provide an adequate analysis of Atlantic Shores South’s impacts on Atlantic sturgeon. A recent study indicates that only 250 adults return to the Delaware River to spawn.[Footnote 51: See Shannon L. White et al. Evaluating sources of bias in pedigree-based estimates of breeding population size Ecological Applications (2021) https://esajournals.onlinelibrary.wiley.com/doi/epdf/10.1002/eap.2602.] Atlantic Shores South activities within the Delaware River Delaware Bay and open ocean need to be assessed for impacts to this endangered species.</p>	<p>The analyses of impacts on ESA-listed species, including Atlantic sturgeon, in Sections 3.5.5.3 and 3.5.5.5 have been expanded to address individual IPFs for the Final EIS. BOEM has used the best available science to address the potential impacts of the Proposed Action on ESA-listed species including Atlantic sturgeon in Section 3.5.5.5 of the EIS, as well as in the more detailed assessment contained within the Biological Assessment prepared in consultation with NMFS. The Biological Assessment determined that the stressors associated with the IPFs identified by the commenter were not likely to adversely affect Atlantic sturgeon, and in its Biological Opinion, NMFS concluded that effects of these stressors on Atlantic sturgeon are discountable or insignificant. Atlantic Shores would be required to comply with the reasonable and prudent measures included by NMFS in its Biological Opinion issued on December 18, 2023.</p> <p>The best available science includes descriptions of distribution ranges, habitat use, and migrations by ESA-listed species which are useful in identifying potential overlap or conflicts with activities associated with the Proposed Action. Specifically, the best available science provides information on specific impacts from cable emplacement or associated dredging, EMFs, gear utilization from biological monitoring surveys, presence of structures, and vessel traffic. Taken together, the information from the best available science is reasonably sufficient to support determinations made in the EIS. The importance of properly assessing impacts to Atlantic sturgeon that spawn in the Delaware River is noted.</p>

Comment No.	Comment	Response
BOEM-2023-0030-1606-0040	<p>Many questions must be adequately answered in an assessment of the impacts in the DEIS for this species including [Bold: how will the Projects affect the spawning/mating behavior of the endangered species?]</p> <p>Again, the DEIS is deficient in assessing the impacts on the critically endangered Atlantic Sturgeon which have already experienced risks and threats prior to the massive industrialization of the habitat of the species.</p>	<p>The analyses of impacts on ESA-listed species, including Atlantic sturgeon, in Sections 3.5.5.3 and 3.5.5.5 have been expanded to address individual IPFs for the Final EIS. BOEM has used the best available science to address the potential impacts of the Proposed Action on ESA-listed species including Atlantic sturgeon in Section 3.5.5.5 of the EIS, as well as in the more detailed assessment contained within the Biological Assessment prepared in consultation with NMFS. Atlantic Shores would be required to comply with the reasonable and prudent measures included by NMFS in its Biological Opinion issued on December 18, 2023.</p> <p>The best available science includes descriptions of distribution ranges, habitat use, and migrations by ESA-listed species which are useful in identifying potential overlap or conflicts with activities associated with the Proposed Action. Specifically, the best available science provides information on specific impacts from cable emplacement or associated dredging, EMFs, gear utilization from biological monitoring surveys, presence of structures, and vessel traffic. Taken together, the information from the best available science is reasonably sufficient to support determinations made in the EIS. The importance of properly assessing impacts to Atlantic sturgeon that spawn in the Delaware River is noted.</p>
BOEM-2023-0030-1606-0062	<p>In addition, Table 3.5.6-5 displays impact level definitions for marine mammals. These qualitative descriptions leave a lot of wiggle room for subject matter experts. Further in Table 3.5.6-6. Severe intensity impact is defined by “One or more death or injury of a species at risk” but in Appendix G BOEM mentions catch of sturgeons and turtles (dead or alive) used for sampling. Why doesn’t this qualify turtles or sturgeon (or marine mammals if they can be linked eventually to OSW) as severely impacted?</p>	<p>The classifications in Tables 3.5.6-5 and 3.5.6-6 apply to the assessment of impacts to marine mammals, not sturgeon. Collection of biological samples from dead or injured ESA-listed species, including sturgeon, found during monitoring is commonly required by NMFS as a condition of approval for federally sponsored projects with the intent to collect scientific information to better monitor, understand, and conserve these species. In the event that a dead or injured sturgeon is observed during monitoring for the Project, it would be reported to NMFS, as required by the conditions of the Biological Opinion, and a determination would be made as to</p>

Comment No.	Comment	Response
		whether or not the injury or mortality was associated with the Project and should be considered an incidental take.
BOEM-2023-0030-1606-0069	Electricity produced at offshore wind farms is usually transmitted to shore through high voltage alternating or direct current cables. The current in these cables creates electric and magnetic fields (EMF). While the electric field generated by the current is isolated within the cable the magnetic field is measurable around the cable. There has been significant concern about the impact on crustaceans and their sensibility to EMF as it can impact their ability to locate food and may cause avoidance of large areas. Fish species that employ electrical currents for orientation such as sharks and rays eels and electric fish are the most sensitive. It has been suggested that many such species may be able to detect EMF at a distance over 1000 ft.	<p>Section 3.5.5.3 discusses impacts of buried cables on fish and invertebrates. The discussion explains that the extent of the electric field produced by interarray and export cables would be largely contained within cable shielding (see Gill et al. 2012b) and magnetic fields would be minimized due to the cable burial depth below the seabed. Nonetheless, impacts of EMFs on fish species, including sharks, skates, and ray, may occur due to the sensitivities of these species to EMFs (Hutchison et al. 2021; Gill et al. 2014). Behavioral responses to EMFs have been demonstrated in little skate (Hutchison et al. 2018) and in other fish species.</p> <p>Section 3.5.5.3 includes a discussion on EMF impacts to lobsters using the best available science. Based on those studies, behavioral responses to EMFs have been demonstrated in fish and invertebrates including lobsters, but responses are variable without clear consequences to processes such as migrations and spawning. Deformities occurred in crab and lobster larvae exposed to magnetic fields in a laboratory setting affecting swimming speeds (Harsanyi et al. 2022), but it remains to be seen if these effects are realistic in the marine environment where exposures to EMFs would be limited as these pelagic organisms are carried by currents. Research on EMF impacts are currently being developed further. Based on the assessment in the EIS, impacts due to EMFs in the would be minor to moderate.</p>
BOEM-2023-0030-1606-0094	For FIN-03 bury interarray interlink and export cables to a target depth of 5 to 6.6 feet (1.5 to 2 meters) is also best practice and not enforceable. In Chapter 3 of Vol 1 it mentions that the heat from cables will be absorbed by sediment. Will this impact the recolonization of benthic	Interarray and export cables will be surveyed following installation to ensure that minimum burial depth has been achieved, or that cable protection has been placed where minimum burial depth has not been achieved. Routine surveys of the cables will be performed to monitor cable

Comment No.	Comment	Response
	species (specifically burrowing species) over/around the cables? Especially ones that are very temperature sensitive?	<p>burial depth and remedial measures will be implemented as needed.</p> <p>Based on a study by Emeana et al. (2016), elevated temperatures from cables would reach a maximum of approximately 6.5 feet from the cable source if ambient surface temperatures are also elevated (60 degrees Celsius). At cooler surface temperatures, elevated temperatures caused by heat from cables could occur approximately 5 feet from the cable source. Mobile infaunal organisms that are thermally sensitive are expected to avoid elevated temperatures to reduce stress and would not recolonize areas above the cable where temperatures exceed the species' tolerance.</p>
BOEM-2023-0030-1620-0001	I am concerned about the horseshoe crab population and nesting areas along the southern tip of New Jersey both on the Atlantic Shore beaches and the Delaware Bay coastline. Atlantic horseshoe crabs visit these beaches during spawning season with over eleven bird species relying on horseshoe crab eggs as fuel (food) for their long migration along the Atlantic Flyway. Horseshoe crabs from this area are also used for medicinal purposes and vital to America's pharmaceutical industry. The planned wind farms are directly inside the Carl N. Shuster Jr Horseshoe Crab Reserve and I would like to know how this area is going to be protected.	The Delaware horseshoe spawning population is located in waters off Ocean City, Maryland from where they migrate into Delaware Bay and adjacent coastal waters to spawn (Swan 2005). The Project WTA and ECCs do not overlap the Carl N. Shuster Jr. Horseshoe Crab Reserve. The northern end of the Carl N. Shuster Reserve is west of the WTA. However, horseshoe crab eggs may be present at Atlantic City landfill and adjacent beaches. Horseshoe crab larvae occur in close to shoreline habitats (Botton and Loveland 2003) so would potentially overlap the nearshore segments of ECCs where they are susceptible to cable emplacement impacts. Adults have been documented to migrate to distances over 100 kilometers; though, approximately 75% of adults travel distances no further than 20 kilometers (Swan 2005). Adult and larval horseshoe crab are expected to overlap nearshore ECCs where impacts would be minimal given that they are a mobile epifaunal species capable of burying within sediments. Horseshoe crab populations in the MAB are considered stable and the greatest threat remains commercial exploitation (Smith et al. 2017). This discussion has been added to Section 3.5.5.5.

Comment No.	Comment	Response
BOEM-2023-0030-1632-0001	I see no talk or take permits for Atlantic Sturgeon. They conjugate 8-12 miles off the south Jersey coast in the late fall and early winter. I have photos of them free jumping. You can see as many as 20 jumps in 2 hrs.	<p>Based on the assessment of potential impacts in this section and in BOEM’s Biological Assessment, BOEM expects that incidental take of Atlantic sturgeon may occur in the form of injury or mortality due to trawl surveys. In its Biological Opinion, NMFS exempted the incidental take of up to 84 Atlantic sturgeon due to capture and minor injury resulting from trawl surveys for fisheries monitoring.</p> <p>Section 3.5.5.1 discusses the occurrence and distribution of Atlantic sturgeon in nearshore shelf waters and tributaries of the Mid-Atlantic Bight citing the best available science.</p>
BOEM-2023-0030-1808-0003	<p>Furthermore species apart from marine mammals are at risk of injury due to anthropogenic aquatic noise produced by wind farm activities:</p> <ul style="list-style-type: none"> • Zooplankton largely comprised of crustaceans including early-life stage larvae showed substantial mortality following exposure to seismic signals (McCauley et al. 2017) • Adult lobsters show some sensitivity to seismic exposure with potentially impaired immunity and decreased nutritional condition (Fitzgibbon et al. 2017) • Impacts to reflexes and behavior have been observed with scallops and squid exposed to seismic signals (Day et al. 2017). • Following exposure equivalent to a full-scale commercial assay passing within 100-500 m lobsters showed impaired righting and significant damage to the sensory hairs of the statocyst. Reflex impairment and statocyst damage persisted over the course of the experiments-up to 365 days post-exposure and did not improve following moulting. These results indicate that exposure to air gun signals caused morphological damage to the statocyst of rock lobsters which can in turn impair complex reflexes (Day et al. 2019) 	<p>A short discussion on the results from the McCauley et al. 2017 study were added to Section 3.5.5.4 acknowledging the significance of those findings.</p> <p>The Fitzgibbon et al. 2017 study was added to the list of studies that found sub-lethal haemolymph effects of seismic noise. The discussion on noise impacts in Section 3.5.5.3 has been revised to also specify the potential nutritional and immunity consequences of these effects.</p> <p>A discussion on behavioral responses to noise including “flinching” is already discussed in Section 3.5.5.5 citing Day et al. (2017) and Charifi et al. (2017). This statement was edited to reflect that the one of these studies focused on seismic noise and the other on experimentally induced sound.</p> <p>A discussion summarizing the findings and consequences of damage to statocyst hairs from the Day et al. (2019) was added to Section 3.5.5.3.</p>
BOEM-2023-0030-1815-0005	Shipwrecks are the reefs of NJ a multi-use resource that play an important role as a fishery resource a diving resource and a possible if little utilized that way archeological and historic resource. The hard habitat of the wrecks allows food such as	The Axel Carlson and Manasquan Inlet reef areas are near the Monmouth ECC, but there is no overlap. The Atlantic City “fish haven” reef area is located just outside the western edge of the WTA. Atlantic Shores has agreed to remove the

Comment No.	Comment	Response
	<p>mussels to attach and hiding places and shelter for marine life. Highly sought-after fish species such as Black Sea Bass Tautog and Fluke feed and often live on them and shipwrecks are intensely fished by both commercial and recreational boats. The NJCD&C strongly believes that shipwrecks are not adequately protected by this DEIS or by BOEM especially during the construction phase.</p>	<p>only proposed wind turbine location that would overlap the fish haven area as a permitting condition (see Section 3.5.5.9). Due to the lack of overlap between reef areas and Project areas, the Proposed Project is expected to have negligible impacts on reefs.</p>
BOEM-2023-0030-1815-0020	<p>Generally fish are attracted to structure and piled jacket turbine construction may be better than monopile turbines for that purpose. How the buried electrical cables will impact fish and lobsters appears to be uncertain or unknown especially with the concentrated inter-array cables in the wind turbine area.</p>	<p>The evaluation of potential impacts from presence of structures in Section 3.5.5.5 was made based on the range of foundation options for the proposed action. Based on the range of options, a determination was made that the presence of structures from the Proposed Project would have minor to moderate adverse impacts on finfish, invertebrates, and EFH.</p> <p>In general, many fish and invertebrate species are attracted to structures in the water column. Attraction to presence of structures is discussed in Section 3.5.5.3 BOEM is not aware of any studies that would support an evaluation of fish attraction to monopile vs. piled jacket foundations specifically, or to predict the potential communities that would be attracted to the different foundation types.</p> <p>Section 3.5.5.3 describes impacts of buried cables on fish and invertebrates including lobsters using the best available science. Research on EMF impacts is currently being developed further. Section 3.5.5.3 also discusses impacts of cable emplacement which includes disturbances to bottom habitats and sediment plumes.</p>
BOEM-2023-0030-2003-0006	<p>Furthermore species apart from marine mammals are at risk of injury due to anthropogenic aquatic noise produced by wind farm activities: Zooplankton largely comprised of crustaceans including early-life stage larvae showed substantial mortality following exposure to seismic signals (McCauley et al. 2017) Adult lobsters show some sensitivity</p>	<p>A short discussion on the results from the McCauley et al. 2017 study were added to Section 3.5.5.3 acknowledging the significance of those findings.</p> <p>The Fitzgibbon et al. 2017 study was added to the list of studies that found sub-lethal haemolymph effects of seismic</p>

Comment No.	Comment	Response
	<p>to seismic exposure with potentially impaired immunity and decreased nutritional condition (Fitzgibbon et al. 2017) Impacts to reflexes and behavior have been observed with scallops and squid exposed to seismic signals (Day et al. 2017). Following exposure equivalent to a full-scale commercial assay passing within 100-500 m lobsters showed impaired righting and significant damage to the sensory hairs of the statocyst. Reflex impairment and statocyst damage persisted over the course of the experiments-up to 365 days post-exposure and did not improved following moulting. These results Indicate that exposure to air gun signals caused morphological damage to the statocyst of rock lobsters which can in turn impair complex reflexes (Day et al. 2019)</p>	<p>noise. The discussion on noise impacts in Section 3.5.5.3 has been revised to specify the potential nutritional and immunity consequences of these effects.</p> <p>A discussion on behavioral responses to noise including “flinching” is already discussed in Section 3.5.5.5 citing Day et al. (2017) and Charifi et al. (2017). This statement was edited to reflect that the one of these studies focused on seismic noise and the other on experimentally induced sound.</p> <p>A discussion summarizing the findings and consequences of damage to statocyst hairs from the Day et al. (2019) was added to Section 3.5.5.3.</p>
BOEM-2023-0030-2014-0009	<p>I would again point out the extremely vulnerable nature of the approximately 350 North Atlantic Right Whales left in the entire world. The potentially devastating impact of the vast industrialization project itself and its on-going adverse effects from a noise perspective and otherwise would be set in irreversible motion by the ongoing operation of the wind turbines themselves.. The draft environmental statement does not recognize legal and moral standing of such an invaluable threatened species whose inspirational value beauty and potential worth as to the bio-diversity of our planet and to life itself cannot be overstated. It is "not a stretch" when one considers the absolutely critical and extremely valuable nature of medicines derived from another New Jersey Coast creature the Horseshoe Crab whose serum is utilized in saving countless human lives. To discount undervalue if not ignore the value of a critically endangered species shuts off forever the potential hypothetical contribution of that species to the furtherance of mankind bio-diversity and to all life.</p>	<p>Impacts to marine mammals including NARWs are considered in Section 3.5.6, <i>Marine Mammals</i>. It includes a list of proposed mitigation measures intended to ensure that impacts would be minimized or avoided.</p> <p>Horseshoe crab are not a critically endangered species; however, this should not undervalue the importance of the resource. The Delaware horseshoe spawning population is located in waters off Ocean City, Maryland from where they migrate into Delaware Bay and adjacent coastal waters to spawn (Swan 2005). The northern end of the Carl N. Schuster horseshoe crab sanctuary (area is mapped in Tanacredi et al. 2009) is just west of the WTA and there is no overlap. Two other spawning populations have been identified in the MAB and are found in the waters ranging from Raritan and Jamaica bays. Horseshoe crab larvae occur in close to shoreline habitats (Botton and Loveland 2003) so would potentially overlap the nearshore segments of ECCs where they are susceptible to cable emplacement impacts. Adults have been documented to migrate to distances over 100 kilometers; though, approximately 75% of adults travel distances no further than 20 kilometers (Swan 2005). Adult and larval horseshoe crab are expected to overlap nearshore ECCs</p>

Comment No.	Comment	Response
		where impacts would be minimal given that they are a mobile epifaunal species capable of burying within sediments. Horseshoe crab populations in the MAB are considered stable and the greatest threat remains commercial exploitation (Smith et al. 2017).

N.6.10 Marine Mammals

Table N.6-10. Responses to Comments on Marine Mammals

Comment No.	Comment	Response
BOEM-2023-0030-0051-0002	Please reconsider the placement of these industrial turbines to an area outside of the migration path of whales for the sake of our environment.	The presence of Project foundations nor turbine operational noise are expected to significantly affect NARW behavior or block the NARW's seasonal migration. The assessment of these impacts is presented in Section 3.5.6.5 of the EIS.
BOEM-2023-0030-0096-0001	However you can't argue against saving the North Atlantic right whale from extinction. Only 334 remain of which 70 are breeding females. As you know North Atlantic right whales live breed feed and migrate up and down the Atlantic coast." The data reveals that NOAA has either granted or is in the final stages of granting Level B takes for 915 critically endangered North Atlantic right whales of which only 334 remaining animals are alive. Either this means NOAA and the wind companies expect repeated harassment (including recurrent hearing impairment) of numerous right whales or they have not taken the trouble to realize they have granted more "takes" than the number of live whales who exist today."	The Draft EIS is not intended to be a take assessment. Takes of NARW are authorized and managed by NMFS through take authorizations and Biological Opinions. If NMFS determines too many takes have been authorized, no further takes will be issued. However, it is not the purpose of the EIS to rule on this topic.
BOEM-2023-0030-0213-0002	Examples of missing information ongoing studies and lack of evidence include: the need for peer reviewed studies to determine the cause of the unprecedented number of whale deaths; future impacts of noise on marine mammals; the interference with national defense and associated DOD operations off the East Coast; inclusion of alternative clean energy development onshore as part of the No Action	Noise impacts on marine mammals are assessed in Section 3.5.6. Impacts on military use are assessed in Section 3.6.7, <i>Other Uses</i> . Onshore clean energy development and affordable energy costs are outside the scope of this EIS.

Comment No.	Comment	Response
	alternative and how the project compares to and an analysis of how the project provides affordable and reliable clean energy when compared to clean onshore alternatives.	
BOEM-2023-0030-0355-0006	Considering the Environmental Impact of the Atlantic Offshore Wind Farms' Development work thus far & with repeated and ongoing protests relating especially to the sudden increased mortality of whales off NY & NJ it would have been prudent [for BOEM] to quantify noise pollution and thus mitigate the noise pollution as a proactive step [and needless to say a lesser expensive step] towards maintaining a reasonable balance with Marine Wildlife.	This EIS has quantified noise pollution in the form of exposure ranges and estimated takes. This quantification, as well as mitigation measures to reduce noise impacts, is provided in Section 3.5.6.5.
BOEM-2023-0030-0355-0008	Marine mammal [unusually high] mortality & Vessel Speed Limitations. The BOEM draft document makes a number of references about NOAA Fisheries mandated Vessel Speed Regulations in DMAs SMAs and and/or Slow Zones as applicable – to prevent marine wildlife mortality especially severely endangered NARW mortality. However, the document doesn't mention that the enforcement of Vessel Speed Regulations is very poor as admitted by NOAA Fisheries itself.	The compliance of other vessels within SMAs is outside the scope of this EIS. DMAs and Slow Zones are voluntary for other vessels. Project vessels will be required to comply with speed restrictions in all SMAs and DMAs. BOEM, NMFS, and BSEE will be responsible for enforcement of these speed restrictions, as indicated in Appendix G, <i>Mitigation and Monitoring</i> of the EIS.
BOEM-2023-0030-0372-0002	In addition to entanglement and boat strikes (neither of which has been effectively addressed) a new pollutant is being introduced acoustic sound. This is the most inescapable threat of all affecting all members of the pod. Every phase of Offshore Wind brings with it a sound weapon—surveying; pile driving during construction and ongoing noise vibration for its operational lifespan	Noise impacts associated with pile driving and operational WTGs, as well as the potential for entanglement and vessel strikes, are evaluated in Section 3.5.6.5.
BOEM-2023-0030-0372-0007	Forney et al. (2017) stated that for these animals remaining in a disturbed area may reflect a lack of alternatives rather than a lack of effects.	The statement is accurate. The EIS does not imply that animals remaining in an area is indicative of an absence of effects.
BOEM-2023-0030-0531-0001	I am opposed to the Offshore Wind Projects for numerous reasons. The primary reason is the detrimental effects that these projects will have on marine life and our ecosystem. The underwater noise levels from these larger turbines are	Operational noise from operating WTGs is expected to decrease to ambient levels within 1 kilometer of the foundations (Elliot et al. 2019; Lindeboom et al. 2011; Tougaard et al. 2009). Noise generated by operating WTGs

Comment No.	Comment	Response
	<p>10000 times more intense those of the smaller turbines. We do not know how this will affect feeding and navigation of whales and other marine mammals. Elevated noise levels will extend 93 miles out into the Atlantic potentially blocking all the migration corridors of the critically endangered Northern Atlantic Right Whale - less than 400 of which exist today. The proposed project planned for the entire coast of LBI conflicts with the Endangered Species Act and the Marine Mammal Protection Act.</p>	<p>would be detectable out to a few kilometers in areas with very low ambient noise levels but would be below ambient in areas with high ambient noise from shipping or wind. While underwater sound generated by WTGs is audible to marine mammals, including NARWs, the sound levels are lower than the regulatory injury threshold, typically are lower than the behavioral thresholds, and often are lower than the ambient sound levels that these animals typically experience. Given the attenuation of the WTG-generated sound levels within 1 to 2 kilometers, it is highly unlikely that migrating NARWs would be behaviorally affected by the operating WTGs, and operating wind turbines would not form an acoustic barrier that would affect NARW behavior and would not block the NARW's seasonal migration.</p>
BOEM-2023-0030-0753-0002	<p>There are so many negative impacts on our marine life such as permanent hearing loss and that was stated by your organization! If whales and dolphins are permanently deaf then one can make the connection that they can't navigate communicate or find food. There was a-lot of missed information regarding the noise pressure levels and decibels of sonar surveying researching I found that at 246db is the intensity of sonar surveying. And if marine pile driving can cause temporary or permanent hearing loss at 220db then these dolphins and whales that are dying are experiencing the same effects from the sonar surveying.</p>	<p>A permanent threshold shift, which is identified as a possible effect of noise exposure in the EIS, is not a complete loss of hearing (i.e., deafness). The effects of geophysical and geotechnical survey noise are assessed in Section 3.5.6.5. As shown in the section, survey noise is not expected to result in permanent threshold shift for any marine mammals. The number of animals expected to be exposed to sound levels exceeding the behavioral harassment threshold is provided in Table 3.5.6-9.</p>
BOEM-2023-0030-0806-0001	<p>While this DEIS has detailed many of these impacts it has also inferred that these impacts are minimal and the show must go on. These conclusions are at best highly irresponsible and at worst highly illegal as they allow for the "Takes" over the scope of all the projects slated for the east coast of over 2000 individuals of endangered species protected by the Marine Mammal Protection Act. These authorized Takes include 130% of the North Atlantic Right Whale population 146% of the coastal bottlenose dolphin 88% of the east coast humpback whale population and over 50% of ALL seals on the</p>	<p>The Draft EIS is not intended to be a take assessment. Takes of marine mammals are authorized and managed by NMFS through take authorizations and Biological Opinions. If NMFS determines too many takes have been authorized, no further takes will be issued. However, it is not the purpose of the EIS to rule on this topic. This EIS relies on the best available science for its assessment of impacts on marine mammals. Uncertainties and knowledge gaps are identified in Appendix E, <i>Analysis of Incomplete and Unavailable Information</i>.</p>

Comment No.	Comment	Response
	<p>east coast. The list goes on and on. In March of 2023 NOAA published the technical memorandum entitled Fisheries and Offshore Wind Interactions: Synthesis of Science In this document numerous key knowledge gaps were identified as needing further research: The spatial extent to which attraction to and foraging on wind turbines enhances fish production beyond local effects and the degree of change in production Clarification on the balance of attraction/production/ecological trap Upscaling of locally observed effects to the regional scale (i.e. demersal or ground fish stock size)Impacts on spawning and nursery ground quality with regard to habitat change Trophic or feeding and nutrition interactions Quality of epifaunal or benthic organisms as food for fish and subsequent levels Seasonal noise effects on fish at appropriate life history stages Information on the ability of animals to evade noise Consideration of noise attenuation and distance from source in assessments of effects. Effects of pile-driving noise and operational noise were identified as priority knowledge gaps although cumulative effects of other noise sources also require attention Sensitivity ranges for species of interest with regard to OSW EMF intensities and types Likely encounter rates for species of interest with EMFs from OSW cables taking account of the most relevant life stages and their movement ecology; potential for cumulative effects Knowledge of migratory delays resulting from EMF encounters and any ecological consequences in the context of species/life stage-specific migration Knowledge of the ability of species to derive ecologically important cues in the presence of cable EMFs (and consideration of life stage)Determination and quantification of distorted predator-prey interactions and consequences for energy acquisition (for predators) or survival (for prey)Potential effects on sessile life stages (e.g. eggs which may be exposed to variable EMFs over longer periods)Consideration of stratification and altered hydrodynamics on species at</p>	

Comment No.	Comment	Response
	<p>appropriate scales such as the influence on connectivity larval transport and recruitment Generational effect of energy emissions (noise and EMF)Early life stage effects of energy emissions on later life stages Consideration of multimodal stressors Consideration of cumulative effects rather than individual pressures Species-specific spillover rates So my second comment is actually more of a question: Since the publication of this NOAA memorandum in March of this year in the past 3 months what studies have occurred to close these knowledge gaps such that this Environmental Impact Statement actually contains meaningful scientific content? The answer is NONE.</p>	
BOEM-2023-0030-0813-0001	<p>The deliberate mismanagement of whale mortality in the OSW space is in stark contrast to measures seen and proven to be effective in all other realms of marine resource management . If preservation of healthy stocks and proliferation of endangered species is a priority as guided by the ESA MMPA and Mag Stevens then a shift to hard TAC management is necessary . The latitude afforded to BOEM via a politically dominated NOAA circumvents any of the precautionary principals that serve to preserve fish stocks and greater environmental health . Exploitable mortality must be linked to biomass with a hard stop when it is reached . In the current system a take list is provided to the developers of OSW for their exploitation regardless of the number of whales that are found dead floating and bloated that defy necropsies .</p>	<p>The EIS is not intended to be a take assessment. Takes of marine mammals are authorized and managed by NMFS through take authorizations and Biological Opinions. If NMFS determines too many takes have been authorized, no further takes will be issued. However, it is not the purpose of the EIS to rule on this topic.</p>
BOEM-2023-0030-0826-0006	<p>How much noise pollution is there generated underwater acoustic vibrations that are transmitted at low-frequency noises though the water? How will this effect the marine Mammals?</p>	<p>A description of underwater noise that would be produced by the Project and an assessment of its effects on marine mammals is provided in Section 3.5.6.5.</p>
BOEM-2023-0030-0887-0003	<p>Last year NOAA Fisheries proposed expanding the mandatory speed restrictions of 10 knots or less to include most vessels 35-65 feet in length to stabilize the ongoing right whale population decline. It also includes creation of a mandatory</p>	<p>As described in Appendix G, <i>Mitigation and Monitoring</i> and the Biological Assessment for the Project, thermal cameras would be required for monitoring during low visibility conditions, passive acoustic monitoring would be</p>

Comment No.	Comment	Response
	<p>Dynamic Speed Zone program establishing temporary 10-knot transit zones when right whales are detected outside designated Seasonal Speed Zones. QUESTION: Have those changes been approved? If so how soon will they be implemented?* Test newer technologies such as thermal cameras and acoustic sensors that have the potential to track whale movement gathering data that could be used in future projects. The 10-knot speed limit should also be imposed on all commercial vessels sailing in or near the areas where whales are known to migrate.</p>	<p>implemented as part of the mitigation and monitoring measures for the Project, and vessel speed restrictions will be implemented to minimize vessel strike risk.</p>
<p>BOEM-2023-0030-0916-0012</p>	<p>would likely block the migration of the critically endangered North Atlantic right whale by creating continuous operational turbine-generated noise levels above 130 dB that it will avoid as far out as 93 miles from shore and create noise levels in the whale’s migration corridor near and in the lease area (in dark brown below) much higher than that as shown below in the noise contour map generated by a respected acoustics engineering company. Note: a disturbance noise level of 130 dB 10 dB higher than the 120 dB NMFS disturbance criteria for continuous noise was used here to incorporate a very strong avoidance response by the whale (greater than 90% see I.2) into the assessment to show the devastating impact that level of noise will have on its migration.</p>	<p>The comprehensive overview of WTG-generated noise in the EIS (pages 3.5.6-39 to 3.5.6-42) provides a summary of available information on the topic. Operational noise from operating WTGs is at relatively low SPLs near the foundation (100 to 151 dB re 1 µPa), decreasing to ambient levels within 1 kilometer (Elliot et al. 2019; Lindeboom et al. 2011; Tougaard et al. 2009), as stated in the EIS. Noise generated by operating WTGs would be detectable out to a few kilometers in areas with very low ambient noise levels but would be below ambient in areas with high ambient noise from shipping or wind. While underwater sound generated by WTGs is potentially audible to marine mammals, including NARWs, the sound levels are lower than the regulatory injury threshold, are typically lower than the behavioral thresholds, and are often lower than the ambient sound levels that these animals typically experience. Given the attenuation of the WTG-generated sound levels within 1 kilometer, it is highly unlikely that migrating NARWs would be behaviorally affected by the operating WTGs. Given the sound generated by the operating WTGs is highly likely to be at ambient noise levels at the migratory corridor, operating wind turbines would not form an acoustic barrier that would affect NARW behavior or block the NARW’s seasonal migration. These suppositions are unsupported. The protection of the highly endangered NARW from disruptive noise levels is of utmost concern to BOEM and Atlantic Shores.</p>

Comment No.	Comment	Response
		<p>Based on review of the commenter’s letter, their understanding of the physics that govern that transmission of sound into the water across the air-water boundary and along in-air or underwater transmission paths is flawed. The conclusions drawn in regard to the proposed sound transmissions from the WTGs transecting the migratory corridor are not supported by the physics of sound attenuation, and the calculations of the noise isopleths (i.e., 93 miles) associated with WTG operational noise is inaccurate. The sound level measurements presented in the reports cited in this response are accurate. Additionally, the 120 dB threshold used in the EIS, not the 130 dB threshold cited by the commenter, is the established regulatory threshold for behavioral disturbance; NMFS requires the use of this 120 dB threshold for assessment of noise impacts on marine mammals.</p>
BOEM-2023-0030-0916-0013	<p>due to that migration blockage and there being no plausible alternative route beyond 93 miles that the whale can take to continue its essential migration imperil the whale’s survival and conflict with both the Endangered Species Act (ESA) and the Marine Mammal Protection Act (MMPA)</p>	<p>As described in the prior response, the conclusions drawn in regard to the proposed sound transmissions from the WTGs transecting the migratory corridor are not supported by the physics of sound attenuation, and the 93-mile isopleth calculated by the commenter is inaccurate. The noise from operating wind turbines would decrease to ambient levels within 1 kilometer (Elliot et al. 2019; Lindeboom et al. 2011; Tougaard et al. 2009) and would not form an acoustic barrier that would affect NARW behavior or block the NARW’s seasonal migration. These suppositions are unsupported. As previously noted, the protection of the highly endangered NARW from disruptive noise levels is of utmost concern to BOEM and Atlantic Shores.</p>
BOEM-2023-0030-0916-0014	<p>would during the pile driving construction phase of the project assuming little low frequency source attenuation and even based on the DEIS Acoustic modeling Report’s apparent unsupported and highly optimistic noise loss factor of 40 decibels (dB) cause the death of or serious injury to at least 1-</p>	<p>As previously noted, the commenter’s understanding of the physics that govern underwater sound transmission are flawed, resulting in inaccurate calculations (e.g., 40 dB noise loss). Atlantic Shores has not requested Level A take (that has the potential to injure a marine mammal) for NARW in the Letter of Authorization Application for the Project, and Level</p>

Comment No.	Comment	Response
	3 right whales exceeding its biological removal rate and jeopardizing a sustainable population	A take of NARW would likely not be authorized by NMFS. The protection of the NARW is of utmost concern to BOEM and Atlantic Shores.
BOEM-2023-0030-0916-0033	The BOEM has selected wind energy areas in the path of or adjacent to the migration corridors of the NARW. But no point in its entire NEPA process does the BOEM address the cumulative impact on the whale through its calving migration and feeding cycle up and down the entire East Coast.	Cumulative impacts on all marine mammals, including NARW, are evaluated in this EIS (Section 3.5.6.5), as well as the EISs for all other offshore wind projects.
BOEM-2023-0030-0916-0037	Operational Turbine Noise. It dismisses scientific evidence that points towards high noise levels for the large gearbox turbines proposed. It presents no noise source level of its own and simply drops the subject and avoids any analysis of elevated operational noise impacts from these large turbines. However as shown herein in Enclosure I Section 2 that impact could severely impact and potentially block the migration of the North Atlantic right whale and raise compliance issues with the ESA and the MMPA.	The WTGs' operational noise levels were not disclosed because they have not yet been measured. The comprehensive overview of WTG-generated noise provided in Section 3.5.6.3 of the EIS (pp. 3.5.6-41 to 3.5.6-43) provides a summary of available information. An analysis of the effects of WTG operational noise is provided in Section 3.5.6.5 of the EIS (p. 3.5.6.5-73) and in Section 3.2.5.2 (pp. 122-123) of the Biological Assessment for the Project. As noted in previous responses, operating wind turbines would not form an acoustic barrier that would affect NARW behavior and would not block the NARW's seasonal migration. As previously noted, the protection of the NARW is of utmost concern to BOEM and Atlantic Shores.
BOEM-2023-0030-0916-0039	Construction Pile Driving. The DEIS provides marine mammal serious injury or fatality Level A take estimates based on two flawed assumptions that bubble curtains can reduce noise source levels by 10 dB and that sound energy levels decrease by 40 dB per decade distance increase. With proper little source attenuation for the low frequency noise relevant here. the DEIS Acoustic modeling Report predicts the death of or serious injury to at least 1-3 right whales exceeding its biological removal rate and jeopardizing a sustainable population with a proper noise dissipation rate that would be even more.	Atlantic Shores has committed to implementing a noise attenuation system that achieves a 10 dB reduction. Bellmann et al. (2020) demonstrated that multiple noise attenuation systems, including big bubble curtains, are capable of noise reductions of at least 10 dB. Therefore, acoustic modeling results based on 10 dB attenuation are valid for the Project. Measurements taken during acoustic monitoring of pile driving for the Vineyard and South Fork wind farms have validated attenuated noise modeling results from JASCO's modeling, which was also utilized for the Atlantic Shores South project (see COP Appendix II-L1). As previously described, the commenter's understanding of the physics that govern underwater sound transmission are flawed, resulting in inaccurate calculations (e.g., 40 dB noise

Comment No.	Comment	Response
		loss). Atlantic Shores has not requested Level A take (that has the potential to injure a marine mammal) for NARW in the Letter of Authorization Application for the Project, and Level A take of NARW would likely not be authorized by NMFS. As previously noted, the protection of the NARW is of utmost concern to BOEM and Atlantic Shores.
BOEM-2023-0030-0916-0054	Accurate Risks to Marine Mammals from Vessel Surveys the DEIS refers to the Atlantic Shores South Acoustic and Modeling Report which uses technically and scientifically unsupported noise equipment source noise levels and high noise dissipation factors to minimize and misrepresent the actual impact of vessel surveys on marine mammals. Accurate impacts are presented in Enclosure I Section 4.	The assessment of G&G survey noise impacts for the Project is based on source levels published in the literature (Crocker and Fratantonio 2016) or provided by the manufacturer for sources without source levels or appropriate proxies published in the literature (see the Project's application for a Letter of Authorization). The Crocker and Fratantonio (2016) study included laboratory tests and field tests conducted under typical G&G survey equipment operations to develop a dataset of calibrated acoustic source levels. The source levels were measured properly by experts in the field and are accurate and representative of the anticipated equipment usage for the Proposed Action.
BOEM-2023-0030-0916-0070	Here there are two such geographical areas that will be impacted by the multiple BOEM project proposals. The first is development in the Hudson South area and in Lease areas A-0498 and A-0499. A main migration corridor of the critically endangered North Atlantic right whale lies between the Hudson South area and lease area A-0499 (see Exhibit 1). The DEIS is dismissing it but as shown in detail in I.2 the predicted noise from the operation of larger turbines will envelop that corridor from both sides causing noise levels that will disturb the whale and potentially block its migration. The cumulative impact from both areas must be evaluated. The second geographical area is the east coast seaboard as it relates to the right whale's migratory cycle i.e., its calving in the south its feeding in the north and its migration in-between all essential for its survival. It defies common sense and is simply not scientifically credible to assess impacts on a critically endangered species in a piecemeal fashion concluding that	As described in a previous response, the conclusions drawn in regard to the proposed sound transmissions from the WTGs are not supported by the physics of sound attenuation. WTG-generated sound levels are expected to attenuate within 1 to 2 kilometers, and operating wind turbines would not form an acoustic barrier that would affect NARW behavior or block the NARW's seasonal migration. These suppositions are unsupported. The cumulative impacts of the Project, which includes impacts of Atlantic Shores South combined with other offshore wind projects, are assessed in Section 3.5.6.5. As previously noted, the protection of the NARW is of utmost concern to BOEM and Atlantic Shores.

Comment No.	Comment	Response
	each piece is not significant when the sum could be catastrophic.	
BOEM-2023-0030-0916-0079	The DEIS dismisses without evidence the significant problem of operational turbine noise on the right whale and does not provide or refer to any biological assessment (BA) and Section 7 consultation being done on that issue. If the BOEM is not pursuing that consultation it should say so in the DEIS and give its reasons why.	An analysis of the effects of WTG operational noise is provided in Section 3.5.6.5 of the EIS and in Section 3.2.5.2 (pp. 122-123) of the Biological Assessment for the Project.
BOEM-2023-0030-0916-0081	the DEIS: refers to noise levels from lower power turbines without estimating a noise source level for the proposed larger turbines. It then just drops without evidence the major problem of large turbine operational noise on the North Atlantic right whale's migration and provides no information in the DEIS on the NMFS rulemaking and letter of authorization process that should be done to address it.	The WTGs' operational noise levels were not disclosed because they have not yet been measured. The comprehensive overview of WTG-generated noise provided in Section 3.5.6.3 of the EIS (pp. 3.5.6-41 to 3.5.6-43) provides a summary of available information. An analysis of the effects of WTG operational noise is provided in Section 3.5.6.5 of the EIS (p. 3.5.6.5-73) and in Section 3.2.5.2 (pp. 122-123) of the Biological Assessment for the Project. As noted in previous responses, operating wind turbines would not form an acoustic barrier that would affect NARW behavior and would not block the NARW's seasonal migration.
BOEM-2023-0030-0916-0082	Dismisses the problem of vessel survey noise impact on marine mammals based on technically and scientifically unsupported low noise source levels and high noise dissipation rates used in the MMPA Incidental Take Authorizations of the vessel surveys. It provides no information on the issues raised in those authorizations regarding those assumptions. In light of the recent whale and dolphin deaths in the same area as the vessel surveys those issues are especially important to disclose as they may bear on the cause of those deaths.	The assessment of G&G survey noise impacts for the Project is based on source levels published in the literature (Crocker and Fratantonio 2016) or provided by the manufacturer for sources without source levels or appropriate proxies published in the literature (see the Project's application for a Letter of Authorization). The Crocker and Fratantonio (2016) study included laboratory tests and field tests conducted under typical G&G survey equipment operations to develop a dataset of calibrated acoustic source levels. These source levels were measured properly by experts in the field and are accurate and representative of the anticipated equipment usage for the Proposed Action.
BOEM-2023-0030-0916-0092	The presentation of underwater noise impacts on marine mammals in the DEIS is inadequate. The noise impact to marine mammals is perhaps the most severe impact of these	Detailed discussion of the underwater acoustic and exposure modeling conducted for the Project can be found in the NMFS BA for the Project, COP Appendix II-L1, and in Atlantic

Comment No.	Comment	Response
	<p>projects. The full disclosure requirements of the NEPA demand that the mathematical basis of the estimates being made be fully presented. That is not the case here where basic elements of the models used and the inputs to them are not disclosed in the DEIS or the consultant modeling reports but rather only a result of those models.</p>	<p>Shores' Letter of Authorization Application. EIS Appendix B, Section 5 also provides an overview of key modeling assumptions.</p>
BOEM-2023-0030-0916-0093	<p>Regarding the latter it's encouraging that the BOEM has included the Wood et al. probabilities for behavioral response in the pile driving section of the Jasco modeling report. But it is unclear how those probabilities are being used in the calculation of effective range and then ultimately in marine mammal takes. The effective range Tables show an approximate doubling of the range when the wood probabilities are used versus the NMFS 160 dB criterion. However if the Wood probabilities were being used to calculate an effective range out to 140 dB where 50% of the whale population would be disturbed then we would expect that effective range to be about 10 times greater than that derived for the 160 dB criterion not two times greater. A few sample calculations in the DEIS showing the basic equations and numbers being used are needed to disclose this critical information.</p>	<p>Take estimates for the Project are based on NMFS' regulatory thresholds, as is required for consultation under the Marine Mammal Protection Act and Endangered Species Act. The Wood et al. (2012) probabilities have not been incorporated into NMFS' existing regulatory thresholds, which were reviewed in 2018 (NMFS 2018). The results using the Wood et al. (2012) probabilities are provided in the COP and EIS for informational purposes only.</p>
BOEM-2023-0030-0916-0094	<p>The DEIS presents animal impact results from opaque "models". It provides no information on the key equations or assumptions made inherent in the model itself. It provided no technical or scientific basis for its key inputs to the models that are apparently being used. For example, regarding pile driving noise impacts it presents no justification for its assumption of 10 dB source attenuation from bubble curtains or of an extraordinary 40 dB noise loss reduction factor (1.3). Regarding the latter in the JASCO Acoustic Modeling Report it provides many references that purportedly validate the noise propagation model but most are not available to the public others are monitoring not validation studies and the remaining ones are for deep water or sources different from</p>	<p>Atlantic Shores has committed to implementing a noise attenuation system that achieves a 10 dB reduction. Bellmann et al. (2020) demonstrated that multiple noise attenuation systems, including big bubble curtains, are capable of noise reductions of at least 10 dB. Therefore, acoustic modeling results based on 10 dB attenuation are valid for the Project.</p> <p>As previously noted, the commenter's understanding of the physics that govern underwater sound transmission are flawed, resulting in inaccurate calculations (e.g., 40 dB noise loss).</p>

Comment No.	Comment	Response
	<p>pile driving noise. Regarding vessel survey impact it presents no justification for a 203 dB noise source level from sparker units or for a 20 dB noise loss factor (I.4). These are critical assumptions and taken together seriously underestimate marine mammal impact. If the DEIS cannot justify them then they must be changed.</p>	<p>Detailed discussion of the underwater acoustic and exposure modeling conducted for the Project can be found in the NMFS BA for the Project, COP Appendix II-L1, and in Atlantic Shores' Letter of Authorization Application. EIS Appendix B, Section 5 also provides an overview of key modeling assumptions.</p> <p>The assessment of G&G survey noise impacts for the Project is based on source levels published in the literature (Crocker and Fratantonio 2016) or provided by the manufacturer for sources without source levels or appropriate proxies published in the literature (see the Project's application for a Letter of Authorization). The Crocker and Fratantonio (2016) study included laboratory tests and field tests conducted under typical G&G survey equipment operations to develop a dataset of calibrated acoustic source levels. These source levels were measured properly by experts in the field and are accurate and representative of the anticipated equipment usage for the Proposed Action.</p>
BOEM-2023-0030-0916-0095	<p>The DEIS downplays and tries to dismiss the impacts of operational turbine noise which are very significant and could cause non-compliance issues with both the Endangered Species and Marine Mammal Protection Acts. As discussed in I.2 it briefly discusses one of two excellent studies based on many noise measurements of smaller and moderate size turbines that show a clear straight-line increase in decibel noise source level versus the power of the turbine that can easily be extrapolated to estimate the noise source level from the larger turbines proposed here. Its claim that these studies are too uncertain to make those estimates are not supported by the study data as shown in I.2 and are inconsistent with the numerous places in the DEIS where conclusions are reached with far less or no data when that serves to reduce an impact as opposed to the situation here where a new and serious impact emerges.</p>	<p>The comprehensive overview of WTG-generated noise in the EIS provides a summary of available information, including the two studies/papers by Tougaard et al. (2020) and Stöber and Thomsen (2021) the commenter is citing. The Draft EIS does not state that these studies are too uncertain to make source level estimates but correctly points out the small sample size used in the modeling of these two papers introduces a level of uncertainty to the modeled results.</p> <p>Noting areas of uncertainty in the results of any paper or report allows the results to be considered in the appropriate context. These are some of the reasons why the results of these papers cannot be extrapolated, as the commenter suggests, to the Atlantic Shores South turbine assessment. The importance and relevance of both the Tougaard et al. (2020) and Stöber and Thomsen (2021) papers are without question, which is why both papers have been included in the EIS. The conclusions of the commenter and BOEM regarding these results differ.</p>

Comment No.	Comment	Response
		<p>It should be noted that the relationship between sound level and turbine size that the commenter notes showing “a clear straight-line increase in decibel noise source level versus the power of the turbine” from the Tougaard et al. (2020) paper is not accurate. Their models present a logarithmic relationship, not linear. Further, the physics behind the generation and then transmission of operational noise into the water is very complex and extrapolating much beyond the published data is prone to errors. Additional data is needed before more detailed estimates can be made. Details such as exact hydrophone location, turbine orientation azimuthally, wind speed, wave height and direction, are only some of the details affecting these measurements that must be considered and observed.</p>
BOEM-2023-0030-0916-0098	<p>But the DEIS fails to disclose that back propagating that 125 dB number to the source using Tougaard’s 47.4 dB loss number results in a turbine noise source level of 172.4 dB which requires 1.9 miles to get down to the 120 dB whale disturbance criteria. In addition that 125 dB number is a mean estimate of all foundations when in fact the monopile foundation will be used for this project because that is what is being made in Paulsboro with considerable State investment. The trend line for monopile foundations would result in a 132.5 dB level at 100 meters.</p>	<p>As described in previous responses, the conclusions drawn by the commenter in regard to the proposed sound transmissions from the WTGs are not supported by the physics of sound attenuation. As stated in the EIS, WTG operational noise is expected to attenuate within 1 kilometer.</p>
BOEM-2023-0030-0916-0100	<p>In addition neither the precarious trends in right whale population or the proximity of the right whale’s primary migration corridor to the project area is disclosed (Exhibit B). So the DEIS fails to produce any relevant evidence to dismiss the issue</p>	<p>The critical status of the NARW population is not in question. The EIS clearly describes the population of the NARW as well as the existing threats to its existence, principally from fishing gear entanglement and vessel strikes. The EIS also identifies that Biologically Important Areas for NARW overlap with the Project area.</p>
BOEM-2023-0030-0916-0102	<p>Based on these affected range numbers and the larger ranges depicted below from better noise source level estimates it is unfathomable how the DEIS on page 3.5.6–63 can conclude that behavioral or masking effects from turbine operation would be at “relatively short distances from the foundations</p>	<p>The statement has been updated based on a more recent citation (Elliot et al. 2019).</p>

Comment No.	Comment	Response
	and would reach ambient underwater noise levels within 164 feet (50 meters) of the foundations”.	
BOEM-2023-0030-0916-0104	The obstruction of the migration of the critical Endangered North Atlantic right whale is likely the most significant impact of this project yet the BOEM DEIS or the COP do not present any impact analysis of it.	The supposition that the location of the WTGs adjacent to the migratory corridor of the NARWs will likely block the migration of the NARW is unsubstantiated. The commenter provides no evidence that such a displacement is reasonably likely. The protection of the highly endangered NARW from disruptive noise levels is of utmost concern to BOEM and Atlantic Shores. The EIS evaluates the potential for migration disruption/deviation for all relevant impact-producing factors associated with the Proposed Action (Section 3.5.6.5).
BOEM-2023-0030-0916-0106	The DEIS does not clearly show the precarious status of the right whale	The critical status of the NARW population is not in question. The EIS clearly describes the population of the NARW as well as the existing threats to its existence, principally from fishing gear entanglement and vessel strikes.
BOEM-2023-0030-0916-0108	The Stober Tougaard and XI-Engineering studies as well as the Navy Algorithm are all consistent credible and reliable and show that we are actually looking at a turbine source operational noise levels between 180 and 192.2 dB. These source levels should have but were not used in the DEIS to assess the operational noise impact on the whales.	As described above, the commenter’s extrapolation of source levels for operating WTGs is based on a linear relationship, which contrasts with what is known of typical mechanical systems. The relationship is logarithmic.
BOEM-2023-0030-0916-0109	On page 3.5.6–40 the BOEM uses the Stober and Thompson study to estimate a noise source level of 170 to 177 dB for a 10-mw turbine. That too is underestimated because 15-mw turbines will be used for the project assumed here to be operating at 13.6 mw or less than full power. Nevertheless, even using those numbers and accounting for the increased noise from the full complex would result in significant affected distance and marine mammal impact but here too the analysis stops.	As described in previous responses, the conclusions drawn by the commenter in regard to the proposed sound transmissions from the WTGs are not supported by the physics of sound attenuation. As stated in the EIS, WTG operational noise is expected to attenuate within 1 kilometer.
BOEM-2023-0030-0916-0110	even in the face of the statistical uncertainty presented by the Tougaard model there is a 95 percent chance that elevated noise levels will extend many miles offshore and across major portions of the North Atlantic right whale’s	As described in previous responses, the conclusions drawn by the commenter in regard to the proposed sound transmissions from the WTGs are not supported by the physics of sound attenuation. The supposition that the

Comment No.	Comment	Response
	migration paths obstructing and potentially preventing its migration.	location of the WTGs adjacent to the migratory corridor of the NARWs will likely block the migration of the NARW is unsubstantiated. The commenter provides no evidence that such a displacement is reasonably likely. The protection of the highly endangered NARW from disruptive noise levels is of utmost concern to BOEM and Atlantic Shores.
BOEM-2023-0030-0916-0111	The DEIS does not analyze and disclose the distance necessary for the source noise to fall below the 120 dB National Marine and Fisheries Service (NMFS) level B criterion for disrupting marine mammal behavior from continuous noise (W4) (W5) (W6).	Effects of sound generated by operating WTGs are assessed in Section 3.2.5.2 (pp. 122-123) of the Biological Assessment for the Project. Using the least-squares fits from Tougaard et al. (2020), SPLs from 15-MW turbines (in 20-m/s, gale-force wind) would be expected to fall below the 120 dB re 1 μ Pa behavioral threshold within 277 meters (about 910 feet). In lighter, 10-m/s winds (approximately 20 knots), the predicted range to threshold would be 160 meters (about 525 feet). It is noted that these ranges are substantially lower than the commenter's suggested ranges. The ranges presented in the NMFS BA have been added to the Final EIS.
BOEM-2023-0030-0916-0112	Save LBI commissioned a respected acoustic company XI-Engineering to calculate the operational turbine noise levels at various distances from the full 357 turbine wind complex proposed off LBI W11. That study essentially confirmed the estimated noise source level (181 dB) for a single Vesta-236 turbine with a monopile foundation operating at 13.6 megawatts power. Save LBI had estimated a similar noise level (180 dB). The results of that acoustic firm study using the conservative 181 dB source level for a single monopile foundation turbine and accounting for both spreading and attenuation losses are shown below and in Exhibit C. [See original comment for figure showing predicted North Atlantic Right Whale per 10km x 10 km grid cell]	As described above, the commenter's extrapolation of source levels for operating WTGs is based on a linear relationship, which contrasts with what is known of typical mechanical systems, and the conclusions drawn by the commenter in regard to the proposed sound transmissions from the WTGs are not supported by the physics of sound attenuation.
BOEM-2023-0030-0916-0113	The DEIS also does not clearly show that endangered fin and humpback whales frequent the inner part of the project area distances out to 11.5 miles (Exhibit C).	The EIS presents the best available data on fin whale and humpback whale monthly densities in the Project area.

Comment No.	Comment	Response
BOEM-2023-0030-0916-0114	The DIES does not present any scientifically defensible numerical animal “take” estimates for the right whale -for either direct harm (Level A) or disturbance (Level B).	Take estimates for NARW, based on NMFS’ regulatory thresholds for Level A and Level B take under the MMPA, are presented in Tables 3.5.6-9, 3.5.6-12, and 3.5.6-15.
BOEM-2023-0030-0916-0115	Previous analysis of turbine installation involving one or two discrete pile driving sources assumed that a whale approaching a source above the behavior disruption level could veer to the left or the right find an “noise open route” and proceed on its migration. Here given the elevated noise levels above the 130 dB level throughout the wind complex and across their entire historic migration corridors it will be very difficult for the whales to avoid the noise disturbance and continue their migration. Attempting to do will expose them to high cumulative sound exposures potentially exceeding hearing threshold shift criteria loss of communication between and separation of females from calves stranding and loss of echolocation and other navigational abilities.	As described in previous responses, the conclusions drawn by the commenter in regard to the proposed sound transmissions from the WTGs are not supported by the physics of sound attenuation. The supposition that the location of the WTGs adjacent to the migratory corridor of the NARWs will likely block the migration of the NARW is unsubstantiated. The commenter provides no evidence that such a displacement is reasonably likely. The protection of the highly endangered NARW from disruptive noise levels is of utmost concern to BOEM and Atlantic Shores.
BOEM-2023-0030-0916-0116	A recent in-depth review of behavior response studies titled A systematic review on the behavioral responses of wild marine mammals to noise: The disparity between science and policy November 2016 identified a number of studies specifically associated with whale traveling migrating and directional swimming. BOEM should review those studies for applicability here and present the results. The burden of technical support here on BOEM is the same as discussed above for direct serious injury or fatality it must show with high confidence that not a single whale is prevented from completing its essential migration.	The 2016 literature review by Gomez et al. cited by the commenter does not specifically identify which studies are associated with ‘traveling, migrating, and directional swimming.’ In preparing the EIS, BOEM reviewed the best available scientific literature, including the seminal book on marine mammals and noise (Richardson et al. 1995) that summarized results from studies on marine mammal reactions to underwater noise to date, which was cited in statements related to traveling animals in Gomez et al. 2016, as well as more recent literature reviews (e.g., Erbe et al. 2018, which cites Gomez et al. 2016). Both of these sources are cited in the EIS.
BOEM-2023-0030-0916-0117	The DEIS dose not present a plausible transparent analysis of reaction to behavior disturbance events & potential harm or fatality outcomes. Rather it relies on optimistic and opaque “modeling results” to simply calculate Level A and B takes and then dismiss the Level Bs as innocuous. As discussed in I.2 I.3 and I.4 those calculations are suspect and the DEIS must	Detailed discussion of the underwater acoustic and exposure modeling conducted for the Project can be found in the NMFS BA for the Project, COP Appendix II-L1, and in Atlantic Shores’ Letter of Authorization Application. EIS Appendix B, Section 5, <i>Underwater Acoustics</i> , also provides an overview of key modeling assumptions.

Comment No.	Comment	Response
	disclose key equations assumptions and inputs to the mode so the accuracy of its results can be determined. A third level analyses is needed.	
BOEM-2023-0030-0916-0118	A level A harassment analysis calls for an assessment of the potential to injure a marine mammal or a marine mammal stock in the wild. A level B analysis calls for an assessment of the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns including but not limited to migration breathing nursing feeding or sheltering. The two analyses try hard to separate Level A injury from Level B harassment. But in the real world that distinction is not so clear and lesser exposures can indirectly lead to worsen outcomes. That linkage is also present in the December 21 2016 NMFS interim guidance defining the term “harass” under the Endangered Species Act (ESA) as to “create the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavior patterns which include but are not limited to breeding feeding or sheltering.” The NEPA also demands a full analysis of these reasonably foreseeable real-world paths particularly in the case of the North Atlantic right whale where serious injury or death to only one animal can spell extinction for the species. Therefore the DEIS should have assessed this third path or linkage from reactions to level B harassment exposures and from masking of the whale’s sound detection and communication abilities to the “likelihood of injury” with a level of analyses comparable to that given to Level A and Level B takes.	Detailed discussion of the underwater acoustic and exposure modeling conducted for the Project in accordance with established regulatory thresholds and NMFS guidance can be found in the NMFS BA for the Project, COP Appendix II-L1, and in Atlantic Shores’ Letter of Authorization Application. EIS Appendix B, Section 5, <i>Underwater Acoustics</i> , also provides an overview of key modeling assumptions.
BOEM-2023-0030-0916-0119	In our comments on the NOI we recommended that the BOEM National Marine and Fisheries Service (NMFS) and the Coast Guard collaborate on a joint study to assess the synergistic impact on the right whale from the long-term operational noise of the offshore wind projects foreseen and the use of its migratory corridor as a deep draft vessel lane and include the results in the DEIS Incidental Take Regulation	BOEM’s and NOAA Fisheries’ <i>Draft North Atlantic Right Whale and Offshore Wind Strategy</i> was announced on October 21, 2022, which identifies research as one of its main goals. The Ocean Wind 1 Project and the future potential development of the Hudson South lease area are reasonably

Comment No.	Comment	Response
	(ITR) Biological Assessment (BA) and Biological Opinion (BO). There is no evidence in the DEIS as to whether that was considered or done.	foreseeable activities, i.e., planned actions that could occur during the life of the Project and potentially could contribute to cumulative impacts when combined with impacts from the Proposed Action and other alternatives. Impacts are disclosed on this topic in Chapter 3, Section 3.5.6, <i>Marine Mammals</i> . BOEM’s Biological Assessment is Project-specific and impacts of offshore wind activities in the Ocean Wind 1 or Hudson South lease areas have been or will be reviewed under separate NEPA and consultation processes.
BOEM-2023-0030-0916-0120	As discussed further under the EIS scope all three federal actions the Atlantic Shores proposal leasing the inner part of Hudson South and the deep draft vessel lane bear on the impact to the whale and should be assessed together in the EIS BA and BO.	The Ocean Wind 1 Project and the future potential development of the Hudson South lease area are reasonably foreseeable activities, i.e., planned actions that could occur during the life of the Project and potentially could contribute to cumulative impacts when combined with impacts from the Proposed Action and other alternatives. Impacts are disclosed on this topic in Chapter 3, Section 3.5.6, <i>Marine Mammals</i> . BOEM’s Biological Assessment is Project-specific and impacts of offshore wind activities in the Ocean Wind 1 or Hudson South lease areas have been or will be reviewed under separate NEPA and consultation processes.
BOEM-2023-0030-0916-0122	The whales use sound to navigate along their migration. It also appears that their migration is aided by their capability to communicate with each other along the way. The impacts of the masking of those communications in causing serious harm or fatality including the impact from the obstruction or delay of the right whale’s migration should have been analyzed in the DEIS as it has direct implications on their survival as a species.	Effects of acoustic masking are analyzed throughout EIS in Sections 3.5.6.3 and 3.5.6.5 and are also analyzed in the NMFS Biological Assessment for ESA-listed species.
BOEM-2023-0030-0916-0123	One path to such injury involves separation of calves from mothers as a result of masking of their communication from elevated noise levels. Such communications can employ low-amplitude signals susceptible to masking as discussed in the report Acoustic crypsis in communication by North Atlantic right whale mother–calf pairs on the calving grounds Susan E. Parks Dana A. Cusanot Sofie M. Van Parijs and Douglas P.	Effects of acoustic masking are analyzed throughout EIS in Sections 3.5.6.3 and 3.5.6.5 and are also analyzed in the NMFS Biological Assessment for ESA-listed species. As previously noted, the commenter’s understanding of the physics that govern underwater sound transmission is flawed, resulting in inaccurate calculations that are not supported by the physics of sound attenuation.

Comment No.	Comment	Response
	<p>Nowacek Published:09 October 2019.The right whale’s vocalizations are normally at the 125 dB root mean square level for low background noise but can rise to 150 dB in the presence of high background noise (Parks et.al. The Royal Society Individual right whales call louder in environmental noise July 7 2010).The potential for loss of mother/calf communication was presented in Acoustic propagation modeling indicates vocal compensation in noise improves communication range for North Atlantic right whales Jennifer B. Tennessen Susan E. Parks June 15 2016.Using the higher 150 dB source call level in that study for a whale upcall and the 15 dB loss factor mother/calf communications could be blocked out to a distance of 0.3 miles from a set of 7 turbines with an effective noise source level of 189.5 dB. More typical vocalizations of 125 dB would be masked throughout the entire migration corridor.</p>	
BOEM-2023-0030-0916-0124	<p>As discussed above the precarious state of the North Atlantic right whale and the very low biological removal rate requires the NMFS show with high statistical confidence that not a single whale will be seriously harmed or killed as a result of a project approval. Take estimate analysis to date have not done that. They rely on mean estimates of animal density vessel and animal speeds and other factors. They also use the 160 dB criteria for impulsive noise and 120 dB criteria for continuous noise which are based on observations affecting the most sensitive half of the species which as explained below can significantly underestimate the number of animal takes W21.That sensitive population analysis must start with an acknowledgment by the BOEM and the NMFS that that a sensitive sub population will be affected at levels below 160 and 120 dB respectively. Although that sensitive population is less the full population the distance required to meet those lower dB numbers increases exponentially and for point sources the area affected increases by the square of the required distance so that many more animals will be captured in the analyses.</p>	<p>The take estimates for the Project were prepared in accordance with NMFS guidance and regulatory thresholds.</p>

Comment No.	Comment	Response
BOEM-2023-0030-0916-0125	<p>The DEIS should have provided a clear definitive criteria to avoid the likelihood of jeopardizing the existence of the North Atlantic right whale (NARW) or causing a non-negligible impact to it. The numbers of NARW are already very low at 366 animals and in steep decline- Exhibit A. There are less than 94 females of reproductive age left. The NMFS 2020 stock assessment report for the NARW shows an average per female productivity rate of 0.06 for the years 2013 to 2017 Figure 4. It also shows (Figure 2a) an average female population of 180 leading to 11 average births per year. Table 2 shows estimated human caused fatalities at an average of 18.6 per year for that period.</p>	<p>Atlantic Shores has not requested Level A take (that has the potential to injure a marine mammal) for NARW in the Letter of Authorization Application for the Project, and authorization of Level A take of NARW was not proposed by NMFS in its proposed rule for takes of marine mammals incidental to the Project. The protection of the NARW is of utmost concern to BOEM and Atlantic Shores.</p> <p>ESA consultation with NMFS was completed on December 18, 2023, and NMFS concluded that the Proposed Action is likely to adversely affect but is not likely to jeopardize the continued existence of NARWs.</p>
BOEM-2023-0030-0916-0126	<p>According to the International Fund for Animal Welfare W10 over the past five years from 2016 through 2020 17 whales died on average per year from human actions. During that same period 7 whales were born on average per year. Clearly with a human caused death rate (not including natural mortality) about twice the birth rate and a net loss of 8 to 10 whales per year current mitigating and recovery measures are not sufficient to protect the whale and any additional serious injury or fatality would “jeopardize” it under the meaning of that word which is to put (someone or something) into a situation in which there is the possibility of suffering loss harm injury or failure. Therefore, the only sensible and scientifically credible criterion for the NMFS to adopt for the right whale is one of zero tolerance for any fatality or serious injury during its migration from turbine noise and the DEIS must show through the analyses described above that that criterion is met with high statistical confidence. Since the DEIS does not contain the above analyses the BOEM conclusions in the DEIS cited above are without any scientific basis and arbitrary.</p>	<p>Atlantic Shores has not requested Level A take (that has the potential to injure a marine mammal) for NARW in the Letter of Authorization Application for the Project, and authorization of Level A take of NARW was not proposed by NMFS in its proposed rule for takes of marine mammals incidental to the Project. The protection of the NARW is of utmost concern to BOEM and Atlantic Shores.</p> <p>ESA consultation with NMFS was completed on December 18, 2023, and NMFS concluded that the Proposed Action is likely to adversely affect but is not likely to jeopardize the continued existence of NARWs.</p>
BOEM-2023-0030-0916-0127	<p>The DEIS mentions that fin and humpback whales frequent the area of the project but does not present an analysis of the impact of operational turbine noise on them. That noise</p>	<p>An analysis of the effects of WTG operational noise on all marine mammal species expected to occur in the Project area is provided in Section 3.5.6.5 of the EIS and in Section 3.2.5.2</p>

Comment No.	Comment	Response
	<p>could force fin and Humpback whales dangerously close to shore as summarized below and must be addressed. The inner side of the project area is frequented by endangered fin and humpback whales out to distances of 11.5 miles (Exhibit C). Project area sited turbines would generate elevated noise levels above 120 dB all the way to the shore and would force these whales towards shore to try to avoid it potentially causing beach stranding. Conclusion Regarding Operational Turbine Noise. The BOEM cannot just arbitrarily dismiss this operational noise source issue it is playing a dangerous game regarding the continued existence of a critically endangered whale. For NEPA MMPA and ESA purposes a full analysis with an estimated noise source level for the Vesta-236 15 mw turbine is needed in a supplemental DEIS an MMPA technical support document to a rulemaking and the Biological Assessment. Given all the above and noting that detection and shut down procedures are unreliable for the noise reduction distances and the 20-year time periods for turbine operation here(W8) the only reliable measure would be turbine exclusion zones. However since the width of the project area 10 miles is less than the 54-mile noise zone needed to drop to 130 dB there is no place in this lease area for turbine placement that is compatible with protecting the right whale's migration or preventing fin and humpback whales from being driven to shore.</p>	<p>(pp. 122-123) of the Biological Assessment for the Project. As noted in previous responses, the conclusions drawn by the commenter in regard to the proposed sound transmissions from the WTGs are not supported by the physics of sound attenuation. Operating wind turbines would not form an acoustic barrier that would drive marine mammals towards shore or block the NARW's seasonal migration.</p>
BOEM-2023-0030-0916-0128	<p>As shown below bubble curtains are not effective in reducing low frequency source noise which is relevant here to the right whale. The updated Jasco modeling report of March 31 2023 predicts on Table 15 serious harm or fatality to 1.31 North Atlantic right whales assuming little source bubble curtain attenuation. The previous Jasco report of September 2022 submitted with the Application for MMPA Rulemaking and Letter of Authorization predicted in Table 15 a number of 3.15 whales. No explanation for the change is given and is warranted since the monthly construction schedules whale densities exposure ranges are the same. Nevertheless, using</p>	<p>Atlantic Shores has committed to implementing a noise attenuation system that achieves a 10 dB reduction. Bellmann et al. (2020) demonstrated that multiple noise attenuation systems, including big bubble curtains, are capable of noise reductions of at least 10 dB. Therefore, acoustic modeling results based on 10 dB attenuation are valid for the Project.</p> <p>As described in the update to Atlantic Shores' Letter of Authorization, the construction scenario was updated based on the selection of monopiles for WTG foundations.</p>

Comment No.	Comment	Response
	<p>those numbers the DEIS essentially acknowledges that AT LEAST several right whales will die from the pile driving construction. With the more accepted noise transmission loss factor of 15 dB discussed below those numbers would be even higher. It appears that these estimates relied on a sound exposure level reduction in of approximately 40 dB per decade per the tables in Appendix F of the newer Report. Support for such an unusually high dissipation rate has not been provided. With a more generally used dissipation rate of 15 dB per decade the number of estimated fatalities and cases of serious harm would be substantially greater. The impacts of construction noise are underestimated by using a consultant report that has a low pile driving source level a technically unsupported 10 dB source attenuation from bubble curtains and an unusually high and unexplained noise dissipation factor.</p>	<p>Additionally, marine mammal densities were updated based on the release of the Roberts et al. 2022 model. Detailed discussion of the underwater acoustic and exposure modeling conducted for the Project can be found in the NMFS BA for the Project, COP Appendix II-L1, and in Atlantic Shores' Letter of Authorization Application. EIS Appendix B, Section 5, <i>Underwater Acoustics</i>, also provides an overview of key modeling assumptions.</p> <p>As previously noted, the commenter's understanding of the physics that govern underwater sound transmission are flawed, resulting in inaccurate calculations (e.g., 40 dB noise loss). Atlantic Shores has not requested Level A take (that has the potential to injure a marine mammal) for NARW in the Letter of Authorization Application for the Project, and Level A take of NARW would likely not be authorized by NMFS. The protection of the NARW is of utmost concern to BOEM and Atlantic Shores.</p>
BOEM-2023-0030-0916-0129	<p>The DEIS is technically incomplete because it does not present cumulative broadband noise source levels noise dissipation factors any graphs showing noise level versus distance or the assumptions being made regarding whale reaction to the noise. Without this critical data the results provided in the Jasco reports in terms of the distances to meet criteria (exposure ranges) and animal takes cannot be reviewed for consistency with mainstream scientific practices nor can uncertainties in those calculations be addressed. Put more directly the analysis and calculations being done are not disclosed.</p>	<p>Detailed discussion of the underwater acoustic and exposure modeling conducted for the Project can be found in the NMFS BA for the Project, COP Appendix II-L1, and in Atlantic Shores' Letter of Authorization Application. EIS Appendix B, Section 5, <i>Underwater Acoustics</i>, also provides an overview of key modeling assumptions.</p>
BOEM-2023-0030-0916-0130	<p>Failure to Disclose Exposure Range Calculations. The DEIS or the Jasco Reports do not divulge the physical assumptions regarding noise spreading or the equations being used to calculate exposure ranges to meet the injury and behavior criteria. As discussed below the ranges calculated appear to be highly optimistic and not consistent with methods normally used in the scientific community for the modest</p>	<p>Detailed discussion of the underwater acoustic and exposure modeling conducted for the Project can be found in the NMFS BA for the Project, COP Appendix II-L1, and in Atlantic Shores' Letter of Authorization Application. EIS Appendix B, Section 5, <i>Underwater Acoustics</i>, also provides an overview of key modeling assumptions.</p>

Comment No.	Comment	Response
	<p>water depths encountered here. These inconsistencies arise from Tables 20 to 23 in the August Report. The broadband noise source level is not given allowing for a direct calculation of a noise loss factor. However a comparison of the exposure ranges for the 15 dB attenuation compared to no attenuation shows that an additional 15 dB of noise loss is being achieved with an approximate doubling of the distance required (the exposure range). That is far more optimistic than even spherical spreading which would achieve a 6 dB decrease with the doubling of distance and which is not expected to occur beyond distances equal to the relatively shallow depths encountered here. It is way more optimistic than the 4.5 dB reduction and 3 dB reduction for a doubling distance for the “practical” spreading and cylindrical spreading respectively which would be expected at these larger distances. Put differently the methods apparently being used for Tables 20-23 would represent an equivalent 40 dB reduction for every 10-fold increasing distance compared to 15 and 10 for practical and cylindrical spreading. A similar 40 dB reduction for a tenfold distance increase is shown in Table F-1 in the LFC 95% column as the noise level decreases from 160 to 120 dB. Without a cogent physical and scientific explanation in the DEIS (not an overview of model names general descriptions and references to internal reports) it is very difficult to see how noise spreading and dissipation beyond spherical spreading is being achieved in a regime on the continental shelf where the noise propagation is confined between the sea surface and seabed. The current exposure range calculations therefore if not justified significantly underestimate exposure ranges and animal takes. The DEIS needs to either provide this explanation or provide revised calculations.</p>	<p>As previously noted, the commenter’s understanding of the physics that govern underwater sound transmission are flawed, resulting in inaccurate calculations (e.g., 40 dB noise loss).</p>
BOEM-2023-0030-0916-0131	<p>Failure to Disclose Source Levels and Transmission Loss Factors the DEIS is technically incomplete because it does not present critical data necessary to assess whether the modeled calculations used in the application are scientifically</p>	<p>Detailed discussion of the underwater acoustic and exposure modeling conducted for the Project can be found in the NMFS BA for the Project, COP Appendix II-L1, and in Atlantic Shores’ Letter of Authorization Application. EIS Appendix B,</p>

Comment No.	Comment	Response
	<p>valid specifically the noise source levels for the sound pressure levels (SPLs) and sound exposure levels (SELs) and the noise transmission loss factors (LFs).The exposure range (R) for injury and behavior disruption varies exponentially: with the noise source level (SL) directly and inversely with the noise transmission loss factor (LF).$R = 10 (SL - \text{Threshold dB}) / LF$ Based on trends of increasing noise source level with pile diameter the SLs for driving these piles could be very large well above 250 dB. The DEIS does not disclose the LF's being used but we have estimated them (see below) based on the exposure ranges and attenuation numbers in the Jasco Report. They are very high inconsistent with factors used elsewhere by the NMFS and other researchers and therefore not justified. Because of the exponential relationship above even modest changes in the SL or the LF can make a large difference in the exposure range and subsequent take estimates. For example using the above equation for impulsive noise with a source level of 220 dB the exposure range would be just 32 meters with the Reports transmission loss factor of 40 dB that we found. This loss factor is extremely high however and deviates significantly from standard practice. With a more common and defensible loss factor of 15 dB the exposure range would increase to 10000 meters; more than 300 times larger. These two numbers the SL and the LF are arguably the two most important pieces of information to have in order to determine whether much of the rest of the noise impacts are scientifically sound. But neither is disclosed. These numbers and factors must be disclosed and fully explained if this exercise is to be technically and scientifically legitimate. Without this critical data distances to meet criteria (exposure ranges) and animal takes cannot be reviewed for consistency with mainstream scientific practices nor can uncertainties in those calculations be addressed. Put more directly the analysis and calculations being done are not disclosed. This is a particular problem in the calculation of exposure ranges.</p>	<p>Section 5, <i>Underwater Acoustics</i> also provides an overview of key modeling assumptions. As previously noted, the commenter's understanding of the physics that govern underwater sound transmission are flawed, resulting in inaccurate calculations (e.g., 40 dB noise loss).</p>

Comment No.	Comment	Response
BOEM-2023-0030-0916-0132	Regarding construction-related noise the DEIS does not disclose or present any rationale to justify the extremely high noise transmission loss upon which its exposure range and take estimates are based. As discussed below those transmission losses are not consistent with those normally used in the scientific community for the modest water depths encountered here. These inconsistencies arise from the exposure ranges in Tables 20 through 23 required to meet the impulsive noise Level B criteria of 160 dB. The cumulative frequency noise broadband source level is not given thus making it impossible to perform a direct calculation of a noise loss factor. However, by comparing the exposure ranges for the 15 dB attenuation to no attenuation for the Level B exposures one can see that an additional 15 dB of noise loss is being achieved with an approximate doubling of the required distance.	<p>Detailed discussion of the underwater acoustic and exposure modeling conducted for the Project can be found in the NMFS BA for the Project, COP Appendix II-L1, and in Atlantic Shores' Letter of Authorization Application. EIS Appendix B, Section 5, <i>Underwater Acoustics</i>, also provides an overview of key modeling assumptions.</p> <p>As previously noted, the commenter's understanding of the physics that govern underwater sound transmission are flawed, resulting in inaccurate calculations.</p>
BOEM-2023-0030-0916-0133	The NMFS also states that the pile driving activity associated with those projects produces sound with higher frequency and longer wavelengths than the noise sources being employed here-making them more amenable to the 15 dB factor. While pile driving activities do produce some noise energy at higher frequencies about 75 percent of the noise spectrum is still below the two-thousand Hz frequency level which is of interest here. That is shown in a report done by Jasco Applied Sciences of July 21 2017 titled Acoustic Modeling Study of Underwater Sound Levels from marine pile driving in southeast Alaska which contains results specifically for the Ketchikan facility (See Figures 1 through 5 on page 12 and Figure 10 on page 17). Therefore, that approval is relevant to the noise surveys here.	Detailed discussion of the underwater acoustic and exposure modeling conducted for the Project can be found in the NMFS BA for the Project, COP Appendix II-L1, and in Atlantic Shores' Letter of Authorization Application. EIS Appendix B, Section 5, <i>Underwater Acoustics</i> , also provides an overview of key modeling assumptions.
BOEM-2023-0030-0916-0136	The use of a 40-43 dB loss factor here is not consistent with the method used by Tetra Tech Inc. for the Dominion Wind Energy Project as discussed in the report titled Underwater Acoustic Modeling Report Virginia Offshore Wind Technology Advancement project December 2013. In that report Tetra	Detailed discussion of the underwater acoustic and exposure modeling conducted for the Project can be found in the NMFS BA for the Project, COP Appendix II-L1, and in Atlantic Shores' Letter of Authorization Application. EIS Appendix B,

Comment No.	Comment	Response
	Tech only uses the 20 dB factor out to the water depth distance. Tetra Tech then uses the lesser 15 dB factor from there to eight times the water depth and beyond that uses a 10 dB factor.	Section 5, <i>Underwater Acoustics</i> , also provides an overview of key modeling assumptions. As previously noted, the commenter’s understanding of the physics that govern underwater sound transmission are flawed, resulting in inaccurate calculations (e.g., 40 dB noise loss).
BOEM-2023-0030-0916-0137	The use of a 40-43 dB loss factor here is very far from the more conservative “worst case” formulas used by an Atlantic Shores noise specialist consultant Pangea Subsea (Report 04563-1) in the Atlantic Shores application for incidental harassment authorization of December 15 2021. Formulas 7 and 8 of that report only use a 20 dB loss factor from 1 m to 3.5 m and a 10 dB coefficient beyond that.	Detailed discussion of the underwater acoustic and exposure modeling conducted for the Project can be found in the NMFS BA for the Project, COP Appendix II-L1, and in Atlantic Shores’ Letter of Authorization Application. EIS Appendix B, Section 5, <i>Underwater Acoustics</i> , also provides an overview of key modeling assumptions. As previously noted, the commenter’s understanding of the physics that govern underwater sound transmission are flawed, resulting in inaccurate calculations (e.g., 40 dB noise loss).
BOEM-2023-0030-0916-0138	A 40-43 dB noise loss factor is far from the effective transmission loss factor of 16 dB that reflects the distance to criteria results in the BOEM’s own Atlantic Geological and Geophysical Activities Programmatic Environmental Impact (EIS) statement of March 2014. Using the above formula for transmission loss that “effective” 16 dB value can be calculated from the radial distances (about 1750 meters) required to reach 160 dB in Table D-23 of the EIS for the four shallow depth scenarios 20 2630 and 34 and the representative source noise level of 212 dB for boomers (modeled as similar to sparkers) and sparkers in Tables D-6 and D -13 respectively.	Detailed discussion of the underwater acoustic and exposure modeling conducted for the Project can be found in the NMFS BA for the Project, COP Appendix II-L1, and in Atlantic Shores’ Letter of Authorization Application. EIS Appendix B, Section 5, <i>Underwater Acoustics</i> , also provides an overview of key modeling assumptions. As previously noted, the commenter’s understanding of the physics that govern underwater sound transmission are flawed, resulting in inaccurate calculations (e.g., 40 dB noise loss).
BOEM-2023-0030-0916-0139	The use of a 40-43 dB noise loss factor here is not consistent with field measurements. A comparison of modeled transmission loss with actual measurements by Thompson et al. in the report titled Effects of Offshore Wind Farm Noise on Marine Mammals and Fish dated July 6 2006 found that for pile driving events with frequencies less than 1000 hertz the	Detailed discussion of the underwater acoustic and exposure modeling conducted for the Project can be found in the NMFS BA for the Project, COP Appendix II-L1, and in Atlantic Shores’ Letter of Authorization Application. EIS Appendix B, Section 5, <i>Underwater Acoustics</i> , also provides an overview of key modeling assumptions.

Comment No.	Comment	Response
	15 dB loss factor was the best approximation of transmission loss for shallow North Sea and Baltic waters and other settings comparable to this survey area pages 15-16.	As previously noted, the commenter’s understanding of the physics that govern underwater sound transmission are flawed, resulting in inaccurate calculations (e.g., 40 dB noise loss).
BOEM-2023-0030-0916-0140	The discussion in Section E.4 and E.7 of the March Jasco Acoustic and Exposure Modeling Report for the project cites and number of references that purport to validate the model. But not a single graph or chart has been extracted from those references that would show comparison of measured results against the model predictions. Many of the references are internal reports that are not accessible on the web. They were requested from the BOEM but never received.	BOEM has access to the reports cited in its documents (e.g., Draft EIS, Biological Assessment). The JASCO modeling report is not a BOEM document, and the references from that report were not provided to BOEM. JASCO is a very experienced and well-respected acoustic modeling firm that has conducted underwater noise assessments for numerous offshore wind projects on the Atlantic OCS. Measurements taken during acoustic monitoring of pile driving for the Vineyard and South Fork wind farms have validated attenuated noise modeling results from JASCO’s modeling. Their acoustic modeling report for this Project has undergone a thorough critical review by BOEM’s Center for Marine Acoustics.
BOEM-2023-0030-0916-0142	Regarding pile driving the DEIS is not complete because it identifies no specific noise source attenuation system. Nor does it provide technical justification for the assumed 10 dB attenuation upon which it relies for certain calculations and conclusions. Without that specific proposal and justification the assumption appears to be arbitrary and designed to artificially keep the level A take number from direct injury according to the current calculations just below the biological removal rate for the right whale.	A specific noise source attenuation system has not been identified as it has not yet been selected. Atlantic Shores has committed to implementing a noise attenuation system that achieves a 10 dB reduction, and the potential for such a reduction is supported by Bellmann et al. 2020.
BOEM-2023-0030-0916-0143	We have seen no written enforceable commitment from Atlantic Shores management to achieve a 10 dB broadband attenuation. Also as shown below there are significant technical problems in achieving such a large attenuation for the lower whale-hearing frequencies needed to protect right whales. In addition since noise source levels are not presented there is no way of measuring the noise level and verifying that a 10 dB attenuation is achieved in practice. Therefore the NMFS should not assume more than a 5 dB	Atlantic Shores has committed to implementing a noise attenuation system that achieves a 10 dB reduction, and the potential for such a reduction is supported by Bellmann et al. 2020, as discussed in previous responses. Atlantic Shores will be required to conduct acoustic monitoring to verify the acoustic modeling results (i.e., the acoustic ranges with 10 dB attenuation).

Comment No.	Comment	Response
	broadband attenuation and with that even using the questionable exposure ranges and takes estimates described above the August Jasco Report shows that the project would cause Level A noise takes of the right whale. But as discussed below even that 5 dB is not applicable to the lower frequency situations involving the right whale and other LFC's.	Atlantic Shores has not requested Level A take (that has the potential to injure a marine mammal) for NARW in the Letter of Authorization Application for the Atlantic Shores South Project, and Level A take of NARW would likely not be authorized by NMFS.
BOEM-2023-0030-0916-0145	As discussed above achieving a 10 dB attenuation would require an additional auxiliary system such as a double walled pile. Such a system was employed and measured in the Vashon Ferry Terminal report cited above. However a frequency analysis of the noise reductions between the unmitigated piled driving and the double wall pile shows e.g. in Figures 9c and 11a very little noise attenuation occurring below 1000 Hz in the right whale's primary hearing range and the addition of bubble curtains in Figure 11d does not change that. This was not unexpected because as discussed above much of that low frequency sound was re-radiated from the seabed and not affected by the double pile or the close to source bubble curtains. Therefore even such auxiliary systems will not provide significant attenuation in the low frequency range nor will bubble curtains. Consequently, the DEIS needs to be revised to assume no attenuation in its calculation of exposure ranges and take estimates for the right whale and other low frequency cetaceans.	A specific noise source attenuation system has not been identified as it has not yet been selected. Atlantic Shores has committed to implementing a noise attenuation system that achieves a 10 dB reduction, and the potential for such a reduction is supported by Bellmann et al. 2020, as discussed in previous responses.
BOEM-2023-0030-0916-0146	In light of all these noise attenuation difficulties it would be irresponsible for the BOEM and the NMFS to simply accept the applicant's assurances that a 10 dB can or will be achieved and proceed with a rulemaking based in large part on such a broad (frequency-wise) tenuous and unsupported assumption. Since many of the conclusions in the Application depend on that assumption a rulemaking cannot logically proceed based on it. Therefore absent a specific source attenuation proposal and justification for it the DEIS and the NMFS rulemaking should assume no pile driving noise source attenuation for the right whale and other low frequency	A specific noise source attenuation system has not been identified as it has not yet been selected. Atlantic Shores has committed to implementing a noise attenuation system that achieves a 10 dB reduction, and the potential for such a reduction is supported by Bellmann et al. 2020, as discussed in previous responses.

Comment No.	Comment	Response
	cetaceans and other more realistic attenuation numbers less than 5 dB for higher hearing frequencies with technical justification for them.	
BOEM-2023-0030-0916-0147	The DEIS and ITA application for construction Jasco Reports estimate and separate Level A injury from Level B harassment. But in the real whale world that distinction is not so clear and lesser exposures can indirectly lead to worse outcomes. Under the MMPA a Level A incident or “take” includes any annoyance that has the “potential to injure” a marine mammal. That linkage is presented in the December 21 2016 NMFS interim guidance defining the term “harass” under the Endangered Species Act (ESA) as to “create the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavior patterns which include but are not limited to breeding feeding or sheltering. Therefore the application should have included this third path or linkage from reactions to level B harassment exposures and from masking of the whale’s sound detection and communication abilities to the “likelihood of injury” with a level of analyses comparable to that given to Level A and Level B takes.	Detailed discussion of the underwater acoustic and exposure modeling conducted for the Project in accordance with established regulatory thresholds and NMFS guidance can be found in the NMFS BA for the Project, COP Appendix II-L1, and in Atlantic Shores’ Letter of Authorization Application. EIS Appendix B, Section 5, <i>Underwater Acoustics</i> also provides an overview of key modeling assumptions.
BOEM-2023-0030-0916-0148	The Application does not account for the potential for such harm and fatality from the results of Level B exposures and therefore does not present a full and complete Level A take number. Rather it estimates and separates Level A injury from Level B disturbance. But in the regulatory and the real whale world that distinction is not present and level B disturbance exposures can indirectly lead to worse injury and fatality outcomes.	Detailed discussion of the underwater acoustic and exposure modeling conducted for the Project in accordance with established regulatory thresholds and NMFS guidance can be found in the NMFS BA for the Project, COP Appendix II-L1, and in Atlantic Shores’ Letter of Authorization Application. EIS Appendix B, Section 5, <i>Underwater Acoustics</i> , also provides an overview of key modeling assumptions.
BOEM-2023-0030-0916-0149	Therefore the DEIS and the Application should have included this linkage from reactions to level B exposures to create the “potential to injure” or the “likelihood of injury” with a level of analyses comparable to that given to direct Level A injury take from hearing loss. For example Level B disturbance can lead to:• Avoiding the noise or “standing off” from it in an	Detailed discussion of the underwater acoustic and exposure modeling conducted for the Project in accordance with established regulatory thresholds and NMFS guidance can be found in the NMFS BA for the Project, COP Appendix II-L1, and in Atlantic Shores’ Letter of Authorization Application. EIS

Comment No.	Comment	Response
	<p>undesirable direction or location in a migratory setting obstructing or blocking it. • If the mammal is between the shore and the source being driven towards the shore seeking relief. • Surfacing to seek a lower noise level and becoming more vulnerable to vessel strike. • Separation of mothers and calves due to the “masking” of their normal communications which can be fatal for the calf. • Loss of its navigational ability cessation of feeding or mating loss of energy and the ability to detect predators or oncoming ships. • Finally because whales use sounds to determine the very nature of their surroundings the effects may be much more profound than we know.</p>	<p>Appendix B, Section 5, <i>Underwater Acoustics</i>, also provides an overview of key modeling assumptions.</p>
BOEM-2023-0030-0916-0150	<p>Even with the very high unexplained transmission loss of 40 dB per decade used the DEIS and Application still shows a significant exposure range for the right whale for Level B exposures. For example Table 20 shows a 6.33 km or 4-mile range using the NOAA RLP50 160 dB criteria and no source attenuation which is appropriate as discussed above. As shown in the Table below using more appropriate transmission loss factors closer to 15 dB per decade that exposure range is expected to increase significantly and one would expect that exposures above the 160 dB behavior disruption criteria will extend across the entire 12-mile- wide right whale’s nearby migration corridor.</p>	<p>The supposition that the location of the WTGs adjacent to the migratory corridor of the NARWs will likely block the migration of the NARW is unsubstantiated. The commenter provides no evidence that such a displacement is reasonably likely. The protection of the highly endangered NARW from disruptive noise levels is of utmost concern to BOEM and Atlantic Shores. As previously noted, the commenter’s understanding of the physics that govern underwater sound transmission are flawed, resulting in inaccurate calculations. As Atlantic Shores has committed to a 10-decibel noise attenuation for impact pile driving, the attenuated value (3.65 km [2.2 mi] for NARW) is appropriate.</p>
BOEM-2023-0030-0916-0151	<p>Similarly notwithstanding the restriction on pile driving from January through April using the Wood et.al. more accurate approach for estimating takes the ITA application’s August Jasco Report in Table 24 still shows a significant 23 Level B takes for the right whale assuming the appropriate no source attenuation as discussed above.</p>	<p>Detailed discussion of the underwater acoustic and exposure modeling conducted for the Project in accordance with established regulatory thresholds and NMFS guidance can be found in the NMFS BA for the Project, COP Appendix II-L1, and in Atlantic Shores’ Letter of Authorization Application. EIS Appendix B, Section 5 also provides an overview of key modeling assumptions. The Wood et al. (2012) probabilities have not been incorporated into NMFS’ existing regulatory thresholds, which were reviewed in 2018 (NMFS 2018). The results using the Wood et al. (2012) probabilities are provided in the COP and EIS for informational purposes only.</p>

Comment No.	Comment	Response
		Atlantic Shores has committed to implementing a noise attenuation system that achieves a 10 dB reduction, and the potential for such a reduction is supported by Bellmann et al. 2020, as discussed in previous responses.
BOEM-2023-0030-0916-0152	<p>With the use of proper construction-related noise source and noise transmission loss numbers level B exposures will extend across all of the right whale’s approximately nearby 12- mile-wide migration corridor. Under the setting here of a critically endangered whale attempting to complete a migration that is essential to its survival through a well-defined and relatively narrow migration corridor that could now be blocked that “potential to injure” or to “create the likelihood of injury” certainly exists from a number of possible results of a level B exposure including: A. The whale is very likely to avoid the elevated Level B noise and its close-by migration corridor and seek a different migration path. But in this setting it has nowhere else to go. Due to proximity of the project (9 miles) elevated noise levels will persist all the way to shore. Wind turbines will also eventually be placed in the Hudson South area directly adjacent to and on the opposite eastern side of its primary migration corridor and other areas farther out. To avoid that wind complex as well it would have to go far out to sea where it has never historically migrated. B. The whale may be disrupted from foraging and lose the energy it needs to complete its migration. C. Since the level B impulsive noise criteria of 160 dB is greater than the normal vocalization range of the right whale of 125 to 150 dB communication between migrating mothers and calves can be lost resulting in a calf fatality and D. A level B exposure can cause whales to ascend and swim just below the surface where they are more susceptible to vessels strike not just from construction- related vessels but from other vessels as well. This behavior has been demonstrated experimentally by Nowacek et al in the paper titled North Atlantic right whales ignore ships but respond to alerting stimuli The Royal Society May 20 2003.From the estimated level B exposure numbers</p>	As demonstrated in previous responses, underwater noise levels in excess of the behavioral disturbance threshold are not expected to extend 12 miles or all the way to shore. The supposition that the location of the WTGs adjacent to the migratory corridor of the NARWs will likely block the migration of the NARW is unsubstantiated. The commenter provides no evidence that such a displacement is reasonably likely. The protection of the highly endangered NARW from disruptive noise levels is of utmost concern to BOEM and Atlantic Shores.

Comment No.	Comment	Response
	<p>the number of whales likely to experience any of these above results and others needs to be estimated and added to the direct level A injury take numbers from hearing loss to get a full and complete level A take estimate. As discussed above the level B exposure number used should assume no noise source attenuation for the right whale and other LFC's. In addition as discussed further below the level B exposure numbers used should be based on the Wood et al. probability of response approach to account for reactions of the more noise-sensitive members of the right whale population. All the reactions A through D above and perhaps others will affect the right whale's migration. Therefore the effect of all should be summed to present the full impact on its migration and what that means for its survival. For this migratory setting a new and distinct migration impact analysis should be done and included in the DEIS.</p>	
BOEM-2023-0030-0916-0156	<p>The DEIS on page 3.5.6-27 simply dismisses vessel survey noise as a problem without any evidence. The statements in the DEIS on page 3.5.6-27 regarding vessel survey impact are incorrect or incomplete and therefore misrepresent the impacts of vessel surveys on marine mammals.</p>	<p>Page 3.5.6-27 of the EIS addresses the No Action Alternative (i.e., ongoing activities without the Proposed Action or any other planned activities). Vessel survey noise for the Project is assessed in Section 3.5.6.5.</p>
BOEM-2023-0030-0916-0157	<p>First as shown below the noise source level from the Dura-Spark 240 unit operating at approximately 750 Joules of energy input is from measured sources 211 dB which is not low. Second the rest of the sentence only deals with direct hearing organ injury to the mammal but ignores the more likely path of harm which is level B disturbance compromising the whales noise using capability which then indirectly results in harm or fatality. Another sentence in the DEIS states that this type of exposure is unlikely as the sound sources are continuously mobile and directional i.e. pointed at the bottom. The Dura spark unit is "omnidirectional" i.e. propagates noise out in all directions not just at the bottom. Again regarding level B disturbance and harm from that the fact that the sources are mobile actually hurts the situation</p>	<p>A Project-specific assessment of geotechnical and geophysical survey noise effects was conducted, which utilized source levels published in the literature (Crocker and Fratantonio 2016) or provided by the manufacturer for sources without source levels or appropriate proxies published in the literature (see the Project's application for a Letter of Authorization). The Crocker and Fratantonio (2016) study included laboratory tests and field tests conducted under typical G&G survey equipment operations to develop a dataset of calibrated acoustic source levels. The source levels were measured properly by experts in the field and are accurate and representative of the anticipated equipment usage for the Proposed Action. This assessment is presented in Section 3.5.6.5.</p>

Comment No.	Comment	Response
	because the vessels can make repeated passes over the same area where the marine mammal is that exposes it to repeated instances of level B disturbance (or perhaps Level A) which can only have a worse or effect on it.	
BOEM-2023-0030-0916-0158	As shown below the impacts of the vessel surveys based on more generally accepted and realistic noise source levels and noise transmission loss factors are quite significant. The BOEM needs to do an analysis of this environmental impact in the DEIS.	A Project-specific assessment of geotechnical and geophysical survey noise effects was conducted, as described in the previous response. This assessment is presented in Section 3.5.6.5.
BOEM-2023-0030-0916-0159	The impacts of the vessel surveys presented in the NMFS ITA approvals of them are technically flawed because they use the wrong (and too low) noise source level and a scientifically indefensible (and too high) noise propagation loss factor as explained below. Therefore the ITA approvals significantly underestimate the area affected around the vessel animal impact and the mitigation measures needed. A DEIS analysis is required using the proper factors.	A Project-specific assessment of geotechnical and geophysical survey noise effects was conducted, which utilized source levels published in the literature (Crocker and Fratantonio 2016) or provided by the manufacturer for sources without source levels or appropriate proxies published in the literature (see the Project's application for a Letter of Authorization). The Crocker and Fratantonio (2016) study included laboratory tests and field tests conducted under typical G&G survey equipment operations to develop a dataset of calibrated acoustic source levels. The source levels were measured properly by experts in the field and are accurate and representative of the anticipated equipment usage for the Proposed Action. This assessment is presented in Section 3.5.6.5.
BOEM-2023-0030-0916-0160	The source noise level used that the DEIS relies on for the highest noise level instrument used is low and not consistent with other higher values found in the technical literature. For example in the Atlantic Shores proposed Incidental Harassment Authorization (IHA) a reference for the source noise level in Table 2 of a 203 dB root mean square (rms) source noise level to represent the Dura-Spark 240 unit is not specified. It appears to be based on another unit the Dura-Spark UHD which was found in the 2021 authorization. The footnote says that the level was based on the Sig-electric 820 unit with a power level of 750 joules. But the data in the graph in Appendix A of the Atlantic Shores application of	A Project-specific assessment of geotechnical and geophysical survey noise effects was conducted, which utilized source levels published in the literature (Crocker and Fratantonio 2016) or provided by the manufacturer for sources without source levels or appropriate proxies published in the literature (see the Project's application for a Letter of Authorization). The Crocker and Fratantonio (2016) study included laboratory tests and field tests conducted under typical G&G survey equipment operations to develop a dataset of calibrated acoustic source levels. The source levels were measured properly by experts in the field and are accurate and representative of the anticipated equipment

Comment No.	Comment	Response
	<p>power output versus energy shows an average level of 215 dB at 750 joules for that unit and the manufacturer presents a typical source level of 226 dB. It is not clear whether those are rms levels. If they are not those numbers still point towards rms values greater than 203 dB. The 203 dB value is not consistent with the 214 dB rms value for sparker units in Table 1 of the June 29th 2021 ESA Programmatic Consultation report that NMFS says it relied on for ESA compliance. It is not consistent with the 214 dB value specifically for the Applied Acoustic Dura-Spark unit presented in Table 5 of the February 2021 BOEM Biological Assessment referenced in the ESA Programmatic Consultation. It seems odd for the NMFS to rely on a lower 203 dB value for MMPA compliance and a higher 214 dB value for ESA compliance. The 203 dB level is not consistent with the Atlantic Shores IHA application dated December 23 2019 which shows a higher rms level specifically for the Dura-Spark 240 unit of 211.4 dB in Table 2-2. The 203 dB value is not consistent with the 213 dB rms value stated for the Applied Acoustics Dura-Spark 240 unit presented in Table 1 of the document titled "Takes of marine mammals incidental to specified activities; taking marine mammals incidental to marine site characterization surveys off of Delaware" April 4 2018. It is not consistent with two other references that show a higher rms level. The report titled Characteristics of Sounds Emitted during High Resolution Marine Geophysical Surveys BOEM OCS study 2016-044 Table 10 for 750 joules (per page 4204 of the FR notice the energy level based on Atlantic Shores previous experience with the unit) shows a rms source level of 211 dB for the Dura-Spark unit. That number is also found in the December 23 2019 Jasco Applied Sciences Report on page 3.</p>	<p>usage for the Proposed Action. This assessment is presented in Section 3.5.6.5.</p>
BOEM-2023-0030-0916-0161	<p>The use in the DEIS of a 20 dB factor is not consistent with the 15 dB loss factor presented above that was used by NMFS in approving a request from its parent agency the National Oceanic and Atmospheric Administration (NOAA) for authorization to take marine mammals incidental to the</p>	<p>Detailed discussion of the underwater acoustic and exposure modeling conducted for the Project can be found in the NMFS BA for the Project, COP Appendix II-L1, and in Atlantic Shores' Letter of Authorization Application. EIS Appendix B,</p>

Comment No.	Comment	Response
	NOAA port facility project in Ketchikan Alaska as recently as December 1 2021.	Section 5, <i>Underwater Acoustics</i> , also provides an overview of key modeling assumptions.
BOEM-2023-0030-0916-0162	The Atlantic Shores IHA application states only that the energy level of the Dura- spark 240 unit will not exceed 700 to 800 joules of energy input (page 5). If a source level was needed for 800 joules Atlantic Shores and NMFS could have easily interpolated the specific noise measurement data for the Dura-spark 240 unit in the 2016 Crocker and Frantantonio Report which they both reference as a reliable source.	A Project-specific assessment of geotechnical and geophysical survey noise effects was conducted, which utilized the Crocker and Fratantonio (2016) report cited by the commenter, as discussed in a previous response. A summary of this assessment is presented in Section 3.5.6.5.
BOEM-2023-0030-0916-0163	In addition the statement that operation at 500 to 600 joules is more likely isn't particularly relevant because the Atlantic Shores application only restricts the power level to below 800 joules which is what NMFS has approved. However. even if operation was restricted to 500 joules Table 10 of the Crocker and Frantantonio report shows a rms noise source level of 209 dB for the Dura-spark unit for that power level which in itself is substantially greater than 203 dB.	A Project-specific assessment of geotechnical and geophysical survey noise effects was conducted, which utilized the Crocker and Fratantonio (2016) report cited by the commenter, as discussed in a previous response. A summary of this assessment is presented in Section 3.5.6.5.
BOEM-2023-0030-0916-0164	Therefore the use of the ELC 820 unit underestimates the noise source level and its use as a surrogate unit is not justified. The noise source level of 211 dB level that was recommended in our comments on the proposed Atlantic Shores IHA should have been employed here. The fact that the same substitution of the ELC 820 unit was used in the Mayflower Wind application for a different unit the Geomarine Geo-spark 800 joule system does not add any further justification for that practice here.	A Project-specific assessment of geotechnical and geophysical survey noise effects was conducted, which utilized the Crocker and Fratantonio (2016) report, as discussed in a previous response. A summary of this assessment is presented in Section 3.5.6.5.
BOEM-2023-0030-0916-0165	The use of the 20 dB factor is very far from the more conservative "worst case" formulas used by an Atlantic Shores noise specialist consultant Pangea Subsea (Report 04563-1) in the Atlantic Shores application for incidental harassment authorization of December 15 2021. Formulas 7 and 8 of that report only use a 20 dB loss factor from 1 m to 3.5 m and a 10 dB coefficient beyond that. Using those formulas the distance to reach the 160 dB level for the Dura-	A Project-specific assessment of geotechnical and geophysical survey noise effects was conducted, which utilized the Crocker and Fratantonio (2016), as discussed in a previous response. A summary of this assessment is presented in Section 3.5.6.5.

Comment No.	Comment	Response
	Spark 240 unit would be 5677 m instead of the 141 m being used by NMFS even using the lower noise source level of 203 dB.	
BOEM-2023-0030-0916-0166	The use of the 20 dB factor is not consistent with field measurements. A comparison of modeled transmission loss with actual measurements by Thompson et al. in the report titled Effects of Offshore Wind Farm Noise on Marine Mammals and Fish dated July 6 2006 found that for pile driving events with frequencies less than 1000 hertz the 15 dB loss factor was the best approximation of transmission loss for shallow North Sea and Baltic waters and other settings comparable to this survey area pages 15-16.	Detailed discussion of the underwater acoustic and exposure modeling conducted for the Project can be found in the NMFS BA for the Project, COP Appendix II-L1, and in Atlantic Shores' Letter of Authorization Application. EIS Appendix B, Section 5 also provides an overview of key modeling assumptions. Measurements taken during acoustic monitoring of pile driving for the Vineyard and South Fork wind farms have validated attenuated noise modeling results from JASCO's modeling, which was also utilized for the Atlantic Shores South project (see COP Appendix II-L1).
BOEM-2023-0030-0916-0168	This proposal cannot rely on that programmatic consultation and the Biological Assessment and Opinion done in 2013 for compliance because it is outside the project and impact envelope presented then. That programmatic assessment does not cover the two large ECR areas North and South. It only addresses the two new Jersey lease areas. It uses outdated and incomplete marine mammal density data. Since 2013 significant new data has become available as discussed in the FR Notice itself on page 4214. The significant increases in density as much as seven-fold are shown in Table 11. It also does not show the correlation of its primary migration route of the North Atlantic right whale with the lease area. It does not have data showing the precipitous decline in the right whale population. It only presents peak source noise levels for certain HRG survey equipment. Based on those peak values the root means square levels are likely to be lower than what is to be used in this FR Notice proposal.	The EIS does not cite a 2013 programmatic consultation, Biological Assessment, or Biological Opinion.
BOEM-2023-0030-0916-0169	The programmatic assessment assumes on page 165 and 166 that exclusion zones up to 200 meters (m) will be continually and perfectly maintained and no whales will get close enough to experience high noise levels above 180 dB. But as discussed below based on realistic noise propagation loss	The EIS does not cite a 2013 programmatic consultation, Biological Assessment, or Biological Opinion. A Project-specific Biological Assessment has been prepared for the Atlantic Shores South Project.

Comment No.	Comment	Response
	<p>factors exclusion zones need to be considerably larger than 200 m and perfect visual observation alone is not reliable especially at night. It assumes page 166 without siting any current scientific basis that the effects on behavior from exposure to levels above 160 dB “are generally expected” to be temporary and that whales “have the ability to move away from the sound” which are ambiguous conclusions that cannot be relied on here. Considering the different area to be surveyed the different equipment noise source levels and the new density information and noise loss factor the proposed survey project is outside the envelope of the Programmatic Biological Assessment and Opinion and those should not be used to support this project. The BOEM and the NMFS should update the programmatic assessment and opinion to account for the cumulative impact of the program underway. If it does not then a project specific Biological Assessment and Biological Opinion are warranted. A cumulative assessment shown below of just three noise surveys off New Jersey using appropriate noise source levels and dissipation factor shows that the number of level B takes for the North Atlantic right whale from those activities will be 187 that is of course of major concern. Cumulative Level B Takes (Right Whale Behavior Disruptions) Survey: Atlantic Shores Survey Days: 360 Vessel travel per day (km): 55 Radius to 160 dB (meters) 20 dB loss factor: 141 Radius to 160 dB (meters) 15 dB Loss factor: 736 Level B Takes (20 dB) # of whale disturbances: 17 Level B Takes (15 dB) # of whale disturbances: 95 Survey: Ocean Wind Survey Days: 275 Vessel travel per day (km): 70 Radius to 160 dB (meters) 20 dB loss factor: 141 Radius to 160 dB (meters) 15 dB Loss factor: 736 Level B Takes (20 dB) # of whale disturbances: 9 Level B Takes (15 dB) # of whale disturbances: 47 Survey: Next ERA Survey Days: 318 Vessel travel per day (km): 62 Radius to 160 dB (meters) 20 dB loss factor: 141 Radius to 160 dB (meters) 15 dB Loss factor: 736 Level B Takes (20 dB) # of whale disturbances: 8 Level B Takes (15 dB) # of whale disturbances: 45 Totals: Survey Days:</p>	

Comment No.	Comment	Response
	<p>953Vessel travel per day (km): 55Level B Takes (20 dB) # of whale disturbances: 34Level B Takes (15 dB) # of whale disturbances: 187That number constitutes 53 percent of the right whale population (now adjusted by NMFS to 350 animals) and exceeds even the NMFS high and unsupported “small numbers” criteria of 33 percent of the population (see section B.8). Using the 15 dB factor and a higher noise source level found in the technical literature for the controlling noise device the Atlantic Shores survey alone would exceed the 33 percent.</p>	
BOEM-2023-0030-0916-0170	<p>The BOEM should go back and revise its calculations for the DEIS using: (a) the scientifically mainstream 15 dB factor that has used in other recent take authorizations including a recent one for NOAA and (b) the 211 dB source level for the Dura-Spark unit that is more prevalent in the technical literature. Using the appropriate noise source level and transmission loss over distance factor the impacts to the right whale as it migrates through the area would be severe and likely violate the Marine Mammal Protection Act as shown in Enclosure III.</p>	<p>A Project-specific assessment of geotechnical and geophysical survey noise effects was conducted, which utilized source levels published in the literature (Crocker and Fratantonio 2016) or provided by the manufacturer for sources without source levels or appropriate proxies published in the literature (see the Project’s application for a Letter of Authorization). The Crocker and Fratantonio (2016) study included laboratory tests and field tests conducted under typical G&G survey equipment operations to develop a dataset of calibrated acoustic source levels. The source levels were measured properly by experts in the field and are accurate and representative of the anticipated equipment usage for the Proposed Action. This assessment is presented in Section 3.5.6.5.</p>
BOEM-2023-0030-0916-0210	<p>As discussed in I.3 and as shown in Exhibits B and E that same deep draft vessel corridor has been a primary one for the migration of the critically endangered North Atlantic right whale. Also as shown in I.3 the noise levels in the corridor from turbine operation will be on the order of 140 to 145 decibels(dB). Those levels will disrupt the whale’s migration and disturb and disorient any whale attempting to migrate through it. Worsening the situation further are experimental results showing that one reaction of the right whale to such noise is to surface to lessen the noise which would make it more susceptible to strike from those deep draft and other</p>	<p>The supposition that the location of the WTGs adjacent to the migratory corridor of the NARWs will likely block the migration of the NARW is unsubstantiated. The commenter provides no evidence that such a displacement is reasonably likely. As described in previous responses, the conclusions drawn by the commenter in regard to the proposed sound transmission from the WTGs transecting the migratory corridor are not supported by the physics of sound attenuation, and the calculations provided by the commenter are inaccurate. As described in previous responses, noise levels from operating wind turbines would fall below the</p>

Comment No.	Comment	Response
	vessels in the corridor. Therefore the synergistic effect of the concentrated vessel traffic and whale migration in the same narrow corridor the disorienting effect on the whale from turbine operational noise and the tendency of whales to surface to avoid that noise could have a devastating effect on marine mammals off the coast of New Jersey. The BOEM, the Coast Guard, and NOAA should immediately convene to assess that synergistic affect and at a minimum provide analysis of it in this DEIS.	behavioral disturbance threshold within a short distance of the turbine, and disturbing sound levels are not anticipated to extend into the migratory corridor. The protection of the highly endangered NARW from disruptive noise levels is of utmost concern to BOEM and Atlantic Shores.
BOEM-2023-0030-0916-0243	The first is development in the Hudson South area and in Lease areas A-0498 and A-0499. A main migration corridor of the critically endangered North Atlantic right whale lies between the Hudson South area and lease area A-0499 (see Exhibit 1). The DEIS is dismissing it but as shown in detail in I.2 the predicted noise from the operation of larger turbines based on the two noise measurement studies cited will envelop that corridor from both sides causing noise levels that will disturb the whale and potentially block its migration. The cumulative impact from both areas must be evaluated.	The supposition that the location of the WTGs adjacent to the migratory corridor of the NARWs will likely block the migration of the NARW is unsubstantiated. The commenter provides no evidence that such a displacement is reasonably likely. As described in previous responses, the conclusions drawn by the commenter in regard to the proposed sound transmission from the WTGs transecting the migratory corridor are not supported by the physics of sound attenuation, and the calculations provided by the commenter are inaccurate. As described in previous responses, noise levels from operating wind turbines would fall below the behavioral disturbance threshold within a short distance of the turbine, and disturbing sound levels are not anticipated to extend into the migratory corridor. The protection of the highly endangered NARW from disruptive noise levels is of utmost concern to BOEM and Atlantic Shores.
BOEM-2023-0030-0916-0254	Regarding the ESA the DEIS dismisses the significant problem of operational turbine noise on the right whale and does not provide or refer to any Biological Assessment and Section 7 consultation being done of that issue.	An analysis of the effects of WTG operational noise is provided in Section 3.5.6.5 of the EIS and in Section 3.2.5.2 (pp. 122-123) of the Biological Assessment for the Project.
BOEM-2023-0030-0916-0255	Further no plausible alternative routes for the whale to take to continue its migration have been identified especially once turbines are also placed in the Hudson South area and therefore its existence is clearly jeopardized. Unless the DEIS can show such a plausible and likely to be used alternative route that the whale can take to continue its migration it	The supposition that the location of the WTGs adjacent to the migratory corridor of the NARWs will likely block the migration of the NARW is unsubstantiated. The commenter provides no evidence that such a displacement is reasonably likely. The protection of the highly endangered NARW from

Comment No.	Comment	Response
	should designate compliance with the ESA as uncertain on that basis as well.	disruptive noise levels is of utmost concern to BOEM and Atlantic Shores.
BOEM-2023-0030-0916-0256	The use of a 40-43 dB factor here is not consistent with the 15 dB factor NMFS used very recently on February 8 2022 to justify the “Taking of Marine Mammals Incidental to Kitty Hawk Wind Marine Site Characterization Surveys North Carolina and Virginia” which used similar sound survey devices. The use of a 40-43 dB factor here is not consistent with the Bureau of Ocean Energy Management’s (BOEM’s) cited factor of 15 dB for use in the Practical Spreading Loss Model for pile driving in its report titled A Parametric Analysis and Sensitivity Study of the Acoustic Propagation for Renewable Energy OCS study BOEM 2020-011 It is not consistent with NMFS’s own previous recommendation in 2012 cited in that Report on page 30 for use of a 15 dB loss factor. In fact that same report shows that the use of the 10 Log (R) formula i.e. even less transmission loss than the 15 dB factor compared better with real or simulated measurements (See Figure 3.2 on page 31). So even the practical spreading loss formula may overestimate transmission loss and certainly the 40 log(R) formula does.	As previously noted, the commenter’s understanding of the physics that govern underwater sound transmission are flawed, resulting in inaccurate calculations (e.g., 40 dB noise loss).
BOEM-2023-0030-0926-0002	What will be the impact on the endangered North American Right Whales and other migratory birds that the wind turbines will be in the direct migratory path of? How much “Take” is too much?	Impacts of the Project on marine mammals and birds are assessed in Sections 3.5.6.5 and 3.5.3.5, respectively. The Draft EIS is not intended to be a take assessment. Takes of marine mammals are authorized and managed by NMFS through take authorizations and Biological Opinions. If NMFS determines too many takes have been authorized, no further takes will be issued. However, it is not the purpose of the EIS to rule on this topic.
BOEM-2023-0030-1257-0002	Atlantic Shores South will include up to 200 wind turbine generators producing approximately 1510 MW for Project 1 and 1327 MW for Project 2. Project 1 alone will produce enough power to supply 700000 homes. To ensure these energy benefits accrue to the state of New Jersey BOEM and	This EIS has been prepared to meet the requirements under the National Environmental Policy Act. Atlantic Shores prepared and submitted to NMFS an application for a Letter of Authorization to meet the requirements under the Marine Mammal Protection Act. BOEM prepared and submitted to

Comment No.	Comment	Response
	the developer must comply with their obligations under the National Environmental Policy Act Marine Mammal Protection Act Endangered Species Act among other laws to safeguard New Jersey's species and ecosystems during all phases of the project	NMFS a Biological Assessment to meet the requirements under the Endangered Species Act.
BOEM-2023-0030-1257-0008	BOEM and Atlantic Shores South should implement additional protective measures for the North Atlantic right whale and other vulnerable marine species including but not limited to stronger noise-mitigation measures impact pile driving prohibitions from November 1 to April 30 and a ban on the initiation of pile driving at night.	The mitigation measures currently included in the EIS, including noise mitigation and seasonal pile driving restrictions, reduce or minimize impacts on NARWs and other marine mammals. BOEM will only authorize pile driving initiation at night if an alternative monitoring plan for pile driving during low visibility is approved by both BOEM and NMFS. If further impact reductions are deemed necessary, NMFS will include additional mitigation or monitoring requirements in its Letter of Authorization and/or Biological Opinion.
BOEM-2023-0030-1305-0002	When looking at the display of the three options of the lease sites and questioned if whales are being killed by ship strikes since their food supply is closer to the shoreline due to "climate change" why would you put wind turbines directly in their path in all three options. Also affected in the path of these turbines would be the North Atlantic Right Whale's migration path and seabirds.	The effects of the presence of wind turbines on whales and birds are assessed in Sections 3.5.6.5 and 3.5.3.5, respectively.
BOEM-2023-0030-1321-0001	This project will create high water temperatures and cycle that temperature (over 90 degrees Fahrenheit) every day. These unnaturally consistent high temperatures will cause marine life to migrate to shore (if they survive the high temperatures mapping and construction phases of this project)	Heat generated by the Project is expected to be minimal, and the effects of this heat on marine life is evaluated in Sections 3.5.2.5, 3.5.5.5, 3.5.6.5, and 3.5.7.5.
BOEM-2023-0030-1322-0001	I find the concern about whales being in trouble by sonar from the wind turbine to be very vague. We already know that ships use sonar to measure water depth and Navy ships use sonar for locating other ships. Large ship motors produce sonar noise and fisherman can use sonar to locate fish. The concern seems to be that the use of sonar by wind turbine	Climate change is affecting the marine environment in a myriad of ways. Ongoing climate change is assessed as part of the No Action Alternative (Alternative A) in Section 3.5.6.3.

Comment No.	Comment	Response
	<p>installers is causing more whale deaths. One factor that is being ignored is how sonar is affected by water temperature. The July / August Smithsonian magazine has an article (Saving the Ocean) by Angelica Alzona. There is a quote by Marine Scientist Mary Sears, "Sub-surface temperature gradients in the open sea are chief factors in determining the path of sound rays and thus delimit the effectiveness of underwater sound-ranging equipment." Maybe we should consider the fact that Global Warming is affecting the temperatures of the oceans and therefore effecting whales' ability to use their sonar.</p>	
BOEM-2023-0030-1339-0020	<p>The DEIS rightly finds there will be negative impacts to Mysticetes. That the impacts are only negligible to moderate is questionable. There is a dire need for a cumulative impacts analysis on OSW activities on ALL populations of marine mammals which are known to occur or could occur in U.S. waters of the northwest Atlantic Ocean.</p>	<p>A cumulative impact analysis, which considers impacts to all marine mammal species that may be affected by the Project, is provided in Section 3.5.6.3.</p>
BOEM-2023-0030-1339-0021	<p>Questions remain about accountability measures in the event a developer's "takes" exceed the numbers authorized. The fishing industry is held to strict measures including the closing of a fishery. Negative impacts to local fishermen and coastal communities as a result of a potentially adverse impact to marine mammals (e.g. a vessel strike resulting in death or severe injury) are not mentioned nor evaluated in the DEIS and should be addressed in the Final EIS. The lack of an adequate analysis of individual and cumulative impacts to these protected mammal species is concerning given that fishermen are already highly restricted in their ability to harvest due to NARWs protections. For instance lobster and Jonah crab trap/pot fisheries are subject to time and area closures from the MA Restricted Area Wedge from February 1- April 30 2023 (23. 88 Fed Reg. 7362 (Signed 1/31/2023))</p>	<p>The Draft EIS is not intended to be a take assessment. Takes of marine mammals are authorized and managed by NMFS through take authorizations and Biological Opinions. If NMFS determines too many takes have been authorized, no further takes will be issued. However, it is not the purpose of the EIS to rule on this topic.</p>
BOEM-2023-0030-1353-0003	<p>What is the impact to commercial fishing recreational fishing birds and as mentioned above marine mammals?</p>	<p>Impacts on commercial and recreational fishing, birds, and marine mammals associated with the Project are assessed in Sections 3.6.1.5, 3.5.3.5, and 3.5.6.5, respectively.</p>

Comment No.	Comment	Response
BOEM-2023-0030-1363-0001	These turbines will EACH be 118db (per the manufacturer) which is a loud rock concert. These are giant 1048ft 15mw turbines. Infrasound can carry 20km (approx 14 miles) in day and 50 km (31 miles)at night. This size of an installation has never been done and there is no evidence or research that has been done to understand what the impact of the projects will have on marine ecosystem.	Sound levels in air cannot be directly compared to underwater sound levels due to the difference in reference pressure (i.e., 20 µPa in air vs. 1 µPa underwater). An assessment of the effects of WTG operational noise on marine life, which is based on the best available science, is provided in Sections 3.5.2.5, 3.5.5.5, 3.5.6.5, and 3.5.7.5.
BOEM-2023-0030-1439-0002	We raise grave concerns about the specter of potential harmful impacts and deaths of marine species particularly the critically endangered Right whale and marine turtles due to unavoidable collisions and injuries with the wind farms fixed solid base structures during severe storms and hurricanes. According to NOAA’s data at no time does NOAA and BOEM have verified on site data regarding this subject in this area of Atlantic oceans "Hurricane alley." Any source of blunt force trauma must be avoided or minimized as per NEPA MMPA ESA and NOAA requirements. Endangered species will now be exposed to acres of ocean containing hundreds of maze like fixed windfarm bases in their paths and migratory routes during hurricanes and storms unknown to them. During extreme weather currents generated can propel whales and turtles into these solid base structures. Severe impact collisions will cause major trauma resulting in instant or eventual death for protected species. Protected turtles will be macerated.	There is no evidence to indicate that hurricanes will cause marine mammals to collide with offshore wind structures.
BOEM-2023-0030-1516-0082	The most pressing issue surrounding the ASOWNJ project and BOEM’s entire offshore wind energy program along the eastern seaboard is the project-specific and cumulative impacts on the federally-endangered North Atlantic right whale (NARW) which is generally considered the most imperiled marine mammal native to North America. Indeed the total NARW population rests at approximately 330 individuals and that number is dropping due to constant human-caused mortality low calving rates highly extended calving intervals loss of prey species and access to foraging	Project impacts on NARWs are assessed in Section 3.5.6.5. Impacts to this species are also assessed in the Project’s application for a Letter of Authorization under the Marine Mammal Protection Act and in the Project’s Biological Assessment. Atlantic Shores has not requested Level A take (that has the potential to injure a marine mammal) for NARW in the Letter of Authorization Application for the Atlantic Shores South Project, and authorization of Level A take of NARW was not proposed by NMFS in its proposed rule for the take of marine mammals incidental to the Project. In its

Comment No.	Comment	Response
	<p>habitat low and diminishing physical fitness lack of genetic diversity and extreme low abundance of reproductive females. Most whale experts agree that unless human-caused mortalities are immediately curtailed to zero the NARW will become extinct in the next 30 to 60 years. For these reasons it is imperative that BOEM through the DEIS examine closely carefully and comprehensively the ASOWNJ project's potential to adversely affect NARW and exacerbate existing threats to the species. Unfortunately the DEIS fails this basic task leaving many impacts undisclosed unstudied and unmitigated.</p>	<p>Biological Opinion, NMFS concluded that the Project was not likely to jeopardize the continued existence of NARWs.</p>
BOEM-2023-0030-1516-0083	<p>We agree with statements from lead biologists at the National Marine Fisheries Service (NMFS) who have recommended that offshore wind energy projects be pushed back a minimum of 20 kilometers from areas used by NARW for feeding and other life history activities. This recommendation which was set forth in a letter from NMFS to BOEM dated May 13 2022 is completely ignored in the DEIS.</p>	<p>The 20 km buffer recommendation in the May 13, 2022 letter was specific to Nantucket Shoals, which is not in proximity to this Project.</p>
BOEM-2023-0030-1516-0084	<p>he DEIS fails to provide an accurate or adequate accounting of the number of NARW within the project area which includes all transit corridors for vessels traveling between the wind development area (WDA) and supply ports.</p>	<p>The EIS provides the best scientific information on the occurrence of NARW in the Project area.</p>
BOEM-2023-0030-1516-0085	<p>The DEIS fails to provide an accurate or adequate projection of the number of vessels to be used in the construction operation and decommissioning of the project.</p>	<p>This section identifies maximum vessel numbers for the analysis of vessel traffic effects. Project vessel traffic information is provided in greater detail in Section 3.6.6, <i>Navigation and Vessel Traffic</i>, as well as the Biological Assessment for the Project.</p>
BOEM-2023-0030-1516-0086	<p>The DEIS fails to provide an accurate or adequate projection of the number of miles the various project vessels will travel through NARW habitat during construction operation and decommissioning of the project.</p>	<p>This section identifies maximum vessel numbers for the analysis of vessel traffic effects. Project vessel traffic information is provided in greater detail in Section 3.6.6, <i>Navigation and Vessel Traffic</i>, as well as the Biological Assessment for the Project.</p>

Comment No.	Comment	Response
BOEM-2023-0030-1516-0087	The DEIS does not use the best available commercial and scientific data to establish baseline environmental conditions within the project area. Specifically the DEIS provides an insufficient assessment of the project area's role in NARW migration foraging mating calving and other life history stages. The DEIS also fails to provide information on the existence location abundance and aggregation of zooplankton in the project area. This is a critical information deficit given that NARW feed exclusively on zooplankton.	The proposed Project area is not within any designated critical habitat but occurs within a BIA for migration for NARW, as stated in Section 3.5.6.1. The presence of zooplankton in the area and potential impacts to these species are discussed in Section 3.5.5, <i>Finfish, Invertebrates, and Essential Fish Habitat</i> .
BOEM-2023-0030-1516-0088	The DEIS provides insufficient information on the current and anticipated use of the areas near the project site by non-project vessels. This information is necessary to assess the risk of NARWs being hit by vessels or entangled in fishing gear as a result of being pushed out of the project site by pile driving noise. In fact the DEIS must assess all risks and impacts to NARW resulting from displacement caused by project-related noise both construction and operational. This includes loss of preferred foraging areas loss of preferred migratory corridors increased energy demands to find food or to migrate increased risk of predation increased risk of vessel strikes increased entanglement in fishing gear and overall loss of body fitness.	Existing vessel traffic is described in Section 3.6.6, <i>Navigation and Vessel Traffic</i> . All the potential effects identified by the commenter are considered in Section 3.5.6.5 of the EIS, with the exception of increased risk of predation as such an effect is not anticipated due to the Proposed Action.
BOEM-2023-0030-1516-0089	The DEIS provides an incomplete discussion of the current imperiled status of the NARW. For example it does not adequately address the NARW's sharply declining population its low calving rate the continued loss of reproductive females and its ever decreasing PBR (potential biological removal) rate.	The critical status of the NARW population is not in question. The EIS clearly describes the population of the NARW as well as the existing threats to its existence.
BOEM-2023-0030-1516-0090	The DEIS provides an inadequate analysis of pile driving noise on NARW and uses a noise dispersion/attenuation model that deviates substantially from industry standard without explaining the justification for this decision.	Acoustic modeling for the Project utilized the parabolic equation (Collins 1993), which is widely employed in the underwater acoustics community. Detailed discussion of the underwater acoustic and exposure modeling conducted for the Project can be found in the NMFS BA for the Project, COP Appendix II-L1, and in Atlantic Shores' Letter of Authorization

Comment No.	Comment	Response
		Application. EIS Appendix B, Section 5 also provides an overview of key modeling assumptions.
BOEM-2023-0030-1516-0091	<p>The DEIS does not critically assess the proposed measures for protecting NARW from pile driving noise. Instead the DEIS assumes without analysis that Protected Species Observers (PSOs) along with data from passive acoustic monitoring (PAM) equipment will enable the applicant to detect each and every NARW that may enter the pile driving Level A harassment zone. [Bold: 1] There is no evidence to support this assumption. PSOs can only see whales on the surface of the water not at depth. In addition they cannot see beyond 1500 meters in any direction. This distance is further diminished during times of poor lighting rough seas heavy swells or fog. PAM systems only detect whales that are actively vocalizing; no-vocalizing whales will not be picked up at all. Baleen whales including NARWs are among the least vocal whales in the Atlantic Ocean often going days even weeks without uttering a sound. Further PAM systems have a significant “miss rate” which results in many marine mammals going undetected. [Bold: 2] This fact is not discussed in the DEIS even though it bears directly on the efficacy of the mitigation measures and strategies that BOEM believes will protect the whale from project-related impacts. Note that the above-noted limitations on PSOs and PAM systems also apply to their ability to protect whales from project-related vessel strikes.</p>	<p>The mitigation measures included in the EIS have been used for numerous other pile driving activities and were developed through consultation with NMFS under the ESA and MMPA. The measures are evaluated in greater depth in the Project’s Biological Assessment. Marine mammals have to breathe and are visible at the surface at regular intervals – this is how abundance and density estimates are made. The use of PAM is included to supplement the visual monitoring by increasing the distance over which animals may be detected (i.e., beyond the visual range) and increasing the time period over which animals may be detected. In situations with low-visibility, the mitigation measures in the EIS require the use of additional equipment to improve detection (e.g., infrared cameras). Monitoring zones are based on modeling results and are conservative (i.e., protective of the animal). While vessel strike avoidance measures include the use of PSOs, they also include vessel speed restrictions, further reducing risks to whales.</p>
BOEM-2023-0030-1516-0092	<p>The DEIS provides an inadequate analysis of operational noise impacts on NARW. The ASOWNJ project will install and operate hundreds of large wind turbines. The noise impacts from such a huge array of large turbines have never been studied. In fact the only field studies conducted on the issue involved five 6MW turbines off Block Island RI. The noise signature of the Block Island wind farm simply cannot be compared to the noise signature that will be created by the industrial-scale ASOWNJ project. In addition the EIS’s</p>	<p>The comprehensive overview of WTG-generated noise provided in Section 3.5.6.3 of the EIS provides a summary of available information. This information is not limited to studies of the turbines at Block Island Wind Farm and includes studies that project sound levels generated by larger WTGs. An analysis of the effects of WTG operational noise, which relies on the best available science, is provided in Section 3.5.6.5 of the EIS and in Section 3.2.5.2 (pp. 122-123) of the Biological Assessment for the Project.</p>

Comment No.	Comment	Response
	operational noise analysis use sound propagation and attenuation model inputs that are not supported by the best available science and deviate substantially from industry practice leading to a gross underreporting of the Project's noise impacts.	
BOEM-2023-0030-1516-0093	The DEIS's proposed mitigation measures for Project impacts on NARW including vessel speed limits include too many exemptions and exceptions to be effective resulting in significant risks to NARW including potential injury from vessel strikes and hearing damage from pile driving noise	The mitigation measures included in the EIS have been developed collaboratively between BOEM and NMFS through consultation under the ESA and MMPA. The speed restrictions included in the mitigation measures are in compliance with NMFS' vessel speed rules.
BOEM-2023-0030-1516-0094	In his letter Dr. Hayes also recommended that all offshore wind projects be moved back at least 20 km from areas where NARW feed and engage in other life history behaviors. The DEIS does not mention this recommendation or consider an alternative consistent with it.	The 20 km buffer recommendation in the May 13, 2022 letter was specific to Nantucket Shoals, which is not in proximity to this Project.
BOEM-2023-0030-1516-0095	The DEIS fails to adequately assess the how the ASOWNJ project plus the other offshore wind energy projects slated for construction within NARW habitat will affect the species cumulatively especially when the total offshore wind impacts added to the stressors that already threaten the species (e.g. commercial vessel traffic).	The cumulative impacts of the Project, which includes impacts of Atlantic Shores South combined with other offshore wind projects, are assessed in Section 3.5.6.5.
BOEM-2023-0030-1516-0096	The DEIS fails to adequately assess the project's potential to alter water currents and stratification. This issue was raised in a letter dated May 13 2022 by Sean Hayes PhD of NOAA Fisheries to BOEM. According to Dr. Hayes the long-term effects of altered stratification will likely affect the aggregation of zooplankton causing the zooplankton to disperse. This is problematic given that NARW can efficiently feed on zooplankton only when the zooplankton are aggregated in dense patches.	Zooplankton is "patchy" by nature – aggregation of plankton is highly variable based on numerous oceanographic parameters including sea surface temperature, currents, and wind patterns. This is why BOEM and NMFS have asked the National Academy of Science to do a study on the potential impacts of wind turbines on oceanographic processes. The best available scientific information on the Project's potential hydrodynamic effects are provided for relevant resources in Chapter 3, <i>Affected Environment and Environmental Consequences</i> , of the EIS.
BOEM-2023-0030-1518-0029	BOEM acknowledges it does not fully understand the effects of size foundation type and drive type on the amount of sound produced during turbine operation. BOEM's analysis of	The comprehensive overview of WTG-generated noise provided in Section 3.5.6.3 of the EIS provides a summary of available information, including information on how sound

Comment No.	Comment	Response
	operational noise impacts is inadequate and cannot be relied on as fact (See Appendix J.4.4.3 Overview of Acoustic Modeling Report Ocean Wind 1 FEIS). Various studies have shown that compounding effects of multiple turbines within an array produce sound levels above the disturbance-level threshold for marine mammals.	levels change based on turbine size and drive type. An analysis of the effects of WTG operational noise is provided in Section 3.5.6.5 of the EIS and in Section 3.2.5.2 (pp. 122-123) of the Biological Assessment for the Project.
BOEM-2023-0030-1518-0030	a study commissioned by the Scottish Government found that monopile wind turbines are “audible above the background noise at least 20 km from the wind farm in all wind conditions” and that “species with hearing specialized to low frequency such as minke whales may in certain circumstances detect the wind farm at least 18 km away and are the species most likely to be affected by noise from operational wind turbines.” [Footnote 25: Modelling of Noise Effects of Operational Offshore Wind Turbines including noise transmission through various foundation types https://www.gov.scot/publications/scottish-marine-freshwater-science-volume-4-number-5-modelling-noise/]. Minke whales are categorized by NMFS as having the same hearing frequency band as NAWRs and live primarily in waters less than 100m deep along the outer continental shelf.	Audibility does not imply behavioral disturbance. Additionally, the range of audibility is highly dependent on ambient sound levels.
BOEM-2023-0030-1518-0031	The failure of BOEM to capture the cumulative noise impacts of Atlantic Shores South and the other wind farm areas along New Jersey and the Eastern Seaboard is a violation of NEPA guidelines on cumulative impacts and severely threatens marine mammals who use the waters off Long Beach Township for breeding feeding migration and other purposes.	The cumulative impacts of the Project include impacts of Atlantic Shores South combined with other offshore wind projects, are assessed in Section 3.5.6.5.
BOEM-2023-0030-1518-0032	BOEM’s analysis also included a study of the Block Island Wind Farm which relied on data produced by 6-MW turbines that are half of the height and produce half the output capacity of the 12-MW turbines proposed by Atlantic Shores South. These two wind farms are so vastly different that they are not comparable. BOEM then concludes that that output level of the turbines is not detectable to fish and neglects to	The comprehensive overview of WTG-generated noise provided in Section 3.5.6.3 of the EIS provides a summary of available information, including information on how sound levels change based on turbine size and drive type. An analysis of the effects of WTG operational noise is provided in Section 3.5.6.5 of the EIS and in Section 3.2.5.2 (pp. 122-123) of the Biological Assessment for the Project.

Comment No.	Comment	Response
	<p>continue the discussion regarding the impact the low-frequency cetaceans which unlike fish will actually be impacted by low frequency sound produced by offshore wind farms.</p>	
BOEM-2023-0030-1518-0033	<p>In a 2022 study commissioned by BOEM researchers determined that unmitigated impacts from driving monopiles resulted in disturbance-level impacts to marine mammals across a 10.43-mile radius. For context with underwater volumes of 160 dB re uPa² or greater unmitigated pile driving would theoretically be audible to humans swimming underwater in Long Beach Island. For fish the radius increases to 22.8 miles. Tables 9 and 10 below are excerpts from the report [Footnote 29: Underwater Acoustic Assessment of Pile Driving during Construction at the Maryland Offshore Wind Project Underwater Acoustic Assessment Report (May 2022). Marine Acoustics Inc. https://www.boem.gov/sites/default/files/documents/renewable-energy/App%20IH1%20Underwater%20Acoustic%20Assessment%20%28May%202022%29.pdf]. [See original comment for Table 9 and Table 10]. Long Beach Township disapproves of this process and is concerned about the impacts to marine mammals fish and sea turtles in connection with pile driving especially after two humpback whales washed ashore near Martha's Vineyard immediately after pile driving began for Vineyard Wind [Footnote 30: Whale carcasses on Martha's Vineyard fuel speculation about wind turbines. https://newbedfordlight.org/whale-carcasses-on-marthas-vineyard-fuel-speculation-about-wind-turbines/].</p>	<p>As Atlantic Shores has committed to implementing a noise attenuation system that achieves a 10 dB reduction, pile driving noise will not be unmitigated. Exposure ranges and expected takes for impact pile driving for the Project are provided in Section 3.5.6.5 of the EIS.</p>
BOEM-2023-0030-1523-0008	<p>As another example BOEM is quite literally prescribing the extinction of the North Atlantic Right Whale through the implementation of the Biden Administration's offshore wind program which will construct thousands of wind turbines directly through this creature's critical migration routes disrupting feeding breeding migration communication and</p>	<p>Atlantic Shores has not requested Level A take (that has the potential to injure a marine mammal) for NARW in the Letter of Authorization Application for the Atlantic Shores South Project, and Level A take of NARW would likely not be authorized by NMFS. The protection of the highly endangered</p>

Comment No.	Comment	Response
	<p>navigation. Data from NOAA scientists determined that the North Atlantic Right Whale's Potential Biological Removal (PBR) level is less than 1 meaning even a single death could upset the delicate balance required for a population stock to return to its optimum sustainable population. Yet incidental take requests authorized by NOAA and the National Marine Fisheries Services enable the injury harassment or incidental death of several North Atlantic Right Whales which will almost certainly guarantee the continued decline or even extinction of the North Atlantic Right Whale. BOEM finds monetary forms of mitigation as acceptable means of complying with NEPA rather than the simple process of relocating turbines to responsibly sited areas.</p>	<p>NARW from disruptive noise levels is of utmost concern to BOEM and Atlantic Shores.</p>
BOEM-2023-0030-1523-0018	<p>BOEM acknowledges it does not fully understand the effects of size foundation type and drive type on the amount of sound produced during turbine operation. Therefore BOEM's analysis of operational noise impacts is inadequate and cannot be relied on as fact (See Appendix J.4.4.3 Overview of Acoustic Modeling Report Ocean Wind 1 FEIS). Various studies have shown that compounding effects of multiple turbines within an array produce sound levels above the disturbance-level threshold for marine mammals.</p>	<p>The comprehensive overview of WTG-generated noise provided in Section 3.5.6.3 of the EIS provides a summary of available information, including information on how sound levels change based on turbine size and drive type. An analysis of the effects of WTG operational noise is provided in Section 3.5.6.5 of the EIS and in Section 3.2.5.2 (pp. 122-123) of the Biological Assessment for the Project.</p>
BOEM-2023-0030-1523-0019	<p>For example a study commissioned by the Scottish Government found that monopile wind turbines are "audible above the background noise at least 20 km from the wind farm in all wind conditions" and that "species with hearing specialized to low frequency such as minke whales may in certain circumstances detect the wind farm at least 18 km away and are the species most likely to be affected by noise from operational wind turbines."26 Minke whales are categorized by NMFS as having the same hearing frequency band as NAWRs and live primarily in waters less than 100m deep along the outer continental shelf.</p>	<p>Audibility does not imply behavioral disturbance. Additionally, the range of audibility is highly dependent on ambient sound levels.</p>
BOEM-2023-0030-1523-0020	<p>Another study published by the Journal of the Acoustical Society of America found that "at distances of several</p>	<p>The Tougaard et al. (2020) study published in the Journal of the Acoustical Society of America referenced by the</p>

Comment No.	Comment	Response
	<p>kilometers the noise [from a single turbine] becomes indistinguishable from that of a single point source with a source level larger than that of any individual turbine.”²⁷ This study found that the cumulative source level of the 81-turbine wind farm was 175 dB re 1 µPa which nears the threshold for permanent hearing loss for the NAWR of 183 dB re 1 µPa as determined by the Navy.²⁸ It must be noted that the turbine operational noise study investigated 81 1-MW turbines rather than 200 12-MW turbines proposed by Atlantic Shores South which are far larger and have twelve-times the capacity of the turbines modeled in the study. Noise levels above 120 dB re 1 µPa are categorized as disturbance-level for North Atlantic Right Whales and can result in behavioral changes and abandonment of habitats when exposed to noise levels exceeding 120 dB re 1 µPa. The failure of BOEM to capture the cumulative noise impacts of Atlantic Shores South and the other wind farm areas along New Jersey and the Eastern Seaboard is a violation of NEPA guidelines on cumulative impact and severely threatens marine mammals who use the waters off Cape May County for breeding feeding migration and other purposes.</p>	<p>commenter modeled turbines spaced in a 500-meter grid, approximately half of the minimum spacing for the Proposed Action (at least 900 meters between turbines), which would potentially result in greater compounding of noise levels than anticipated for this Project. Further, the PTS threshold cited by the commenter is the threshold for impulsive noise sources (e.g., impact pile driving). The PTS threshold for non-impulsive noise sources is 199 dB re 1 µPa. One must differentiate between the thresholds (Peak SPL, RMS SPL, and SEL) as well impulsive and non-impulsive signals. One must take into account the physics of multiple sources. The analysis of operating WTG noise can be found in Section 3.5.6.5 of the EIS. This section also provides a cumulative impact assessment, which includes impacts of Atlantic Shores South combined with other offshore wind projects. Assessments of operating WTG noise for the Project are also provided in Section 4.7.2.2 of the COP and Section 3.2.5.2 of the Project’s BA.</p>
BOEM-2023-0030-1523-0021	<p>BOEM’s analysis included a study of the Block Island Wind Farm which relies on data produced by 6- MW turbines which are half of the height and produce half the output capacity of the 12-MW turbines proposed by Atlantic Shores. These two wind farms are so vastly different that they are not comparable to the Atlantic Shores turbines. BOEM then concludes that that output level of the turbines is not detectable to fish and completely neglects to continue the discussion regarding the impact the low-frequency cetaceans which unlike fish will actually be impacted by low frequency sound produced by offshore wind farms.</p>	<p>The comprehensive overview of WTG-generated noise provided in Section 3.5.6.3 of the EIS provides a summary of available information. This information is not limited to studies of the turbines at Block Island Wind Farm and includes studies that project sound levels generated by larger WTGs. An analysis of the effects of WTG operational noise is provided in Section 3.5.6.5 of the EIS and in Section 3.2.5.2 (pp. 122-123) of the Biological Assessment for the Project.</p>
BOEM-2023-0030-1536-0006	<p>By including analysis from the Gulf of Mexico to the Gulf of Maine this document is doing the same thing in its analysis of marine mammal impacts in this document. The impact area</p>	<p>The negligible to moderate impact of the alternatives is an incremental impact. The language in this section has been revised to clarify the levels of impacts.</p>

Comment No.	Comment	Response
	<p>of this project given the scope of the area being analyzed is minute. However the impact of this single project in the Mid-Atlantic and the cumulative impact of these projects is potentially significant to mammals in our region. And while BOEM believes there is no impact on OSW construction and testing the continued death of whales and dolphins in a region first starting OSW testing and construction is of great concern. How can your analysis real conclude that the No Action impact is negligible to major and all other alternatives negligible to moderate? This defies logic! The study and development of this project has to have a greater impact than doing nothing or you would not require mammal harassment permits! This section provides no true analysis and thus needs to be thoroughly reconsidered and rewritten.</p>	
BOEM-2023-0030-1536-0007	<p>Finally in this area right whale Atlantic sturgeon and other endangered turtle species transit for a portion of the year. Fisheries are held to significant regulatory restrictions to minimize potential impact. BOEM must develop a similar system to ensure the whales Atlantic sturgeon and other marine endangered species continued protection prior to approving this project with possible significant acoustic impacts during construction and operation. This must address the cumulative effects of these projects on right whales during all phase of the projects through decommissioning.</p>	<p>The Biological Assessment for the Project evaluated potential impacts on endangered species. ESA consultation with NMFS was completed on December 18, 2023, and NMFS concluded in its Biological Opinion that the Project is not likely to jeopardize the continued existence of any ESA-listed species.</p>
BOEM-2023-0030-1542-0008	<p>Noise Pollution. A major impact from offshore wind energy production is underwater noise pollution during surveying construction maintenance and operation of wind turbines. Many marine species which rely heavily on sound for survival are critically sensitive to noise impacts. These include species throughout the food chain from plankton to fish to marine mammals. [Footnote 12: Bailey H. Brookes K. & Thompson P. 2014. Assessing environmental impacts of offshore wind farms: lessons learned and recommendations for the future. Aquatic Biosystems Vol. 10 No. 8. Available at: ncbi.nlm.nih.gov/pmc/articles/PMC4172316/; Footnote</p>	<p>In selecting the Preferred Alternative for the Project, BOEM must consider numerous factors, including economic and technical feasibility. Atlantic Shores noted in their comments on the Draft EIS, that suction bucket and gravity-based foundations may not be commercially viable for the Project within the anticipated construction timeframe due to lack of fabrication capability and capacity in the region. Additionally, in selecting the Preferred Alternative BOEM must balance the effects of all IPFs (not just noise) on all resources analyzed in Chapter 3 of the EIS. As described in Sections 3.5.2.5, 3.5.5.5,</p>

Comment No.	Comment	Response
	<p>13: Slavik K. et al. The large scale impact of offshore wind farm structures on pelagic primary production in the southern North Sea. Submitted to Hydrobiologia. March 2018. Available at: arxiv.org/abs/1709.02386. To prevent permanent or fatal injury to exposed marine life BOEM must analyze--and mandate the use of--methods of noise pollution mitigation through a range of noise reduction techniques technologies and avoidance measures. The simplest way to avoid noise pollution from the offshore wind industry is to mandate the use of so-called gravity or suction based foundation types. These types of foundations do not require pile driving the loudest noise pollution from the offshore wind industry which occurs during the construction phase. We support BOEM mandating these types of foundations.</p>	<p>3.5.6.5, and 3.5.6.7, mitigation measures will be required to minimize noise impacts of the Proposed Action. BOEM has considered the information provided in the comment in the selection of the Preferred Alternative.</p>
BOEM-2023-0030-1542-0009	<p>Vessel Strikes. In addition to noise impacts offshore wind development may cause significant impacts to marine mammals through habitat displacement altered migration routes collisions with vessels and impacts on prey species. One of the likely affected species is the North Atlantic right whale which is critically endangered and known to use the areas under consideration. A simple and effective way to reduce vessel strikes to marine mammals is to mandate a 10 knot speed limit on all offshore wind industry vessels at all times and in all locations. [Footnote 14: Schoeman Renée P. Claire Patterson-Abrolat and Stephanie Plön. A global review of vessel collisions with marine animals. <i>Frontiers in Marine Science</i> 7 (2020): 292. Available at: doi.org/10.3389/fmars.2020.00292]. Vessel strikes are one of the most common ways North Atlantic right whales are killed. [Footnote 15: NMFS. 2017-2022 North Atlantic right whale Unusual Mortality Event. Available at: fisheries.noaa.gov/national/marine-life-distress/2017-2023-north-atlantic-right-whale-unusual-mortality-event]. BOEM must analyze potential and mitigate the impacts on all marine mammal populations that utilize offshore wind lease areas and surrounding areas as required</p>	<p>Potential impacts to marine mammals are analyzed in Section 3.5.6.5. Mitigation measures to reduce or minimize impacts on marine mammals for the Project are assessed in Section 3.5.6.5 and included in Appendix G, <i>Mitigation and Monitoring</i>.</p>

Comment No.	Comment	Response
	under the Marine Mammal Protection Act and the Endangered Species Act. Mitigation measures for certain activities such as pile driving must be undertaken to best ensure the protection of the health of the species and the ocean ecosystem.	
BOEM-2023-0030-1542-0013	BOEM must continue to monitor and mitigate impacts from electromagnetic fields (EMFs) created by power cords connecting turbines to each other and to land. Many ocean species can detect EMFs and some have been shown to change their behavior because of EMFs including fish sharks turtles and marine mammals. [Footnote 20: BOEM. 2011. Effects of EMFs from Undersea Power Cables on Elasmobranchs and Other Marine Species. Available at: www.boem.gov/ESPIS/4/5115.pdf].	Effects of EMF and heat on marine mammals are assessed in Section 3.5.6.5.
BOEM-2023-0030-1542-0015	For each of the environmental impacts listed above BOEM must analyze and mitigate them seasonally as different species have varied sensitivities at different times of the year. Mitigation options to address seasonal movements of marine species must be assessed.	Mitigation measures for the Project include seasonal pile driving restrictions to mitigate impacts on NARWs. This measure was included in the assessment of Project impacts.
BOEM-2023-0030-1556-0028	According to the Draft EIS of the 50 marine mammal species known to occur in Northeast Shelf Large Marine Ecosystem 35 have documented ranges in the Project Area.[Footnote 51: AS DEIS at 3.5.6-2.] An additional three marine mammal species including the endangered Rice’s whale occur in the Gulf of Mexico which is also part of the geographic analysis area due to potential vessel transits between Corpus Christi and the Project Area.[Footnote 52:AS DEIS at 3.5.6-1] Impacts from the potential twenty vessel trips through the Gulf of Mexico are discounted so these three species are not included in the analysis.[Footnote 53: AS DEIS at 3.5.5-1.] If there is any possibility that the vessel transits would occur within Rice’s whale core habitat[Footnote 54: See https://www.fisheries.noaa.gov/resource/map/rices-whale-core-distribution-area-map-gis-data .] then BOEM must include Rice’s whale in the impact analysis.	Rice’s whale is addressed in the EIS as effects to this species are discounted. A more detailed assessment for this species is provided in the Project’s Biological Assessment.

Comment No.	Comment	Response
BOEM-2023-0030-1556-0029	<p>There are several important issues with the occurrence data and designations (“rare” “common” “uncommon” “regular” “extralimital”) as well as with the lack of literature used by BOEM to support conclusions about occurrence and abundance/density in the Project Area. In particular the Draft EIS does not provide a detailed assessment of all marine mammal species with common/regular occurrence in the Project Area but instead refers the reader to Volume 2b of the COP for detailed information on marine mammals in the entire GAA. Descriptions of species-specific occurrence in the Project Area should be provided by BOEM. Ultimately we recommend that BOEM revise the description of the affected environment section including Draft EIS Table 3.15-1 to incorporate more accurate and well- defined designations of occurrence and project-specific abundance estimates based on the Roberts et al. models[Footnote 57: Roberts J. J. B. D. Best L. Mannocci E. Fujioka P. N. Halpin D. L. Palka L. P. Garrison K. D. Mullin T. V. Cole C. B. Khan and W. A. McLellan. 2016. Habitat-based cetacean density models for the U.S. Atlantic and Gulf of Mexico. Scientific Reports 6:22615. All of the models were most recently revised and released in spring 2022. https://seamap.env.duke.edu/models/Duke/EC/] and only cite primary sources.</p>	<p>The most recent Roberts et al. models were used to quantify marine mammal densities in the Project area. As stated in the EIS, the assessment of impacts applies to all marine mammal species. It is only the species descriptions in Section 3.5.6.1 that are limited to species with common or regular occurrence.</p>
BOEM-2023-0030-1556-0030	<p>We appreciate that BOEM has added definitions to the terms to describe occurrence of marine mammals and sea turtles.[Footnote 58: AS DEIS at 3.5.6-12.] As we have noted in previous comments the terms “common” “regular” “uncommon” “extralimital” and “rare” were not previously defined and did not provide BOEM or the public with clear information to understand risk and impacts to marine mammals and sea turtles in the Project Area. Without consistent and clear definitions occurrence cannot be compared across species. BOEM now clarifies that “Rare – limited sightings for some years; uncommon – occurring in low numbers or on an irregular basis; regular – occurring in low to moderate numbers on a regular basis or seasonally;</p>	<p>There is no quantitative definition for these terms. Occurrence was determined based on information in the sources identified in Section 3.5.6.1 of the EIS (see p. 3.5.6-5), including NMFS Stock Assessment Reports and sighting data from ship-based and aerial surveys. These sources are the best available scientific information on marine mammal occurrence in the Project area. Occurrence information is also provided in the Project’s Biological Assessment, which was reviewed by NMFS during ESA consultation that concluded on December 18, 2023.</p>

Comment No.	Comment	Response
	<p>common – occurring consistently in moderate to large numbers.”[Footnote 59: Id.] While we appreciate BOEM’s addition of definitions these definitions still lack clarity. We advise that BOEM should further define the terms “low” “moderate” and “large” as well as “irregular” vs “regular” basis. Specifically we ask BOM to also clarify a range of in terms of number of sightings per time period used to define “rare” versus “uncommon” and “regular” versus “common.” We recommend that BOEM use occurrence designations that are based on known habitat associations confirmed sightings and the potential for occurrence regardless of how abundant or common a species is. This conservative method of designated occurrence ensures that occurrence is not based solely on sightings data which may be lacking for some species due to less survey effort during poor weather conditions and times of year when some species may be more prevalent off New Jersey.</p>	
BOEM-2023-0030-1556-0031	<p>BOEM’s categorization of seasonal occurrence of marine mammal and sea turtles species is unclear and confusing and lacks a coherent explanation. For example some species like the NARW have particular seasons listed but others just have “rare” or “extralimital” designations that do not identify seasons nor describe when the species may occur in the Project Area no matter how common or frequent that occurrence may be. BOEM should explicitly define its categorizations so the public is well-equipped to understand and comment.</p>	<p>For species with rare or extralimital occurrence, data is lacking to identify seasonal patterns of occurrence. Occurrence was determined based on information in the sources identified in Section 3.5.6.1 of the EIS (see p. 3.5.6-5), including NMFS Stock Assessment Reports and sighting data from ship-based and aerial surveys. These sources are the best available scientific information on marine mammal occurrence in the Project area. Occurrence information is also provided in the Project’s Biological Assessment, which was reviewed by NMFS during ESA consultation that concluded on December 18, 2023.</p>
BOEM-2023-0030-1556-0032	<p>Draft EIS Table 3.5.6-14 Estimated number of marine mammals exposed to vibratory pile driving noise during cofferdam installation does not include monthly density estimates and does not describe which season(s) the estimates are for. Draft EIS Appendix II-L2 Marine Mammal and Sea Turtle Presence includes density estimates for each season and refers to the older Roberts et al. models. The new</p>	<p>A table of density estimates used for assessing vibratory pile driving noise has been added to the EIS (see Table 3.5.6-13)</p>

Comment No.	Comment	Response
	<p>Roberts et al. models [Footnote 60: Roberts J. J. B. D. Best L. Mannocci E. Fujioka P. N. Halpin D. L. Palka L. P. Garrison K. D. Mullin T. V. Cole C. B. Khan and W. A. McLellan. 2016. Habitat-based cetacean density models for the U.S. Atlantic and Gulf of Mexico. Scientific Reports 6:22615. All of the models were most recently revised and released in spring 2022. https://seamap.env.duke.edu/models/Duke/EC/] were released in June 2022 and include the latest model for the NARW which is version 12. BOEM should include updated Project Area-specific abundance or density estimates in the Draft EIS along with a description of which models were used to derive those estimates before the Final EIS is published to fully assess risk and impacts to species in the Project Area.</p>	
BOEM-2023-0030-1556-0033	<p>As we have highlighted previously BOEM should rely upon peer-reviewed primary sources for its analysis of occurrence and habitat use. Best available scientific data indicate that NARWs rely heavily on the waters within and regionally proximate (i.e. the New York-New Jersey Bight and Mid-Atlantic regions) to the Project Area year-round. During the New Jersey Ecological Baseline Study conducted in nearshore waters (0- 30 NM) off New Jersey monthly between January 2008 and December 2009 North Atlantic right whales were detected throughout the year.[Footnote 61: GMI (Geo-Marine Inc.). "Ocean/Wind power ecological baseline studies January 2008 - December 2009. Final report." New Jersey Department of Environmental Protection Trenton New Jersey (2010); Whitt Amy D. et al. "North Atlantic right whale distribution and seasonal occurrence in nearshore waters off New Jersey USA and implications for management." Endangered Species Research 20.1 (2013): 59-69; incorporated into Davis Genevieve E. et al. "Long-term passive acoustic recordings track the changing distribution of North Atlantic right whales (<i>Eubalaena glacialis</i>) from 2004 to 2014" supra.] Sightings included four groups of right whales including a cow-calf pair and occurred close to shore (10 – 17 NM) and in shallow waters (55 – 85 ft). Sightings of females</p>	<p>The best available data on NARW occurrence is provided by the most recent Roberts et al. models. The densities provided in Table 3.5.6-2 come from these models. The Geo-Marine study cited by the commenter is included in Section 3.5.6 of the EIS. The EIS also recognizes the Biologically Important Area for migration that overlaps the Project Area and the year-round occurrence of NARW in the Project area.</p>

Comment No.	Comment	Response
	<p>and subsequent confirmations of these same individuals in the calving grounds a month or less later confirm that these waters are part of this species' migratory corridor. Observations of skim-feeding behavior suggest that feeding may also occur in areas farther south than the main feeding grounds.²³</p>	
BOEM-2023-0030-1556-0034	<p>The new scientific study by Murray et al. (2022) and the work of Zoidis et al. (2021) provides important new information on the distribution and seasonality of North Atlantic right whales and should be factored into BOEM's analysis. Given the proximity to southern New England additional relevant data sources would be appropriate to incorporate into the Final EIS.[Footnote 69: GMI (Geo-Marine Inc.). 2010. Ocean/Wind power ecological baseline studies January 2008 - December 2009. Final report. New Jersey Department of Environmental Protection Trenton New Jersey; Kenney R.D. and K.J. Vigness-Raposa. 2010. Marine mammals and sea turtles of Narragansett Bay Block Island Sound Rhode Island Sound and nearby waters: An analysis of existing data for the Rhode Island Ocean Special Area Management Plan. In Rhode Island Ocean Special Area Management Plan Vol. 2: Technical Reports for the Rhode Island Ocean Special Area Management Plan pp. 705–1041. Wakefield Rhode Island: Rhode Island Coastal Resources Management Council; Northeast Fisheries Science Center and Southeast Fisheries Science Center (NEFSC and SEFSC). 2018. Atlantic Marine Assessment Program for Protected Species: 2010-2014. Appendix I in 2017 Annual Report of a Comprehensive Assessment of Marine Mammal Marine Turtle and Seabird Abundance and Spatial Distribution in US Waters of the Western North Atlantic Ocean – AMAPPS II. Supplement to Final Report BOEM 2017-071. Washington D.C.: U.S. Department of the Interior Bureau of Ocean Energy Management Atlantic OCS Region; Davis G.E. M.F. Baumgartner and P.J. Corkeron. 2020. Exploring movement patterns and changing distributions of baleen whales in the</p>	<p>The best scientific information on NARW occurrence and seasonality from the 2023 NMFS stock assessment report and Duke's marine mammal habitat-based density models (Roberts et al. 2023) is provided in the section. Additional information on this species is provided in the Biological Assessment for the Project.</p>

Comment No.	Comment	Response
	<p>western North Atlantic using a decade of passive acoustic data. <i>Global Change Biology</i> 26:4812–4840. doi:10.1111/gcb.15191; Kraus S.D. S. Leiter K. Stone B. Wikgren C. Mayo P. Hughes R.D. Kenney C.W. Clark A.N. Rice B. Estabrook and J. Tielens. 2016. Northeast Large Pelagic Survey Collaborative Aerial and Acoustic Surveys for Large Whales and Sea Turtles. OCS Study BOEM 2016-054. Final report. Sterling Virginia: U.S. Department of the Interior Bureau of Ocean Energy Management; Meyer-Gutbrod EL Davies KTA Johnson CL Plourde S Sorochan KA Kenney RD Ramp C Gosselin J-F Lawson JW Greene CH. 2022. Redefining North Atlantic right whale habitat-use patterns under climate change. <i>Limnology and Oceanography</i>. doi: https://doi.org/10.1002/lno.12242; O'Brien O Pendleton DE Ganley LC McKenna KR Kenney RD Quintana-Rizzo E Mayo CA Kraus SD Redfern JV. 2022. Repatriation of a historical North Atlantic right whale habitat during an era of rapid climate change. <i>Scientific Reports</i>. 12(1):12407. doi:10.1038/s41598-022-16200-8; O'Brien O.K. McKenna B. Hodge D. Pendleton M. Baumgartner and J. Redfern. 2021a. Megafauna aerial surveys in the wind energy areas of Massachusetts and Rhode Island with emphasis on large whales: Summary Report Campaign 5 2018-2019. OCS Study BOEM 2021-033. Sterling Virginia: US Department of the Interior Bureau of Ocean Energy Management; O'Brien O. K. McKenna D. Pendleton and J. Redfern. 2021b. Megafauna Aerial Surveys in the Wind Energy Areas of Massachusetts and Rhode Island with Emphasis on Large Whales: Interim Report Campaign 6A 2020. OCS Study BOEM 2021-054. Sterling Virginia: U.S. Department of the Interior Bureau of Ocean Energy Management; Quintana E. S. Kraus; and M. Baumgartner. 2019. Megafauna Aerial Surveys in Wind Energy Areas of Massachusetts and Rhode Island with Emphasis on Large Whales: Summary Report Campaign 4 2017–2018. New England Aquarium and Woods Hole Oceanographic Institute.]</p>	

Comment No.	Comment	Response
BOEM-2023-0030-1556-0035	<p>The Draft EIS states that NARWs exhibit strong migratory patterns between high-latitude summer feeding grounds and low-latitude winter calving and breeding grounds.[Footnote 72: AS DEIS at 3.5.6-7.] The Draft EIS also states that not all individuals in the population undergo these migrations and may be found in the Project Area year round. Habitat use patterns have changed significantly (see e.g. previous bullet) and the distribution of many whales remains unknown during much of the year.[Footnote 73: Hayes SA Josephson E Maze-Foley K Rosel PE Wallace J eds. 2022. US Atlantic and Gulf of Mexico marine mammal stock assessments 2021. Woods Hole (MA): U.S. Department of Commerce National Oceanic and Atmospheric Administration National Marine Fisheries Service Northeast Fisheries Science Center. 387 p. Report No.: NOAA Technical Memorandum NMFS-NE-271.]</p> <p>Information is also missing on the population's shift in distribution since 2010. NARW remains one of the most endangered large whale species with the best population estimate at just 340 individuals based on data through August 30 2022.[Footnote 74: Pettis H.M. Pace R.M. III Hamilton P.K. 2023. North Atlantic Right Whale Consortium 2022 Annual Report Card. Report to the North Atlantic Right Whale Consortium.https://www.narwc.org/uploads/1/1/6/6/116623219/2022reportcardfinal.pdf]</p>	<p>The best scientific information on NARW occurrence and seasonality from the 2023 NMFS stock assessment report and Duke's marine mammal habitat-based density models (Roberts et al. 2023) is provided in the section. Additional information on this species is provided in the Biological Assessment for the Project.</p>
BOEM-2023-0030-1556-0039	<p>Within the Draft EIS BOEM asserts that noise from pile-driving activities will likely exceed permanent threshold shift (PTS) and temporary threshold shift (TTS) for all marine mammal functional hearing groups.[Footnote 82: AS DEIS at 3.5.6-44.] Nevertheless, BOEM assumes that marine mammals will avoid the noise caused by pile driving and will therefore be less exposed to underwater noise to the degree that they would not experience PTS and TTS.[Footnote 83: AW DEIS at 3.5.6-44.] We do not believe there is enough evidence to support this assumption and note that while noise may in some circumstances be a deterrent that may cause avoidance behavior other aspects of the offshore wind</p>	<p>The EIS includes mitigation measures to minimize impacts on marine mammals in Section 3.5.6 and Appendix G, <i>Mitigation and Monitoring</i>.</p>

Comment No.	Comment	Response
	<p>development (e.g. potential prey aggregation) could also attract species to the area. BOEM should endeavor to avoid minimize and mitigate impacts to all marine mammal hearing groups in a manner that does not assume reduced impact through avoidance. We encourage BOEM to support research aimed at better understanding how sound exposure relates to avoidance behaviors for various taxa so that more information on this point can be factored into future impact analysis.</p>	
BOEM-2023-0030-1556-0040	<p>We note that behavioral impacts resulting from noise exposure can be significant and the best available scientific information on this matter is not incorporated into the Draft EIS. For example scientific information on NARW functional ecology shows that the species employs a “high-drag” foraging strategy that enables them to selectively target high-density prey patches but is energetically expensive.[Footnote 84: Van der Hoop J. Nousek-McGregor A.E. Nowacek D.P. Parks S.E. Tyack P. and Madsen P “Foraging rates of ramfiltering North Atlantic right whales” Functional Ecology vol. 33 pp. 1290-1306 (2019).] Thus if access to prey is limited in any way including as a result of disturbance or habitat avoidance due to offshore wind development activity the ability of the whale to offset its energy expenditure during foraging is jeopardized.[Footnote 85: Id.] A negative energy budget resulting from reduced foraging success can potentially lead to population-level consequences.[Footnote 86: ee e.g. Christiansen F. Dawson S.M. Durban J.W. Fearnbach H. Miller C.A. Bejder L. Uhart M. Sironi M. Corkeron P. Rayment W. Leunissen E. Haria E. Ward R. Warick H.A. Kerr I. Lynn M.S. Pettis H.M. & Moore M.J. “Population comparison of right whale body condition reveals poor state of the North Atlantic right whale” Marine Ecology Progress Series vol. 640 pp. 1-16 (2020). Stewart J.D. Durban J.W. Knowlton A.R. Lynn M.S. Fearnbach H. Barbaro J. Perryman W.L. Miller C.A. and Moore M.J. “Decreasing body lengths in North Atlantic right whales” Current Biology published online</p>	<p>The EIS considers the potential for interrupted foraging as a result of behavioral disturbance in Section 3.5.6.5.</p>

Comment No.	Comment	Response
	<p>(3 June 2021). Available at: https://www.cell.com/current-biology/fulltext/S0960-9822(21)00614-X; Stewart Joshua D. et al. "Larger females have more calves: influence of maternal body length on fecundity in North Atlantic right whales." <i>Marine Ecology Progress Series</i> 689 (2022): 179-189.] This research provides an indication of the significant impact that disturbance during foraging may have on a marine mammal species.</p>	
BOEM-2023-0030-1556-0041	<p>While we recognize that the waters off New Jersey are not as far as is known a foraging ground for NARWs they are for other species of marine mammals. As noted in Section II.A the adjacent New York Bight is an important aggregation and feeding area for multiple life stages of fin whales and humpback whales primarily during the summer and fall.[Footnote 87: Id.] For this Draft EIS and others that are forthcoming BOEM must fully assess the impacts associated with disturbance of marine mammals during foraging at the spatial and temporal scale those impacts are expected to occur for individual projects and cumulatively across projects. As the energetic requirements of many marine mammal species are not yet known we recommend BOEM proceed with this analysis in a precautionary manner and support research aimed at addressing these knowledge gaps.</p>	<p>The EIS considers the potential for interrupted foraging as a result of behavioral disturbance in Section 3.5.6.5.</p>
BOEM-2023-0030-1556-0052	<p>In a letter submitted to BOEM and National Marine Fisheries Service (NMFS) on January 20 2022 [Footnote 117: Letter from Davenport J. et al. to Amanda Lefton Director Bureau of Ocean Energy Management and Janet Coit Assistant Administrator for Fisheries National Marine Fisheries Service RE: BOEM and NMFS Must Reinitiate Consultation on the Effects of Site Assessment Characterization Activities for Offshore Wind Energy on North Atlantic Right Whales submitted January 20 2022.] a number of our organizations urged both agencies to immediately reinitiate consultation under the ESA based on the best available scientific data and new NARW population number to ensure the mitigation</p>	<p>Consultation for the Atlantic Shores South Project was completed on December 18, 2023, and mitigation measures included in the Biological Opinion were incorporated into the Final EIS. Site assessment activities are outside the scope of this EIS.</p>

Comment No.	Comment	Response
	<p>measures on which BOEM is relying for site characterization and assessment activities are protective enough to reduce risk to right whales. BOEM must update the analyses now in order to comply with the ESA on this and all future Atlantic coast leases. In the interim while consultation is ongoing our groups reinforce the importance of incorporating clear strong environmental measures directly into the NEPA documents and lease stipulations for existing projects on a project-by-project basis. In particular based on the significant information we are already aware of and have presented in this and other letters we urge the agency to incorporate the mitigation measures found in Attachment 1 into upcoming environmental analyses and lease terms.</p>	
BOEM-2023-0030-1571-0003	<p>The cumulative noise of hundreds of turbines being transferred to the water via the monopiles when operating will be an incessant din for the underwater environment. Studies indicate that this noise can be heard above that current ambient level kilometers away. The effect of this noise in such a widespread area isn't well understood as described in Appendix E Analysis of Incomplete and Unavailable Information yet it has been assumed there will be no significant impacts. That conclusion is not justified and is biased toward approval.https://pubs.aip.org/asa/jasa/article/148/5/2885/631772/How-loud-is-the-underwater-noise-from-operatinghttps://pubs.aip.org/asa/jasa/article-split/151/4_Supplement/A239/2838924/Operational-underwater-sound-from-future-offshore</p>	<p>Audibility does not imply behavioral disturbance. Additionally, the range of audibility is highly dependent on ambient sound levels. The Draft EIS does not state that the available studies are too uncertain to make impact determinations but correctly points out the limitations of the current literature, which introduces a level of uncertainty to the conclusions.</p>
BOEM-2023-0030-1571-0004	<p>As the turbine parts wear out the operational noise will increase. As an example, the recent revelation that the Siemens turbines are failing well before their anticipated lifespan. The blade and bearing failure symptoms are vibrations which will translate into even louder incessant noise being injected into the underwater environment.</p>	<p>The assessment of WTG operational noise provided in Section 3.5.6, <i>Marine Mammals</i>, is based on the best available science. To date, there have been no studies published in the scientific literature on how operational noise may change as WTGs age.</p>

Comment No.	Comment	Response
BOEM-2023-0030-1571-0006	Multiple concurrent projects are flooding the coastal zone with seismic sparker and boomer noise. The actual construction operation phases will be even louder and more pervasive. If sparkers are used for military anti-swimmer systems which are designed to cause harm how can there be a conclusion that they haven't harmed animals?	A Project-specific assessment of geotechnical and geophysical survey noise effects was conducted, which utilized source levels from equipment manufacturers or published in the literature and an acoustics tool developed by NMFS. This assessment is presented in Section 3.5.6.5.
BOEM-2023-0030-1580-0001	I am also against the amount of harassment and take permits NOAA has granted. I have concerns that the Marine Mammal Protection Act is being stretched along with the Endangered Species Act in regard to the part this horrific project will play in the extinction of the North Atlantic Right Whale.	The EIS is not intended to be a take assessment. Takes of NARW and other marine mammals are authorized and managed by NMFS through take authorizations and Biological Opinions. If NMFS determines too many takes have been authorized, no further takes will be issued. However, it is not the purpose of the EIS to rule on this topic.
BOEM-2023-0030-1606-0035	While BOEM requires mandatory minimization procedures and marine mammal observers for construction and operation of offshore wind facilities it is not enough. Current minimization measures including passive acoustic monitoring (PAM) via gliders[Footnote 38: MOs crop et al. Vocalization rates of the North Atlantic right whale J. CETACEAN RES. MANAGE. 3(3):271– 282 2001 available at https://www.researchgate.net/publication/268273193_Vocalisation_rates_of_the_North_Atlantic_right_whale] do not account for when marine mammals are not vocalizing. Right whales vocalize frequently. But these vocalizations tend to be “irregular and non-repetitive” and based on activity level.[Footnote 39: [Italics: Id.]] Further it is likely that most known marine mammal mortalities occur via ship-strike.[Footnote 40: Ship Strikes and Right Whales Marine Mammal Commission (last accessed 4/28/2012) available at https://www.mmc.gov/priority-topics/species-of-concern/north-atlantic-right-whale/ship-strikes/] While PAM marine mammal observers shut-down procedures and other mitigation measures can be useful during construction and building spatio-temporal baseline data there is uncertainty regarding right whale behavior and offshore wind	The effects of the presence of structures and vessel traffic are analyzed in Section 3.5.6.5. Uncertainties around the effects of offshore wind on marine mammals are identified in Appendix E, <i>Analysis of Incomplete and Unavailable Information</i> .

Comment No.	Comment	Response
	foundations and vessel activity. The FEIS needs to address this problem.	
BOEM-2023-0030-1606-0048	The geographic analysis area includes the Gulf of Mexico LME because vessel transits between the Lease Area and Corpus Christi Texas may affect species in the Gulf of Mexico. This area is intended to capture [Underlined: the majority of the movement range for most marine mammal species] that could be affected by the Project. However to be protective of marine mammals in the region – all of which are federally protected – BOEM should understand and consider all movements of all marine mammals with regard to the Proposed Action.	As stated in the EIS, the geographic analysis area includes the Canadian Scotian Shelf, Northeast Shelf, Southeast Shelf, and Gulf of Mexico LMEs. This geographic analysis area encompasses the movement range of all marine mammal species that may be affected by the Project.
BOEM-2023-0030-1606-0050	Of the 50 species that are known to occur or could occur in the northwest Atlantic OCS 35 have documented ranges that include the Offshore Project area (Table 3.5.6-1). For the purposes of the description of the affected environment in this Draft EIS the focus is on the 9 species of marine mammals that would be likely to have regular or common occurrence in the Offshore Project area as well as two additional ESA-listed species expected to experience acoustic effects of the Proposed Action (i.e. sei whale and sperm whale). What about the impacts of the remaining 41 species known to occur in the region? BOEM falls short in this section of reviewing the impacts to all potentially affected marine mammals identified in the region.	As stated in the EIS, “For the purposes of the description of the affected environment in this Draft EIS, the focus is on the 9 species of marine mammals that would be likely to have regular or common occurrence in the Offshore Project area, as well as two additional ESA-listed species expected to experience acoustic effects of the Proposed Action (i.e., sei whale and sperm whale). Other marine mammal species are not described further in this subsection but are included in the impact assessments below.”
BOEM-2023-0030-1606-0051	Further not much is about acoustic impacts to baleen whales.	Acoustic impacts to all marine mammal species that may be affected by the Project, including baleen whales, are assessed in Section 3.5.6.5.
BOEM-2023-0030-1606-0052	Four additional odontocete taxa—Atlantic spotted dolphin Atlantic white-sided dolphin pilot whales and Risso’s dolphin—are expected to experience acoustic effects of the Proposed Action (Section 3.5.6-8). However impacts to these animals were not discussed in the body of this section. What are the expected impacts?	Acoustic impacts to all marine mammal species that may be affected by the Project, including these four species, are assessed in Section 3.5.6.5. Specifically, acoustic impacts for these species are quantified in Tables 3.5.6-9, 3.5.6-12, and 3.5.6-15.

Comment No.	Comment	Response
BOEM-2023-0030-1606-0053	Clean Ocean Action compiled the marine mammals impacted by all active in process and expired take authorizations since 2014 off the NY/NJ coast and East Coast for offshore wind projects. In the NY/NJ Bight 689061 total marine mammal takes have been proposed authorized and expired for offshore wind energy projects. Unfortunately BOEM and NMFS by consultation do not consider cumulative impacts from taking authorizations into account for environmental review processes.	The EIS is not intended to be a take assessment. Takes of NARW are authorized and managed by NMFS through take authorizations and Biological Opinions. If NMFS determines too many takes have been authorized, no further takes will be issued. However, it is not the purpose of the EIS to rule on this topic.
BOEM-2023-0030-1606-0054	Studies have shown that construction noise related to offshore wind facilities (especially pile driving) may cause behavioral changes and negative impacts on seals porpoises dolphins and whales. Volume 1 Ch. 3.5.6 states that direct measurements of mysticetes (baleen whale) hearing are lacking and that initial stock assessments of many of the marine mammal populations are lacking or nonexistent. With such a lack of background information on populations and their potential impact from noise pollution how will accurate protection of marine mammals take place including for avoidance and mitigation? Protective measures such as bubble curtains have shown no success in reducing impact to baleen whales in particular.	The analysis presented in Section 3.5.6.5 of the EIS is based on the best available science and includes consideration of the mitigation measures in Section 3.5.6.9. Information on incomplete or unavailable information on marine mammals is available in Appendix E, <i>Analysis of Incomplete and Unavailable Information</i> , of the EIS. Additional information mitigation and monitoring efforts for marine mammals, is available in Appendix G, <i>Mitigation and Monitoring</i> , of the EIS and the Biological Assessment for the Project.
BOEM-2023-0030-1606-0055	Disruption effects on marine mammals have been measured up to 20 miles from the construction site. Four odontocete taxa—Atlantic spotted dolphin Atlantic white-sided dolphin pilot whales and Risso’s dolphin—are expected to experience acoustic effects of the Proposed Action according to the DEIS. However information on these mammal populations and the specific impacts to each species are not mentioned in the body of text since they are “uncommon” in the project area.	Population information for these species has been added to Table 3.5.6-3. As stated in the EIS, the impact assessment presented in Section 3.5.6 includes all species of marine mammals that could be affected by the Project.
BOEM-2023-0030-1606-0062	In addition Table 3.5.6-5 displays impact level definitions for marine mammals. These qualitative descriptions leave a lot of wiggle room for subject matter experts. Further in Table 3.5.6-6. Severe intensity impact is defined by “One or more death or injury of a species at risk” but in Appendix G BOEM	A ‘species at risk’ is a species whose population could not sustain the loss of an individual without jeopardizing the population (e.g., NARW). Therefore, sturgeon and sea turtles are not considered ‘species at risk.’

Comment No.	Comment	Response
	mentions catch of sturgeons and turtles (dead or alive) used for sampling. Why doesn't this qualify turtles or sturgeon (or marine mammals if they can be linked eventually to OSW) as severely impacted?	
BOEM-2023-0030-1606-0066	Table 3.5.6-8 exhibits the estimated number of marine mammals exposed to HRG survey noise exceeding the behavioral threshold. The DEIS states "Results of the noise evaluation for HRG survey activity indicate that marine mammals exposed to sound levels exceeding the behavioral threshold over 5 years of surveys range from up to 5 Atlantic spotted dolphins humpback whales NARWs Risso's dolphins sei whales and sperm whales to as many as 1125 bottlenose dolphins from the offshore stock." This chart indicates 3080 individual marine mammals will experience behavioral changes in the project area over the 5-year window. What are they? The behavioral changes are not fully understood.	The best available scientific information on the behavioral responses of marine mammals to noise, including HRG survey noise, is provided in Section 3.5.6, <i>Marine Mammals</i> .
BOEM-2023-0030-1606-0067	In addition The Draft EIS primarily relies on a comprehensive paper by Southall (Southall 2021) which is a compendium of several research studies to estimate likely PTS TTS and Exposure Ranges to marine mammals. While this is a reasonable approach it does not completely address the urgent and priority concerns pertaining to ALL marine mammals in the project area and its vicinity. Southall(2021) [<i>Italics and Underlined: DOES NOT</i>] address baleen whales and the DEIS not addressing this category specifically and relying on supplementary information is a glaring omission.	The EIS relies on established regulatory thresholds and guidance from NMFS to estimate exposure ranges and PTS and behavioral disturbance exposures.
BOEM-2023-0030-1606-0068	The DEIS states[<i>Italics: Considering all IPFs together BOEM anticipates that the cumulative impacts would result in minor impacts on odontocetes and pinnipeds moderate impacts on mysticetes other than NARW and moderate to major impacts on NARW. BOEM made this determination because the anticipated impact would be notable and measurable but most marine mammals are expected to recover completely when IPF stressors are removed and remedial or mitigating actions are taken. However impacts on individual NARWs</i>	The statements about NARW habitat pertain to designated critical habitat. Effects on NARW critical habitat are assessed in more detail in the Project's Biological Assessment.

Comment No.	Comment	Response
	<p>could have severe population-level effects.[Footnote 56: Bureau of Ocean Energy Management “Atlantic Shores Offshore Wind South Draft Environmental Impact Statement” BOEM 2023-0029 Docket Number: BOEM-2023-0030 May 2023 Volume 1: Chapters 1-4 page]]This again seems contrary to the introductory statements that the NARW habitat will not be critically affected. Are the potential cascading effects of functionally removing a species like the NARW being considered? Again scientists warn that “not one” NARW can be impacted to ensure the continuation of the species. While not as dire for other species the cumulative impacts of offshore wind energy development must be carefully considered for all species especially those that are endangered threatened or protected.</p>	
BOEM-2023-0030-1606-0070	<p>An equally important concern that could cause potential harm to marine life are the intakes and discharges related to cooling offshore wind conversion stations for Atlantic Shores South as well as cumulatively the intakes and discharges from other offshore wind projects.[Footnote 61: Vineyard Wind 1 Offshore Wind Supplemental Environmental Impact Statement 1-2 (2020).] This has not been given enough attention considering that the lifetime of the Project is 25-30 years and the impacts are great to marine life. The Draft EIS acknowledges that potential effects are likely and include altered micro-climates of warm water surrounding outfalls altered hydrodynamics around intakes/discharges prey entrainment and association with intakes if prey are aggregated on intake screens from which marine mammals scavenge. However it concludes that these long- term impacts would be localized and low in intensity. What were the references used to determine this conclusion?</p>	<p>Atlantic Shores is evaluating both HVAC and HVDC transmission options. If the HVDC option is selected, Atlantic Shores has committed to closed cycle cooling for its OSSs.</p>
BOEM-2023-0030-1606-0096	<p>For MAR-12 “soft starts will be considered for impact pile driving” these should be required to deter any marine life and allow adequate time for them to move out of impact range. Also for both MAR- and SEA- sections there are mentions of</p>	<p>A combination of visual monitoring using PSOs and PAM will be utilized during certain activities to improve detection of marine mammals and sea turtles during construction of the Proposed Action. The impact determinations provided in</p>

Comment No.	Comment	Response
	vessel avoidance measures using Protected Species Observers (“PSO”) and Passive Acoustic Monitoring (“PAM”) devices. How accurate are these combined efforts in identifying all the individuals in the monitoring zone? It can be very difficult to see a marine mammal or sea turtle from a distance if you are not looking in the right place at the right time when they surface. If no vocalizations occur during the time frame they are monitoring (e.g. 30 min?) the animals may go unnoticed.	Section 3.5.6 include the mitigation measures described in 3.5.6.9. More detailed evaluations of the mitigation measures are provided in the Biological Assessment for the Project.
BOEM-2023-0030-1622-0005	Studies have already been done on whales & dolphins (over 20 years ago) but you refuse to acknowledge them...why?	The description of the affected environment and impact assessments presented in Section 3.5.6, <i>Marine Mammals</i> , is based on the best available scientific information available, including long-term datasets on marine mammals.
BOEM-2023-0030-1689-0003	The Atlantic Shore South project is not happening in isolation. BOEM and the consulting agencies had failed to take a comprehensive holistic approach to offshore wind development and its consequential impacts to the marine ecosystem and the communities reliant on it. Let's put this in perspective. On the Atlantic Outer Continental Shelf 2.27 million acres of sea space has already been leased. 1.4 million acres of that is in the mid-Atlantic. Over 600000 level B harassment authorizations have been requested or approved for marine mammals from offshore activities. The definition of level B harassment includes behavioral disturbance or temporary hearing loss not serious injury or mortality. There are over 1500 level A harassments approved and are currently in the pipeline with the Office of Protected Resources.	The cumulative impacts of the Project, which includes impacts of Atlantic Shores South combined with other offshore wind projects, are assessed in Section 3.5.6.5. The Draft EIS is not intended to be a take assessment. Takes of NARW are authorized and managed by NMFS through take authorizations and Biological Opinions. If NMFS determines too many takes have been authorized, no further takes will be issued. However, it is not the purpose of the EIS to rule on this topic.
BOEM-2023-0030-1748-0003	I have been told after starting to drive the monopile the process can't and won't be stopped even if there is a North Atlantic Right Whale spotted in the area otherwise it will be a failed foundation. This is one example of folks concerned for an animal pushed to the brink of extinction. The cumulative noise of hundreds of turbines being transferred to the water via mono piles -- I am going to run out of time. The ongoing ambient noise I think is a concern that should be addressed.	An assessment of the impacts of pile driving noise on marine mammals, including NARW, is included in Section 3.5.6.5 of the EIS.

Comment No.	Comment	Response
BOEM-2023-0030-1767-0001	So just by way of example and just one example with respect to noise impacts to marine mammals the modeling scenarios are noted to be limited to only two studies available with quote a high degree of uncertainty. The section goes on to say that monitoring studies would provide insight here but alas those will come too late for the impacted species. The appendix goes onto read in this section and other sections as well it is not possible to confidently predict long term impacts of noise on marine mammals and despite this uncertainty in the underlying data I do see repeatedly categorization of impacts from negligible to minor to moderate despite the absence of data. I believe those need to be corrected to either unknown or uncertain because they are obviously just not known at this time.	The assessment of operational WTG noise provided in Section 3.5.6, <i>Marine Mammals</i> , is based on the best available science, which is sufficient to make impact determinations for effects of the Project on marine mammals. Information on incomplete or unavailable information on marine mammals is available Appendix E, <i>Analysis of Incomplete and Unavailable Information</i> .
BOEM-2023-0030-1774-0004	Some examples of missing information in my mind include the need for peer reviewed studies to determine the cause of the unprecedented number of whale deaths future impacts of noise on marine mammals the interference with national defense and associated DOD operations off the east coast inclusion of alternative clean energy development on shore as part of the no action alternative and how the project compares to and analysis of how the project provides affordable and reliable clean energy when compared to clean on shore alternatives.	Noise impacts on marine mammals are assessed in Section 3.5.6, <i>Marine Mammals</i> . Impacts on military use are assessed in Section 3.6.7, <i>Other Uses</i> . Onshore clean energy development and affordable energy costs are outside the scope of this EIS.
BOEM-2023-0030-1787-0005	There are countless impacts that have been inadequately studied if at all yet the projects are moving at a reckless pace. The DEIS only covers impacts of Atlantic Shores one and two but not the total impacts associated with offshore wind along the east coast where many marine mammals live and migrate annually.	The cumulative impacts of the Project, which includes impacts of Atlantic Shores South combined with other offshore wind projects, are assessed in Section 3.5.6.5.
BOEM-2023-0030-2014-0009	I would again point out the extremely vulnerable nature of the approximately 350 North Atlantic Right Whales left in the entire world. The potentially devastating impact of the vast industrialization project itself and its on-going adverse effects from a noise perspective and otherwise would be set in	The critical status of the NARW population is not in question. The EIS clearly describes the population of the NARW as well as the existing threats to its existence, principally from fishing gear entanglement and vessel strikes.

Comment No.	Comment	Response
	irreversible motion by the ongoing operation of the wind turbines themselves.. The draft environmental statement does not recognize legal and moral standing of such an invaluable threatened species whose inspirational value beauty and potential worth as to the bio-diversity of our planet and to life itself cannot be overstated. It is "not a stretch" when one considers the absolutely critical and extremely valuable nature of medicines derived from another New Jersey Coast creature the Horseshoe Crab whose serum is utilized in saving countless human lives. To discount undervalue if not ignore the value of a critically endangered species shuts off forever the potential hypothetical contribution of that species to the furtherance of mankind bio-diversity and to all life.	

N.6.11 Sea Turtles

Table N.6-11. Responses to Comments on Sea Turtles

Comment No.	Comment	Response
BOEM-2023-0030-1439-0002	We raise grave concerns about the specter of potential harmful impacts and deaths of marine species particularly the critically endangered Right whale and marine turtles due to unavoidable collisions and injuries with the wind farms fixed solid base structures during severe storms and hurricanes. According to NOAA's data at no time does NOAA and BOEM have verified on site data regarding this subject in this area of Atlantic oceans "Hurricane alley." Any source of blunt force trauma must be avoided or minimized as per NEPA MMPA ESA and NOAA requirements. Endangered species will now be exposed to acres of ocean containing hundreds of maze like fixed windfarm bases in their paths and migratory routes during hurricanes and storms unknown to them. During extreme weather currents generated can propel whales and turtles into these solid base structures. Severe impact collisions will cause major trauma resulting in instant or	There is no evidence to indicate that hurricanes will cause sea turtles to collide with offshore wind structures. Studies suggest that sea turtles will often move out of the path of the storm; those that remain move to deeper waters and extend dive times to avoid effects of the storm (e.g., Crowe et al. 2020). Given the depths in the Lease Area, where offshore structures for the Project would be located, any sea turtles remaining in the Lease Area during a hurricane would be able to dive to avoid hurricane effects. Due to the minimum spacing of 0.6 nautical mile between wind turbines, the movement and migration of sea turtles would not be physically obstructed within the windfarm.

Comment No.	Comment	Response
	eventual death for protected species. Protected turtles will be macerated.	
BOEM-2023-0030-1542-0013	BOEM must continue to monitor and mitigate impacts from electromagnetic fields (EMFs) created by power cords connecting turbines to each other and to land. Many ocean species can detect EMFs and some have been shown to change their behavior because of EMFs including fish sharks turtles and marine mammals. [Footnote 20: BOEM. 2011. Effects of EMFs from Undersea Power Cables on Elasmobranchs and Other Marine Species. Available at: www.boem.gov/ESPIS/4/5115.pdf].	Potential effects associated with EMF produced by the Proposed Action were evaluated in Section 3.5.7.5 of the EIS.
BOEM-2023-0030-1542-0015	For each of the environmental impacts listed above BOEM must analyze and mitigate them seasonally as different species have varied sensitivities at different times of the year. Mitigation options to address seasonal movements of marine species must be assessed.	As described in Section 3.5.7.5, mitigation measures proposed by the Applicant and required by BOEM reduce potential impacts to sea turtle species such that impacts on sea turtles from the Proposed Action are limited to negligible to minor impacts on individual sea turtles. No stock- or population-level effects are anticipated, indicating that the mitigation measures currently evaluated are expected to be sufficient to protect sea turtle species. When available and applicable to the assessment of potential impacts, information from studies in the scientific literature was cited to address the seasonal aspects of sea turtle biology.
BOEM-2023-0030-1556-0037	Loggerhead leatherback Kemp's ridley and green turtles are all expected to occur in the Project Area. BOEM states that seasonal densities of turtle species were derived from New York State Energy Research and Development Authority (NYSERDA) data.[Footnote 78: AS DEIS at 3.5.7-3.] NYSERDA surveys were conducted at high altitudes (1000 ft) making it difficult to both detect sea turtles as well as identify to the species level.[Footnote 79: NMFS flies their stock assessment surveys (AMAPPS) at 600 ft to maximize detections of cetacean and turtle species. NEFSC and SEFSC. 2021. 2020 Annual report of a comprehensive assessment of marine mammal marine turtle and seabird abundance and spatial distribution in US waters of the Western North Atlantic	Seasonal density data for sea turtles is included in the Project's Biological Assessment, which was reviewed by NMFS during ESA consultation that concluded on December 18, 2023. These data represent the best scientific information available when the Biological Assessment was submitted and were utilized by NMFS in its Biological Opinion; therefore, these data are the basis for the assessment in the EIS. The data from Duke's geospatial ecology lab is updated but has not been vetted by NMFS' Greater Atlantic Regional Fisheries Office. Once the Navy data are released, they will be reviewed and incorporated if deemed appropriate.

Comment No.	Comment	Response
	<p>Ocean: AMAPPS III.] The Navy is releasing updated sea turtle density models soon and federal agencies can request access to these data. BOEM should request access and these data should be used to inform estimates for the Project Area.</p>	
BOEM-2023-0030-1556-0038	<p>BOEM has determined through its impact analysis that impacts will be “negligible to minor; minor beneficial” for sea turtles.[Footnote 80: AS DEIS at ES-16 Table ES-2.] The analysis for the no action alternative has an overall “negligible to minor” impact determination which is not consistent with some other EIS determinations that describe their no action alternative/baseline conditions as having moderate impact.[Footnote 81: E.g., Coastal Virginia Offshore Wind Commercial (CVOW-C) and New England Wind. See CVOW-C DEIS at S-15 and New England Wind DEIS at 3.8-16.] Notably vessel strikes gear entanglement/bycatch are significant impacts to these species and are part of baseline conditions.</p>	<p>This impact determination is in agreement with other recently published Final EISs (see Ocean Wind 1) and consistent with the impact level definitions in Section 3.5.7.2. Ongoing and planned activities may result in injury or loss of individual sea turtles (e.g., due to vessel strike or entanglement/bycatch), but these impacts are not expected to result in population-level effects for these species.</p>
BOEM-2023-0030-1606-0041	<p>In addition the DEIS states “Pile driving is expected to occur for up to [Underlined: 7 to 9 hours at a time for monopiles and 3 to 4 hours at a time for pin piles] as 2974 WTGs and 39 OSSs/ESPs and met towers are constructed between 2023 and 2030 (Appendix D Tables D.A2-1 and D.A2-2). The intense impulsive noise associated with impact pile driving [Underlined: can cause behavioral or physiological effects]. Potential behavioral effects of pile-driving noise include altered dive patterns short-term disturbance startle responses and short-term displacement ([Underlined: NSF and USGS 2011; Samuel et al. 2005]). These studies are outdated. What current studies are available? Also potential physiological effects include temporary stress response and close to the pile- driving activity TTS or PTS. Behavioral effects and most physiological effects are expected to be of short duration and localized to the ensonified area. PTS could permanently limit an individual’s ability to locate prey detect predators or find mates and could therefore have long- term</p>	<p>Studies on sea turtle behavioral responses to pile driving noise are limited. The studies cited in the EIS represent the best available scientific information. The displacement described in the assessment is expected to occur during the construction period and would therefore be short-term.</p>

Comment No.	Comment	Response
	<p>effects on individual fitness. [Bold and Underlined: BOEM expects that sea turtles would be displaced for up to 18 hours per day during foundation installation] depending on the type of WTG OSS ESP or met tower foundation.” BOEM’s 18-hour estimate for daily sea turtle displacement is nearly the duration of a full day. It is important to consider then if these activities will occur daily. If so at what point does this displacement become permanent?</p>	
BOEM-2023-0030-1606-0044	<p>There are additional impacts to sea turtles not adequately addressed in the DEIS.a. [Bold and Italics: Electromagnetic Fields] The EMFs produced by cables have the potential to affect sea turtle migration because they are known to possess geomagnetic sensitivity and use cues from Earth’s magnetic field for orientation navigation and migration. Sea turtles are able to detect certain thresholds of magnetosensitivity which can cause behavioral responses that vary by species. Juvenile and adult sea turtles may detect the EMF when resting on the bottom or foraging on benthic organisms near cables or concrete mattresses. There is little to no data on impacts on sea turtles from EMFs however many studies show prey species being impacted by EMF.</p>	<p>The effects of EMF are evaluated in Section 3.5.7.5 of the EIS based on the best available scientific information. EMF effects on prey species are evaluated in Sections 3.5.2 and 3.5.5.</p>
BOEM-2023-0030-1606-0045	<p>b. [Bold and Italics: Habitat Disruption] The geographic analysis area for Atlantic Shores DEIS does not include all areas that could be transited by Project vessels (e.g. it does not consider vessel transits from Europe or from parts of the Gulf of Mexico). The geographic and temporal distribution of sea turtle species in the NY/NJ Bight is limited. Again BOEM expects that “sea turtles would be displaced for up to 18 hours per day during foundation installation depending on the type of WTG OSS ESP or met tower foundation.” Also wind turbines have the potential to act as navigational hazards to Sea turtles which could disrupt their migration foraging and mating behaviors. Displacement from their currently designated critical habitat within the project area will result in cascading trophic effects.</p>	<p>The geographic analysis area for Atlantic Shores includes the Gulf of Mexico Large Marine Ecosystem, as shown on Figure 3.5.7-1, to capture vessel transits to and from the Gulf of Mexico. No transits to and from Europe are anticipated for the Proposed Action. Potential displacement associated with Project activities as well as other potential effects associated with the presence of structures are evaluated in Section 3.5.7.5 of the EIS. Any displacement would be limited to the offshore Project area, and there is no designated critical habitat for any sea turtle species in the offshore Project area.</p>

Comment No.	Comment	Response
BOEM-2023-0030-1606-0047	[and Italics: Noise from construction and operation] The intense impulsive noise associated with impact pile driving [<u>can cause behavioral or physiological effects</u>]. Potential behavioral effects of pile-driving noise include altered dive patterns short-term disturbance startle responses and short-term displacement (<u>NSF and USGS 2011; Samuel et al. 2005</u>). Potential physiological effects include temporary stress response and close to the pile-driving activity TTS or PTS. Studies on sea turtle hearing frequencies and ability to perceive noise from the proposed actions is limited to studies that are over ten years old with small sample sizes outside local project area.	Studies on sea turtle hearing are limited. The studies on sea turtle hearing utilized in the EIS represent the best available scientific information.
BOEM-2023-0030-1606-0062	In addition, Table 3.5.6-5 displays impact level definitions for marine mammals. These qualitative descriptions leave a lot of wiggle room for subject matter experts. Further in Table 3.5.6-6. Severe intensity impact is defined by “One or more death or injury of a species at risk” but in Appendix G BOEM mentions catch of sturgeons and turtles (dead or alive) used for sampling. Why doesn’t this qualify turtles or sturgeon (or marine mammals if they can be linked eventually to OSW) as severely impacted?	As noted in the definition, the severe intensity criteria is applied when a project is likely to result in the injury or death of <i>species at risk</i> . Species at risk are those for which the death or injury of a single individual may jeopardize the continuation of the species. Sea turtles (and Atlantic sturgeon) are not considered species at risk as their populations would not be jeopardized by the loss or injury of a single individual.

N.6.12 Wetlands

Table N.6-12. Responses to Comments on Wetlands

Comment No.	Comment	Response
BOEM-2023-0030-1542-0014	Drilling Fluids During the Horizontal Directional Drilling (HDD) segment of the Project when the power cable comes ashore BOEM must monitor closely for release of drilling fluids and mandate only the use of nontoxic and natural drilling fluids. Likewise, any lubricants greases oils or coolants used on the	All HDD activities will require the preparation and implementation of an Inadvertent Returns Contingency Plan. The Inadvertent Returns Contingency Plan identifies measures that will be taken prior to or during construction to control, contain, and collect any inadvertent drilling fluid

Comment No.	Comment	Response
	<p>turbines and substations themselves must be as nontoxic as possible and closely monitored for any leakage.</p>	<p>returns and minimize impacts to environmentally sensitive areas. See NJDEP Science Advisory Board report on HDD (FINAL REPORT HORIZONTAL DIRECTIONAL DRILLING) for inadvertent returns and their potential environmental impacts.</p> <p>EIS Section 3.4.2.5, <i>Impacts of Alternative B – Proposed Action on Water Quality</i>, analyzes accidental releases and drilling fluids. The wind turbine generators (WTGs) and offshore substations (OSSs) are generally self-contained and do not generate discharges under normal operating conditions. In the event of a spill related to an allision or other unexpected or low-probability event, impacts on water quality from discharges from the WTGs or OSSs during operation would be short term. Additionally, Atlantic Shores has developed and would implement its Oil Spill Response Plan (OSRP) that meets USCG and the 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 plan was written to comply with all federal, state, and local oil spill response regulations.</p> <p>Atlantic Shores considers numerous factors in the selection of technology and suppliers for its Projects, including technical suitability and maturity, safety, environmental, and community considerations, installation, operations, and maintenance considerations, economic and supply chain factors, and supplier qualifications.</p> <p>At this time, Atlantic Shores is still in the process of evaluating available technology and suppliers for use on its Projects and is not able to share further information at this time.</p>

Comment No.	Comment	Response
BOEM-2023-0030-1606-0082	Specific mitigation of impacts to wetlands seagrass beds and other habitat are not specifically analyzed in the DEIS.	<p>EIS Sections 3.5.2, <i>Benthic Resources</i> and 3.5.5, <i>Finfish, Invertebrates and Essential Fish Habitat</i>, analyze potential impacts to submerged aquatic vegetation (SAV), including seagrass resources.</p> <p>Atlantic Shores has designed its route and utilized Horizontal Directional Drilling (HDD) when required to avoid impacts to known areas of SAV. HDD will be used for cable installation at inshore portions of the export cable routes where necessary to avoid impacts on wetlands located along the Atlantic and Monmouth export cable routes and on seagrass resources located along the estuarine portion of the Atlantic export cable route.</p> <p>To the extent practicable, Atlantic Shores will use appropriate installation technology designed to minimize disturbance to the seabed and sensitive habitat (such as beaches and dunes, wetlands and associated buffers, streams, hard-bottom habitats, seagrass beds, and the near-shore zone); avoid anchoring on sensitive habitat; and implement turbidity reduction measures to minimize impacts on sensitive habitat from construction activities.</p>

N.6.13 Commercial Fisheries and For-Hire Recreational Fishing

Table N.6-13. Responses to Comments on Commercial Fisheries and For-Hire Recreational Fishing

Comment No.	Comment	Response
BOEM-2023-0030-0213-0009	Further climate change advocates often cite the impact of climate change in reducing food supply. Proceeding with the proposed project and with the other offshore wind projects proposed for the East Coast will remove the availability of the protein harvested from an area greater than the size of	As summarized in Table 3.6.1-36, the average annual revenue exposure of commercial fisheries from OSW projects in the Greater Atlantic region was estimated to peak at \$33.5 million in 2029, when construction of the last planned OSW facility would begin; this represents 1.9 percent of the total

Comment No.	Comment	Response
	Rhode Island. The issue of impact on food supply needs to be addressed in the DEIS from a project specific and cumulative impacts point of view.	revenue harvested by commercial fisheries in the Greater Atlantic region. While this is a substantial amount of revenue exposure that will result in significant impacts on commercial fisheries, including a potential reduction in landed biomass, the exposure of less than 2 percent of commercial fisheries revenue (and associated landings) is not expected to jeopardize the food supply.
BOEM-2023-0030-0213-0033	Also reduction in the availability of protein production resulting from the project needs to be addressed on a project specific and cumulative basis. Removing the massive area along the East Coast from commercial fisheries and the resultant loss of protein production should be accounted for.	See response to prior comment.
BOEM-2023-0030-0216-0001	I listened to the hearing in Wildwood Convention Center hosted by U.S. Rep. Jefferson Van Drew (R-NJ2nd). A man whose business is directly tied to commercial fishing (clamming) cited the damage to the seabed by the foundations of the turbines and the inability of vessels to trawl between the structures.	As described in Section 3.6.1.5, the presence of structures associated with the Proposed Action (i.e., cable/scour protection, WTG/OSS foundations) is expected to result in long-term, moderate to major impacts on commercial fisheries. Impacts are expected to primarily result from reduced access to traditional fishing grounds and increased risk of fishing gear damage or loss.
BOEM-2023-0030-0513-0003	And last but not least a recent study published by the Federal Government indicates that the wind turbine project scheduled for the NJ shore will have an unavoidable adverse impact on NJ's fishing industry. The NJ commercial fishing industry brings in an estimated \$4.5 billion annually from fisheries aquaculture and recreational fishing. This is part of \$50 billion-a-year "Coastal Zone" sector of the state's economy which employs one out of every six people working in NJ.	As summarized in Table 3.6.1-16, New Jersey ports are expected to be the most heavily impacted by the Proposed Action, with commercial revenue exposure of New Jersey ports to the Lease Area exceeding \$200,000 per year. As provided in Table 3.6.1-39, Atlantic Shores will be required to conduct an analysis of impacts on shoreside seafood businesses in ports that are expected to be impacted by the Proposed Action. Further, Atlantic Shores will be required 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.

Comment No.	Comment	Response
BOEM-2023-0030-0826-0009	11-Will recreational boats be guaranteed they can go between turbines/wind farms?12-Will commercial boats be allowed to fish in wind farms?	All vessels will be allowed to transit and fish within the Lease Area once construction has been completed.
BOEM-2023-0030-0826-0012	18-The Jersey Shore is home to over \$700 billion in coastal properties and the tourism industry generates almost half a million jobs nearly ten percent of New Jersey’s entire workforce. New Jersey’s commercial fishing industry generates over \$7.9 billion annually supporting over 50000 jobs. I found this on Cory Bookers Website. How much loss to these industries will we expect if OFW prevails in our Atlantic Ocean? 19- Has any studies been done for OSW Farms of this magnitude on an industrialization of the ocean and how that will damage ecosystems and wildlife? 20- What are the long term effects on the fishing and tourism industries?	<p>As summarized in Table 3.6.1-16, New Jersey ports are expected to be the most heavily impacted by the Proposed Action, with commercial revenue exposure of New Jersey ports to the Lease Area exceeding \$200,000 per year. Other nearby OSW projects (e.g., Ocean Wind) will also contribute to revenue exposure in New Jersey’s commercial fishing industry. Additional revenue losses are expected to accrue from impacts of the Proposed Action on shoreside seafood businesses.</p> <p>As described in Section 3.6.1.5, the primary impacts of the Proposed Action on commercial and recreational fisheries would result from the presence of structures, including the cable/scour protection and the WTG/OSS foundations. The presence of these structures is expected to result in long-term, moderate to major impacts on commercial fisheries. Impacts are expected to primarily result from reduced access to traditional fishing grounds and increased risk of fishing gear damage or loss.</p>
BOEM-2023-0030-0916-0193	The DEIS should therefore estimate the socio-economic costs to the local communities -such as the impacts on tourism rentals and property values and to local commercial and recreational fisheries. Those subjects are addressed qualitatively but not quantified.	As provided in Table 3.6.1-39, Atlantic Shores will be required to conduct an analysis of impacts on shoreside seafood businesses in ports that are expected to be impacted by the Proposed Action.
BOEM-2023-0030-0916-0211	Beyond that the impact on the Cold Pool both off the New Jersey coast and more broadly off the mid-Atlantic shelf from this project and in conjunction with the other foreseeable offshore wind projects must be carefully assessed. As mentioned in the July 22 2020 report of the Science Center for Marine Fisheries Management (a project funded by the National Science Foundation) in its critique of the BOEM Supplementary Environmental Impact Statement for the	Potential changes in water circulation patterns from OSW foundations and associated impacts on the Cold Pool are discussed in subsection 3.5.5.3 of Section 3.5.5, <i>Finfish, Invertebrates, and Essential Fish Habitat</i> of the EIS. As noted in that Section, impacts on the stability of the Cold Pool are possible, particularly during periods when stratification of the Cold Pool is weaker (e.g., spring formation and fall dissipation). Studies of large-scale OSW installations in

Comment No.	Comment	Response
	<p>Vineyard Wind Project: “Too much attention cannot be given to the Cold Pool” and “The weakening of the Cold Pool supports the potential of generating the most catastrophic ecological event on the continental shelf the world has ever seen”. The potential impact of this and other such wind projects on the Cold Pool should be clearly understood before this or any new projects are permitted.</p>	<p>European waters have observed reductions in stratification, suggesting that impacts on the mid-Atlantic Cold Pool are possible. However, the strength of stratification associated with the Cold Pool (temperature differences between the surface and the Cold Pool reach 18°F) may buffer against the effects of increased mixing.</p> <p>BOEM is currently conducting research to understand the potential cumulative impacts to physical oceanography and transport processes from commercial scale development of offshore wind. This research will use hydrodynamic models to examine oceanographic conditions prior to OSW construction, post-installation of a single facility, and post full build-out of all current offshore lease areas, using representative turbine array layouts. A full description of this research is available at: https://www.boem.gov/sites/default/files/documents/environment/environmental-studies/Offshore-Wind-Impacts-Oceanographic-Processes-North-Carolina-New-York.pdf.</p>
BOEM-2023-0030-0926-0006	<p>According to the DEIS there will be a major negative impact on the commercial and recreational fishing industries? How do you justify this impact on another major driver of our local economy?</p>	<p>As provided in Section 3.6.1.5, BOEM expects that the impacts resulting from the Proposed Action would range from moderate to major on commercial fisheries and minor to moderate on for-hire recreational fisheries, depending on the fishery and fishing vessel. To mitigate these impacts, Atlantic Shores will be required 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 (see Table 3.6.1-39).</p>
BOEM-2023-0030-1038-0003	<p>As the most valuable fishing port in the nation and the hub for countless onshore businesses and families who rely on the industry we believe that it is vital that the actual impact of the development of offshore wind on the economy and</p>	<p>BOEM will continue to rely on the best available science in developing EISs for future OSW projects and will incorporate new information on impacts of OSW projects as it becomes available. However, once the EIS for a given project is</p>

Comment No.	Comment	Response
	<p>people of Massachusetts be established and addressed in the EIS and COP documents issued by BOEM. This means using the latest science methods and information to truly measure the impact of this project on our fishing industry and those that support it. This includes a commitment to using ongoing research and data to support or disprove the claims made by developers and accepted by BOEM. Both the EIS and the COP acknowledge the unknowns in connection with the impact of offshore wind on commercial fishing. It is imperative that BOEM commit to and include in any COP or EIS the ability to revisit claims or assumptions made in these documents and address any deficiencies when they are found. Commercial fishermen and the communities they support are the people who most adversely affected if the pre-development assumptions put forward by the developers and accepted by BOEM are wrong and 30 years is far too long a time to leave incorrect data and assumptions in place when people's livelihoods are at stake.</p>	<p>finalized, the established permit conditions will not be subject to change.</p> <p>For the Proposed Action, Atlantic Shores will be required to conduct an analysis of impacts to shoreside seafood businesses in ports that are likely to be affected (see Table 3.6.1-39) and to establish a fisheries compensation fund that is, in part, based on estimated impacts to these shoreside businesses. This is expected to provide a better characterization of the actual impact of the Proposed Action than the ex-vessel revenue exposure alone would.</p>
BOEM-2023-0030-1223-0010	<p>We also urge BOEM to adopt the recommendations provided by NOAA Fisheries for this project including recommendations for data considerations impacts analysis and ways to minimize the negative impacts of this project on marine habitats commercial and recreational fisheries and fishery species</p>	<p>In developing the EIS for Atlantic Shores South, BOEM relied on the NMFS Socioeconomic Information Needs, available at: https://media.fisheries.noaa.gov/2022-02/Socioeconomic-InfoNeeds-OSW-GARFO.pdf.</p>
BOEM-2023-0030-1223-0023	<p>The size and number of turbines associated with the proposed action will influence the overall spatial extent of the project and therefore will affect the magnitude of impacts. We recommend working with NOAA Fisheries habitat staff to optimize the final number type and locations of turbines cables and offshore substations to minimize impacts to habitat and fisheries.</p>	<p>As described in Sections 3.6.1.6 and 3.6.1.7, BOEM is evaluating several NEPA Alternatives that would minimize impacts on benthic habitat and fisheries by using different WTG layouts (Alternatives C, D, and E) or by using different foundation types (Alternative F). BOEM will consider input from NOAA Fisheries on these Alternatives prior to making a final selection.</p>
BOEM-2023-0030-1223-0029	<p>Overall, the evidence and information provided should be consistent with impact determinations. For every analysis in the FEIS, we recommend including detailed information on the methods caveats and assumptions for stakeholders to</p>	<p>BOEM believes that the impact conclusions in Section 3.6.1, <i>Commercial Fisheries and For-Hire Recreational Fishing</i>, are supported by the information provided in the section. The</p>

Comment No.	Comment	Response
	understand and evaluate potential impacts and resulting avoidance minimization mitigation and compensation measures. These comments apply to fisheries impacts as well as other impact analyses in the FEIS.	mitigation measures proposed in Section 3.6.1.8 are consistent with the impact conclusions.
BOEM-2023-0030-1223-0032	Page 3.6.1-66 references the potential for fishermen to switch gear types and/or target species. This may not be feasible given the high cost potentially lower prices and different permits that would be required. Such adaptation would only occur over the longer term and may require fishery management changes. It should not be assumed that fisheries management will adapt in any particular way as fisheries management must achieve a number of varied objectives and offshore wind energy development is just one consideration.	The difficulties of switching gear types are noted in this paragraph, including the potential increased costs and lower prices. A sentence has been added to this paragraph to note that fisheries adaptation would likely require a long period of time and may require fishery management changes.
BOEM-2023-0030-1223-0033	The DEIS compares fishery landings and revenues within the project area to all federal waters from Maine through Cape Hatteras North Carolina. This comparison minimizes the potential impact of Atlantic Shores South on fisheries. We recommend also comparing revenue exposure to a more geographically specific area or port.	<p>The landings and revenue from the Lease Area are presented alongside the percentages to provide context. This is consistent with NMFS guidelines for characterizing socioeconomic impacts of OSW projects. For instance, although the revenue of sea scallop harvested from the Lease Area is only 0.02 percent of the total revenue of that species in the Greater Atlantic region, the annual revenue of that species harvested in the Lease Area is \$220,253, which is a substantial economic impact.</p> <p>The percentage of landings and revenue from the Lease Area at ports relative to the total landings at ports are provided in Tables 3.6.1-18 and 3.6.1-19.</p>
BOEM-2023-0030-1223-0034	The DEIS describes commercial and recreational fisheries within the lease area and the export cable corridor. Some fisheries will be impacted by activities within both the lease area and the export cable corridor while other fisheries will be primarily impacted by one or the other. It is important to consider the differences in impacts due to the different activities which will occur in the lease area and the cable corridor and the different fisheries that operate in those	The fisheries operating in the Lease Area are characterized via tabular summaries of revenue exposures in Section 3.6.1.1. Impacts of project activities in the Lease Area are described under the "Presence of structures" IPF in Section 3.6.1.5, which references the tabular summaries in Section 3.6.1.1.

Comment No.	Comment	Response
	<p>areas. Different mitigation measures may also be relevant for the two areas. For these reasons we support the approach of analyzing the lease area and export cable corridor separately in terms of their impacts on fisheries as well as considering their combined impacts.</p>	<p>The impacts of project activities in the OECs are addressed through a qualitative analysis under the “Cable emplacement and maintenance” IPF in Section 3.6.1.5. Figures 3.6.1-15 through 3.6.1-18 showing revenue exposure of key fisheries in the Project area have been added to support the qualitative analysis.</p>
BOEM-2023-0030-1223-0035	<p>Page 2-49 of the DEIS suggests that a 246 foot (75 meter) buffer between cables and artificial reefs would make the project infeasible because all cables could not fit in the cable corridors with repair bights. Smaller buffers do not appear to be analyzed in the DEIS. The impacts of placing cables or turbines near artificial reefs (e.g. sedimentation impacts) are not analyzed in the Section 3.6.1 which describes the impacts of the alternatives on commercial and for-hire fisheries. This is concerning because the proposed action would place the offshore export cable and one turbine near artificial reefs including the Atlantic City Reef the Axel Carlson Reef and the Manasquan Inlet Reef (Figure 3.6.1-12). Potential impacts to these important recreational fishing areas must be analyzed.</p>	<p>Additional discussion of artificial reefs has been added to Section 3.6.1.1 to note that the Atlantic City, Manasquan Inlet, and Axel Carlson reefs are near the Project area.</p> <p>Additional discussion of the impacts of pile driving noise on the Atlantic City reef has been added to Section 3.6.1.5 under the “Noise” IPF.</p> <p>Additional discussion has been added to Section 3.6.1.5 under the “Cable emplacement and maintenance” IPF to note that impacts to the Manasquan Inlet and Axel Carlson reefs are not expected because these reefs are located outside of the area where impacts from seabed preparation and sedimentation/turbidity associated with cable emplacement are expected.</p>
BOEM-2023-0030-1223-0036	<p>The DEIS provides few details on the likely extent of and methods to be used for boulder clearance. The FEIS should address this topic in more detail. We are concerned about the impacts of boulder removals required for cable installation especially when done via plow (grapnel or boulder clearance plows). We recommend using grabs to relocate boulders given plowing will have a much larger impact on benthic habitats than grabs. The nature of this impact is very different from dredging used to harvest seafood and the scientific literature on fishing gear impacts is unlikely to provide a reasonable proxy for the impacts of boulder clearance plows. For example fishermen attempt to avoid boulders to reduce the risk of costly damage to fishing gear and the penetration</p>	<p>Boulders would be cleared using a subsea grab. Additional text has been added to Section 3.6.1.5 under the “Cable emplacement and maintenance” IPF to discuss boulder clearance.</p>

Comment No.	Comment	Response
	depth of fishing gear is much less than a boulder clearance plow.	
BOEM-2023-0030-1339-0013	<p>Array design and spacing between turbines are important determinants of commercial fishing operations within wind development areas. Atlantic surfclam and ocean quahog are the dominant species fished with mobile gear in the Atlantic Shores lease area. In order for these fisheries to operate after construction a minimum spacing of 2 nm between turbines must be maintained due to the specific way gear is deployed and hauled back chain lengths vessel maneuverability and other conditions. Two nautical mile spacing was not analyzed in the DEIS because it would lead to 81% reduction in turbines and the project would not fulfill the terms of the BPU Order. This means Atlantic Shores should expect its facility to fully displace the Atlantic surfclam and ocean quahog fleets from the area for the life of the project and beyond if not all turbine structures are removed from the seafloor after decommissioning. Appropriate mitigation for this is paramount.</p>	<p>As described in Section 3.6.1.5 under the “Presence of structures” IPF, commercial fishing vessels with large, externally deployed gear may have difficulty navigating within the Lease Area, and fishing vessels that deploy bottom-oriented mobile gear will be at greater risk of gear entanglement. These factors are expected to cause fishing displacement. To mitigate for these impacts, Atlantic Shores will 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. The compensation fund will be based on the revenue exposure numbers provided in Table 3.6.1-11. BOEM recommends that, at minimum, lessees consider the following payment structure be available for claimants: 100 percent of revenue exposure for the first year after construction, 80 percent of revenue exposure 2 years after construction, 70 percent of revenue exposure 3 years after construction, 60 percent after four years, and 50 percent after five years post construction.</p>
BOEM-2023-0030-1339-0014	<p>The Block Island facility experiences exposure of buried transmission cables. When discussing repairs the operator of that facility indicated it “will aim to bury the cable between 10 and 30 feet beneath the seafloor.” (See https://www.windwatch.org/news/2020/02/10/block-island-wind-farm-to-go-offline-in-fall-to-rebury-cable/ Any and all cable burial requirements for offshore wind should be informed by that experience. [Bold: We recommend Atlantic Shores be required to bury its cables at a minimum of eight to ten feet below the seafloor.]). This would mitigate impacts to dredge or similar fishing gear. As clam dredges are substrate penetrating gear and the substrate in this area consists of high-energy sand it is extremely important that interarray and export cables are buried to sufficient depths to</p>	<p>New Jersey Administrative Code §7:7-12.21 recommends burial of submerged cables to a depth of at least 4 feet in areas where marine fish and invertebrates are commercially harvested using mobile bottom-tending gear. The target burial depth of 5-6.6 feet for the Proposed Action meets this recommendation.</p> <p>The submarine export cables would be monitored through either a distributed temperature sensing system, a distributed acoustic sensing system, or online partial discharge monitoring. Regular cable surveys would be performed to identify potential issues with scour or burial depth. In the unlikely event of cable exposure, the cable would be reburied or cable protection would be applied.</p>

Comment No.	Comment	Response
	<p>reduce the risk of fishing gear interactions. The fishing industry maintains the request for a minimum of 8-10 feet to avoid interactions rather than the 5-6.6 ft included in the Proposed Action. If a shallower depth is permitted it must be paired with remote monitoring to ensure the cable remains adequately buried at all times. BOEM must provide clear standards as to what this depth is how it is determined and monitoring protocols to ensure there are no future interactions. Moreover the cable layout should be designed to minimize instances where cables transect fishing tow areas. Neither the fishing nor wind industries want any interaction between gear and cables and every measure should be taken to achieve this.</p>	
BOEM-2023-0030-1339-0024	<p>The DEISs fail to fully address the impacts that the projects will have on small fishing community businesses which will include the vast majoring of fishing companies and supporting businesses. Fishermen and the fishing industry have reiterated time and time again that it is not easy for adaptation to occur because serious economic investments and management restrictions can make it unfeasible or impossible. The impacts to fishing and processing jobs must not be diminished in the DEIS analysis. As recommended by the U.S. Small Business Administration for Fisheries Mitigation Guidance BOEM must conduct a Regulatory Flexibility Act (RFA) analysis of its proposals to adequately understand the impacts of offshore wind development activities on small businesses (27. Most recently the Small Business Administration included comments on the SouthCoast Wind DEIS. See https://www.regulations.gov/comment/BOEM-2022-0033-005) Improved data and analyses of impacts to commercial fishing businesses port infrastructure serving the fishing industry port operators marine equipment retailers onshore processors fish markets and other fishing industry representatives should inform mitigation strategies.</p>	<p>An analysis of impacts of the Proposed Action on small businesses and large businesses has been added to Section 3.6.1.1 beginning on page 3.6.1-33.</p>

Comment No.	Comment	Response
BOEM-2023-0030-1357-0002	The industry then asked how is it fair to take our fishing grounds and make it impossible to fish in their traditional fishing grounds. This requires the vessels to fish in areas with lower populations of the species that they are targeting with lower catch and higher cost and without reasonable compensation. The developers state they cannot afford compensation. BOEM's response is that they do not have the authority to add a provision in the developer's COP requiring them to provide compensation.	As provided in Table 3.6.1-39, Atlantic Shores will establish a compensation/mitigation fund consistent with BOEM's draft Guidance for Mitigating Impacts to Commercial and Recreational Fisheries on the Outer Continental Shelf Pursuant to 30 CFR Part 585 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.
BOEM-2023-0030-1357-0003	The two developers that hold the leases off Atlantic City are so determine to maximize income from their leases' that where their bounders meet they want to place their turbines as closed together as possible leaving no room for vessels transiting through the two wind farms. How did BOEM think that these developers would be willing to create a transit zone? But the developers have stated they do not want boat or ship traffic within their array's. They do not seem to care that vessel may be required to steam around the wind farms adding hours of time and dollars of expense to do so. This will allow the developers to make more money on the backs of American fishermen and vessel owners while increases safety problems and operating cost. How can the U.S. and New Jersey state governments justify increasing subsidies of European multinational corporations while possibly putting U.S. fishermen out of business. Does the federal government and state care about U.S. companies that have be in business for many generations and may be put out of business?	As described in Section 3.6.1.6, BOEM is evaluating a NEPA Alternative that would establish a setback between Atlantic Shores South and Ocean Wind 1 (Alternative E). Specifically, Alternative E would remove up to 4 to 5 WTGs from the southern boundary of Project 1 to allow for a 0.81- to 1.08-nautical mile setback area that would enable fishing vessels to transit between the Ocean Wind 1 and Atlantic Shores South lease areas more safely and efficiently, thereby minimizing navigational hazards and reducing transit costs incurred by fishers relative to the Proposed Action.
BOEM-2023-0030-1518-0013	One clear example is BOEM's response to Cape May County's Ocean Wind 1 comments about negative impacts to commercial fishing. BOEM responds by insisting the wind energy area pertaining to Ocean Wind 1 is just a small part of the available fishing grounds while ignoring that the agency obviously plans to approve 48 or more offshore wind farms covering millions of acres in the North Atlantic.	Section 3.6.1.3 provides an analysis of the cumulative impacts of all OSW projects that are planned for the Greater Atlantic region. That analysis estimates that OSW development will result in a peak revenue exposure of \$33.6 million for commercial fisheries, beginning in 2029. The cumulative impacts analysis concludes that the presence of structures associated with OSW projects will cause long-term,

Comment No.	Comment	Response
		widespread, moderate to major impacts on commercial and for-hire recreational fisheries, depending on the mitigation measures implemented by OSW developers.
BOEM-2023-0030-1518-0024	<p>Waters off of Long Beach Township are some of the most biologically productive in the world and even leading research universities located along the Jersey Shore concluded that offshore wind could have severe impacts to the Cold Pool which could irreversibly disrupt critical ecosystem functions [Footnote 17: Could federal wind farms influence continental shelf oceanography and alter associated ecological processes? A literature review. https://scemfis.org/wp-content/uploads/2021/01/ColdPoolReview.pdf; Footnote 18: Daewel U. Akhtar N. Christiansen N. et al. Offshore wind farms are projected to impact primary production and bottom water deoxygenation in the North Sea. <i>Commun Earth Environ</i> 3 292 (2022). https://doi.org/10.1038/s43247-022-00625-0]. Long Beach Township is not a testing ground for renewable energy projects and will protect its local ecosystem and economy at any cost from offshore wind projects. The environment is the strongest driver of Long Beach Township’s local economies and therefore the Township must ensure its most critical resource is well protected.</p>	<p>Potential changes in water circulation patterns from OSW foundations and associated impacts on the Cold Pool are discussed in subsection 3.5.5.3 of Section 3.5.5, <i>Finfish, Invertebrates, and Essential Fish Habitat</i>, of the EIS. As noted in that Section, impacts on the stability of the Cold Pool are possible, particularly during periods when stratification of the Cold Pool is weaker (e.g., spring formation and fall dissipation). Studies of large-scale OSW installations in European waters have observed reductions in stratification, suggesting that impacts on the mid-Atlantic Cold Pool are possible. However, the strength of stratification associated with the Cold Pool (temperature differences between the surface and the Cold Pool reach 18°F) may buffer against the effects of increased mixing.</p> <p>BOEM is currently conducting research to understand the potential cumulative impacts to physical oceanography and transport processes from commercial scale development of offshore wind. This research will use hydrodynamic models to examine oceanographic conditions prior to OSW construction, post-installation of a single facility, and post full build-out of all current offshore lease areas, using representative turbine array layouts. A full description of this research is available at: https://www.boem.gov/sites/default/files/documents/environment/environmental-studies/Offshore-Wind-Impacts-Oceanographic-Processes-North-Carolina-New-York.pdf.</p>
BOEM-2023-0030-1518-0044	<p>The DEIS concludes that “The presence Of WTGs would result in a widespread permanent navigational risk to commercial and for-hire recreational fishing vessels transiting through and fishing near offshore wind farms.” Fishermen from New Jerseys surf clam fisheries have warned for years that they</p>	<p>Navigational / operational difficulties and gear entanglement risks are expected to cause fishing displacement, particularly for vessels operating bottom-oriented mobile gear. To mitigate for these impacts, Atlantic Shores will establish a compensation/mitigation fund to compensate commercial</p>

Comment No.	Comment	Response
	<p>cannot safely operate in turbine arrays with spacing less than 2 nautical miles apart which is double what BOEM and wind companies have planned on. The array will be too dense to allow safe operating conditions which will force fishermen out of key fishing areas they rely on. In addition even recreational fishermen who troll for migratory species often deploy long lines which create navigational challenges in and around wind farms. These consequences are unacceptable to Long Beach Township’s cultural history as a fishing community and for its community members who use waters off Long Beach Township for pleasure as well. The DEIS also highlights safety issues related to mechanical problems such as loss of steerage or engine malfunctions which could also result in an allision with a WTG as the vessel drifts during repair.</p>	<p>and for-hire recreational fishermen for loss of income due to unrecovered economic activity resulting from displacement from fishing grounds. The compensation fund will be based on the revenue exposure numbers provided in Table 3.6.1-11.</p>
BOEM-2023-0030-1518-0046	<p>The Mid-Atlantic exhibits a unique seasonal phenomenon referred to as the Cold Pool in which warm and cold-water temperatures are horizontally stratified along the continental shelf. This drastic difference between cold and warm water drives a thriving ecosystem that supports diverse and abundant species. Fisherman can catch both warm and cold-water fish and shellfish simply by adjusting the depth of their gear. A Rutgers study in 2021 writes that “the scale of these wind farms has the potential to alter the unique and delicate oceanographic conditions along the expansive Atlantic continental shelf a region characterized by a strong seasonal thermocline that overlies cold bottom water known as the “Cold Pool.” The seasonal characteristics of the Cold Pool are “associated with and drivers of important biological and ecological processes that support key species of commercial and recreational importance.” [Footnote 39: Offshore Wind Energy and the Mid-Atlantic Cold Pool: A Review of Potential Interactions https://scemfis.org/wp-content/uploads/2021/11/Miles_2021.pdf]. The Township is concerned that the vertical mixing caused by thousands of wind turbines will disrupt the natural processes of the cold</p>	<p>See response to comment BOEM-2023-0030-1518-0024 concerning the Cold Pool.</p>

Comment No.	Comment	Response
	pool which is necessary to the Township's local ecosystem and economy.	
BOEM-2023-0030-1523-0031	Concerns regarding commercial fisheries include increased vessel traffic and congestion navigational safety gear loss loss of revenues and the disruption of the Cold Pool and ecologically important component of Mid-Atlantic fisheries. In addition the most recent Fisheries Mitigation Guidance session hosted by BOEM on July 11th 2022 left many questions unanswered for fishermen who are impacted by offshore wind farms such has how mitigation payments would be structured how claims for lost gear would be processed and the process in which fishermen could work together with BOEM to reconcile the issues raised by the fishing industry.	<p>Atlantic Shores has not yet developed a Fisheries Mitigation Plan. However, as provided in Table 3.6.1.-39, Atlantic Shores has committed to establish a compensation/mitigation fund, which would be based on the revenue exposure levels summarized in Table 3.6.1-11. The structure of the compensation/mitigation fund would be consistent with BOEM's draft Guidance for Mitigating Impacts to Commercial and Recreational Fisheries on the Outer Continental Shelf Pursuant to 30 CFR Part 585, available at: https://www.boem.gov/sites/default/files/documents/renewable-energy/DRAFT%20Fisheries%20Mitigation%20Guidance%2006232022_0.pdf.</p> <p>Atlantic Shores has developed a procedure for reimbursing damaged or lost gear related to the Proposed Action. The gear damage or loss claim procedure is described in Appendix C of the Fisheries Communication Plan, available at: https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/Appendix%20IIR_Fisheries%20Communication%20Plan.pdf.</p>
BOEM-2023-0030-1523-0032	The DEIS concludes that "The presence Of WTGs would result in a widespread permanent navigational risk to commercial and for-hire recreational fishing vessels transiting through and fishing near offshore wind farms." Fishermen from New Jerseys surf clam fisheries have warned for years that they cannot safely operate in turbine arrays with spacing less than 2 nautical miles apart which is double what BOEM and wind companies have planned on. The array will be too dense to allow safe operating conditions which will force fishermen out of key fishing areas they rely on. In addition even recreational fishermen who troll for migratory species often deploy long lines which create navigational challenges in and	Navigational / operational difficulties and gear entanglement risks are expected to cause fishing displacement, particularly for vessels operating bottom-oriented mobile gear. To mitigate for these impacts, Atlantic Shores will 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. The compensation fund will be based on the revenue exposure numbers provided in Table 3.6.1-11.

Comment No.	Comment	Response
	<p>around wind farms. These consequences are unacceptable to Cape May County’s cultural history as a commercial fishing community and for its community members who use waters off Cape May County for pleasure as well. The DEIS also highlights safety issues related to mechanical problems such as loss of steerage or engine malfunctions which could also result in an allision with a WTG as the vessel drifts during repair.</p>	
BOEM-2023-0030-1523-0035	<p>Fishermen in Cape May County are concerned about the process in which they would recover losses from gear that becomes entangled or damaged by wind farm equipment. Fishermen have stated that they will likely abandon any fishing grounds within the wind farm areas. However if the species that fishermen are trying to catch migrate into the wind farm area the captain may risk entanglement while trying to follow their catch. In addition subsea cables create concerns for fishermen who drag equipment behind their boats. According to MIT several fishermen have lost or damaged dragnets around Block Island where subsea cables lay exposed.⁴¹ Orsted has said that the cables at Block Island are covered with rocks and mattresses yet several fishermen have nevertheless reported lost or damaged gear which requires days of downtime to repair and is costly to the vessel operator.</p>	<p>Atlantic Shores has developed a procedure for reimbursing damaged or lost gear related to the Proposed Action. The gear damage or loss claim procedure is described in Appendix C of the Fisheries Communication Plan, available at: https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/Appendix%20I-R_Fisheries%20Communication%20Plan.pdf.</p>
BOEM-2023-0030-1523-0036	<p>In every single impact category included in the DEIS BOEM classifies the impacts to fishing as major. As a County that prides itself on its historic fishing culture and relies on fishing revenues for its economy Cape May County has significant concerns about lost revenues for fishermen as a result of Atlantic Shores South as well as other planned wind farms that will continue to restrict access to various parts of the ocean. There are reasons for both increased costs and loss of revenue. Fishermen may have to take longer routes to reach their destination or travel at slower speeds while transiting wind farms. Fishermen may lose access to fishing grounds</p>	<p>As described in Section 3.6.1.5, BOEM expects that the presence of structures associated with the Proposed Action would cause moderate to major impacts on commercial fisheries. Other impact categories are expected to cause moderate impacts (cable emplacement and maintenance, noise, vessel traffic) or minor impacts (anchoring, port utilization).</p> <p>The description of impacts from the presence of structures notes that fishermen may be displaced from fishing grounds, take longer routes to avoid navigating through the Lease</p>

Comment No.	Comment	Response
	<p>that were once relied on forcing them to relocate and risk fishing in unfamiliar areas. In addition as certain areas become off limits the relocation of vessels to other known fishing areas could result in overfishing of those areas and the depletion of resources.</p>	<p>Area, and may have difficulty adapting to the changes brought by OSW. Many fishermen, particularly those who are highly reliant on fishing grounds in the Lease Area, are expected to experience long-term revenue loss stemming from these factors.</p>
<p>BOEM-2023-0030-1523-0037</p>	<p>The Mid-Atlantic exhibits a unique seasonal phenomenon referred to as the Cold Pool in which warm and cold-water temperatures are horizontally stratified along the continental shelf. This drastic difference between cold and warm water drives a thriving ecosystem that supports diverse and abundant species. Fisherman can catch both warm and cold-water fish and shellfish simply by adjusting the depth of their gear. A Rutgers study in 2021 writes that “the scale of these wind farms has the potential to alter the unique and delicate oceanographic conditions along the expansive Atlantic continental shelf a region characterized by a strong seasonal thermocline that overlies cold bottom water known as the “Cold Pool.” The seasonal characteristics of the Cold Pool are “associated with and drivers of important biological and ecological processes that support key species of commercial and recreational importance.”⁴²A recent study concluded that offshore wind farms are projected to impact primary production and bottom water deoxygenation. The model used in the study projects an increase in sediment carbon in deeper areas of the southern North Sea due to reduced current velocities and decreased dissolved oxygen inside an area with already low oxygen concentration. The results provide evidence that cumulative impacts from ongoing offshore wind farm developments can have a substantial impact on the structuring of coastal marine ecosystems on basin scales.⁴³ The County is concerned that the vertical mixing caused by thousands of wind turbines will disrupt the natural processes of the Cold Pool which is necessary to our local ecosystem and economy.</p>	<p>Potential changes in water circulation patterns from OSW foundations and associated impacts on the Cold Pool are discussed in subsection 3.5.5.3 of Section 3.5.5, <i>Finfish, Invertebrates, and Essential Fish Habitat</i>, of the EIS. As noted in that Section, impacts on the stability of the Cold Pool are possible, particularly during periods when stratification of the Cold Pool is weaker (e.g., spring formation and fall dissipation). Studies of large-scale OSW installations in European waters have observed reductions in stratification, suggesting that impacts on the mid-Atlantic Cold Pool are possible. However, the strength of stratification associated with the Cold Pool (temperature differences between the surface and the Cold Pool reach 18°F) may buffer against the effects of increased mixing.</p> <p>BOEM is currently conducting research to understand the potential cumulative impacts to physical oceanography and transport processes from commercial scale development of offshore wind. This research will use hydrodynamic models to examine oceanographic conditions prior to OSW construction, post-installation of a single facility, and post full build-out of all current offshore lease areas, using representative turbine array layouts. A full description of this research is available at: https://www.boem.gov/sites/default/files/documents/environment/environmental-studies/Offshore-Wind-Impacts-Oceanographic-Processes-North-Carolina-New-York.pdf.</p>

Comment No.	Comment	Response
BOEM-2023-0030-1523-0040	<p>To potentially put hundreds of tourism and fishing-related workers out of jobs for such minimal job creation is a violation of N.J.A.C. 7:7-15.4 which states that coastal energy facility construction and operation shall not directly or indirectly result in net loss of employment in the State for any single year... Coastal energy facility construction and operation resulting in the loss of 200 or more person-years of employment in jobs in New Jersey directly or indirectly related to the State's coastal tourism industry in any single year is prohibited. With an economy based almost entirely on tourism and commercial fishing the County is unable to sustain drastic changes to its workforce and culture as a result of offshore wind farms. Small family businesses that have been operating for generations will face hardship and may be forced to close and sell existing assets creating a vacuum for activities and services that have been routinely provided for residents and tourists for generations. Without these services rental and home values will begin to decline in value and demand as the spirit and workforce of the Jersey Shore is lost.</p>	<p>As provided in Section 3.6.3.5, the Proposed Action is expected to have long-term, minor beneficial impacts on employment and economic activity in the geographic analysis area, based upon anticipated short-term and modest long term job creation, expenditures on local businesses, generation of tax revenues, and provision of grant funds. Atlantic Shores estimates that the Proposed Action would support the following employment in New Jersey in direct, indirect, and induced full-time equivalent (FTE) job-years: an estimated 13,360 direct FTE job-years during development and construction, 19,925 direct FTE job-years during operations and decommissioning, and 17,640 indirect and 22,165 induced FTE job-years during all phases.</p>
BOEM-2023-0030-1536-0009	<p>In this section there are four charts depicting annual average number of commercial fishing trips and commercial fishing vessels in Project 1 and Project area 2 WTAs The Charts are 3.6 1-6 3.6 1-7 3.61-8 and 3.6 1-9. They breakdown fishing by port and by gear over the same time period 2011-2020. Different totals for each which is identified as rounding. But the numbers vary from 439 project 1 and 461 project 2 v 482 combined and similar for trip over the study period. The data is wrong... the total number of trips and vessels should be the same for the given years in the project area. The same error occurs in the next charts where gear type in Project 1 and 2 broken out equate to 898 trips and in the combined slide the total is only 485. This is WRONG and MAKES NO SENSE!!</p>	<p>The sum of fishing effort for the Project 1 and Project 2 areas in Tables 3.6.1-6 and 3.6.1-8 is not comparable to the fishing effort in the Lease Area in Tables 3.6.1-7 and 3.6.1-9. To see why, consider a vessel that fishes in both the Project 1 Area and Project 2 Area as part of the same trip. That vessel would be counted as making 1 trip to each area, which would add up to 2 trips if you summed the Project 1 and 2 areas. However, that vessel would only be counted as making only 1 trip to the Lease Area.</p>

Comment No.	Comment	Response
BOEM-2023-0030-1536-0010	Slides 3.6 1-10 and 1-11. Again make no sense. The combined project area landings are 520752 pounds the breakdown by project area total adding area 1 and 2 totals 619515 pounds over the same period. Which is correct?	The Project 1 values were computed as the sum of the Project 1 Area and Overlap Area (see Figure 1-1 in Section 1 for map of Lease Area), and the Project 2 values were computed as the sum of the Project 2 Area and Overlap Area. Therefore, adding the Project 1 and Project 2 numbers from Table 3.6.1-10 results in double counting of the Overlap Area. For this reason, the sum of the Project 1 and Project 2 numbers from Table 3.6.1-10 are not comparable to the numbers for the entire Lease Area in Table 3.6.1-11. A footnote has been added to all of the tables that summarize trips/vessels and landings/revenue for the Project 1 and 2 areas to be clear that the numbers for each project contain the overlap area.
BOEM-2023-0030-1536-0011	Charts 3.6 1-15 and 1-14 depict port landings with a combined total of 520780 and a total on the next slide by project that totals (1+2) 620048! A rounding error? A 100000 pound difference between two charts depicting the same data over the same time period? Why are we wasting our time reviewing this trash! ... as this has to be wrong. Did anyone else review before publishing? And this industry is going to minimize and or mitigate the impacts on our industry?	For the same reasons provided in the response to the previous comment (BOEM-2023-0030-1536-0100), summing the Project 1 and 2 numbers from Table 3.6.1-14 results in double counting of the Overlap Area such that the result is not comparable to the numbers in Table 3.6.1-15. A footnote has been added to all of the tables that summarize trips/vessels and landings/revenue for the Project 1 and 2 areas to be clear that the numbers for each project contain the overlap area.
BOEM-2023-0030-1536-0013	There is also no consideration of the impact of sea cooling of the transmission operations off shore in this draft DEIS. This will have a huge impact on fish and specifically juvenile species and should be better identified considered and addressed.	Atlantic Shores is evaluating both HVAC and HVDC transmission options. If the HVDC option is selected, it would have a converter station that would be part of one of the OSSs and would use a closed cooling system, which would not require any water withdrawals. Therefore, the Proposed Action would not cause entrainment, impingement or thermal stress associated with cooling water intake.
BOEM-2023-0030-1536-0016	Current plans also call for separate transmission infrastructure for each project which should be negotiated to minimize the potential impact to commercial and recreational fishing grounds. Existing projects have already shown the problems that can arise when cables are only minimally buried. The need for deep cable burial that can be	The target burial depth of 5-6.6 feet for the Proposed Action was developed based on a Cable Burial Risk Assessment (Appendix A5 of the COP). This burial depth is consistent with New Jersey Administrative Code §7:7-12.21, which recommends burial of submerged cables to a depth of at

Comment No.	Comment	Response
	maintained and micro-siting with fishers' input is required in order to build these projects with limited impacts on fishing. The most recent BOEM fisheries mitigation program call for a 6 foot burial depth but that is not depicted as a minimum in this document.	least 4 feet in areas where marine fish and invertebrates are commercially harvested using mobile bottom-tending gear.
BOEM-2023-0030-1542-0003	Impacts to recreational and commercial fishing must also continue to be assessed including possible economic cultural and safety concerns. Turbines could potentially create dangerous situations for fishermen as well as other ocean users such as pleasure boaters and divers.	Section 3.6.1, <i>Commercial Fisheries and For-Hire Recreational Fishing</i> , of the EIS evaluates impacts of the Proposed Action on commercial and recreational fishing, including economic impacts (e.g., lost access to fishing grounds, increased transit costs) and safety impacts (e.g., navigational hazards). These impacts are discussed under the "Presence of structures" IPF in Section 3.6.1.5. Impacts on cultural resources are addressed in Section 3.6.2, <i>Cultural Resources</i> .
BOEM-2023-0030-1578-0001	Due to the proposed turbine spacing and our spatial operational needs our surfclam vessels will not be able to operate within the lease area after development. It is vital that Atlantic Shores' hydraulic clam dredge survey monitoring plan and mitigation measures are proportional and appropriate for the losses the Atlantic Surfclam industry will suffer due to the development of this lease. Modifications of the construction and operations plan (COP) submitted by Atlantic Shores Offshore Wind Project 1 LLC and Atlantic Shores Offshore Wind Project 2 LLC for their proposed Atlantic Shores South Wind Project (Project) offshore New Jersey must be required before approval.	Atlantic Shores will conduct a clam dredge survey to evaluate whether the Proposed Action results in significant changes in the presence and size of ocean quahogs and Atlantic surf clams from cumulative project effects. The survey will employ a dredge matching the NJDEP surf clam survey gear and using NEFSC clam dredge survey methodology at sample locations chosen to follow a modified Before-After-Control-Impact design. Details on the clam dredge survey are provided in the Fisheries Monitoring Plan, available at: https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/Appendix%20II-K_Fisheries%20Monitoring%20Plan.pdf .
BOEM-2023-0030-1578-0002	There are several deficiencies in the hydraulic clam dredge survey plan. The gradient design will not be possible to sample in future years due to the Ørsted lease to the south. The use of a gradient in all directions is also inappropriate because the gradient to the east is deeper habitat and the gradient to the west is shallower habitat and is not suitable as a control for the central area. The habitat types within and between strata are therefore not statistically similar as is being assumed.	As construction activities within the Lease Area of the Ocean Wind 1 project (OCS-A 0498) is set to begin in Q2 of 2024 (Ocean Wind Offshore Wind Farm COP Volume I, Figure 4.5-1), potential control sites to the south of OCS-A 0499 as initially described in the FMP would no longer be viable. Similarly, future construction activities in the Atlantic Shores North Lease Area (OCS-A 0549) would also require adjustments to the locations of potential control sites for the hydraulic clam dredge survey. To address this, sampling will focus on the areas to the northwest and southeast of OCS-A

Comment No.	Comment	Response
		<p>0499 with the same number of planned samples distributed within these areas. The FMP will be revised to include an updated sampling design.</p> <p>The results from Greene et al. (2010) and the Northwest Atlantic Marine Ecoregional Assessment (NAM ERA) mapping show that the Lease Area and immediately adjacent areas are dominated by soft sediments, including medium, coarse, and fine sands. These soft-bottom sediment types are treated as functionally similar/homogenous in that they are all within the habitat parameters of the Atlantic surf clam and ocean quahog (Atlantic surf clam: medium to coarse sand and gravel substrates, also found in silty to fine sand [Cargnelli et al. 1999a]; ocean quahog: medium to fine grain sand, sandy mud, silty sand [Cargnelli et al. 1999b]). While depth may vary, this too does not fall outside of the habitat range of the target species (Atlantic surf clam: 8 meters to 66 meters [Cargnelli et al. 1999a]; ocean quahog: 25 meters to 61 meters [Cargnelli et al. 1999b]). Additionally, during the survey, information on the environment of each station, including the depth and sediment type, would be recorded. Generalized linear models or generalized additive models that will be used to analyze the survey data will incorporate habitat data as part of a multivariate analysis, ensuring that these factors are accounted for within the analysis.</p>
BOEM-2023-0030-1578-0003	<p>Additionally from a statistical standpoint a balanced design will benefit greatly with additional years of preconstruction surveys. A single survey does not make an adequate baseline. To reduce uncertainty associated with baseline estimates and inform the interpretation of research results a minimum of two years of preconstruction survey must be required.</p>	<p>A BACI analysis does not require multiple years of pre-impact data. However, multiple years of pre-impact data would be useful for encapsulating interannual variation in the baseline.</p>
BOEM-2023-0030-1578-0004	<p>The discussion in the Fisheries Monitoring Plan of Atlantic Surf Clam Power Analysis states “... we might expect to see similar catch sizes at the same stations from year to year and therefore different (or less dispersed) sample</p>	<p>Based on the description of the survey methodology on page 22 of the FMP, tow locations selected from the first survey would be repeated for subsequent surveys. The results of the power analysis suggest that CPUE exhibits extensive</p>

Comment No.	Comment	Response
	<p>distributions when sampling at a spatial scale equivalent to the survey design. Therefore we examined the five sites that were sampled in more than one year between 2012 and 2015. However these sites exhibited some very large differences between years (Table B-7) failing to support the idea that sampling at repeat locations might result in consistent abundances ...”2 yet the survey is using CPUE from repeat locations and will assume changes will reflect project effects. This is contrary to their own findings. The surfclam dredge survey being proposed isn’t like any surfclam dredge survey that I am familiar with; it doesn’t appear that the preparers of the Fisheries Monitoring Plan RPS Group have ever done a surfclam survey; and it is inconsistent with the federal surfclam survey and the two lease area clam surveys already conducted one for the Ocean Wind I site and the survey done for the Dominion Energy lease off Virginia. The acceptable methods for surveying commercial clam stocks using a hydraulic dredge are readily available3 but were not used.</p>	<p>interannual variation at a given location, such that consistent abundance should not be expected at tow locations from year to year. Fluctuations in abundance over time might be expected because of underlying environmental variation; the goal of the BACI design is to tease out that environmental variation from variation associated with project impacts. A determination of an effect of the WTGs on surfclam abundance would be made based on whether the changes in abundance observed in the Effects Stratum exceed the changes in abundance observed in the Control Strata.</p>
BOEM-2023-0030-1578-0005	<p>A fatal flaw in the Objectives Questions Hypotheses and Assumptions of the hydraulic clam dredge survey is that the total surfclam biomass within the WEA is not being determined. The purpose of the clam dredge survey is to be able to detect significant changes in the presence and size of ocean quahogs and Atlantic surf clams from cumulative project effects.5 If the goal is to understand changes in abundance the purpose of the clam dredge survey to detect significant changes in the presence and size of ocean quahogs and Atlantic surf clams from cumulative project effects does not support the goal understanding changes in abundance.</p>	<p>The BACI design does not require an estimate of the total surfclam biomass with the WTA to achieve the goal of determining whether there have been impacts on clam abundance and size associated with WTGs. This determination can be made based on a subsample of the clam biomass within the Effects Stratum and Control Strata, provided that the subsamples are chosen in a manner that is representative of the distribution of clams within the strata.</p>
BOEM-2023-0030-1581-0007	<p>At a minimum BOEM working with the developers must require scientific fisheries monitoring for the life of the project. This will help address data gaps identified above but</p>	<p>Atlantic Shores will conduct demersal otter trawl, trap, and hydraulic clam dredge surveys to monitor for impacts associated with construction of the Proposed Action. Each survey will involve one year of pre-construction monitoring,</p>

Comment No.	Comment	Response
	also help address un expected effects of turbine placement and development in these waters	during construction monitoring, and three years of post-construction monitoring. These sampling periods are expected to be sufficient to detect changes to fish and invertebrate populations that are targeted in regional fisheries. Detailed descriptions of these surveys are provided in the Fisheries Monitoring Plan, available at: https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/Appendix%20II-K_Fisheries%20Monitoring%20Plan.pdf .
BOEM-2023-0030-1591-0002	Per table 4.2-1 in Atlantic Shores Offshore Wind COP *. The foundation structure max. foundation footprint is (1902 sf = 0.4 acres). The permanent seabed disturbance outer diameter /size of scour protection = 269 ft (by 8.2 feet thick!!). 269 feet diameter is a 135 ft radius squared time 3.14 = 57226 SF / 43560 sf/acre = 1.3 acres of scour (stone) protection per monopile. Planned turbine installation= Atlantic Shores South 200 turbines Atlantic Shores North 150 turbines Orsted (Ocean Wind 12) 200 turbines 550 turbines x 1.3 acres of stone in just the first 3 lease areas = 715 acres of stone 8.2 feet thick.*This information and calculations have been confirmed by Rutgers University professors. This is a mountain of stone and is clearly a complete change of the current environment consisting of a sandy bottom supporting a \$2 Billion dollar NJ industry / jobs and sustainable renewable seafood in just the Quahog Surf Clam and Scallop. This will destroy their habitat and create new a habitat for non-native species. The Quahog surf clam and scallops are a \$2 billion dollar NJ industry with NJ jobs and a renewable seafood industry.	As described in Section 3.6.1.5, the scour protection associated with Atlantic Shores South is expected to cover up to 252 acres of the seabed. The scour protection will create a gear entanglement hazard for fishing vessels that operate bottom-oriented mobile gear and will result in habitat loss for soft-bottom species. The “Presence of structures” IPF, which includes scour protection, is expected to cause long-term, localized, moderate to major impacts on commercial fisheries and minor to moderate impacts on for-hire recreational fisheries. As described in Table 3.6.1-39, Atlantic Shores will establish 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.
BOEM-2023-0030-1606-0032	The study on Atlantic surfclam fishery and OSW development by Rutgers University[Footnote 26: Andrew M Scheld and others The Atlantic surfclam fishery and offshore wind energy development: 2. Assessing economic impacts ICES Journal of Marine Science Volume 79 Issue 6 August 2022 Pages 1801–1814 https://doi.org/10.1093/icesjms/fsac109.] which is	Impacts of the Atlantic Shores South Project on the surfclam fishery were analyzed based on NMFS socioeconomic data from GARFO-permitted vessels operating in the Lease Area and Greater Atlantic Region. The analysis determined the surfclam fishery would experience an average annual revenue exposure of \$244,380 in the Atlantic Shores South Lease Area

Comment No.	Comment	Response
	<p>funded by the Research and Monitoring Initiative (NJBPU-NJDEP) showed significant economic losses as high as 25 percent for fishing vessels based in Atlantic City alone while revenue declines ranged from 3 – 15 percent for the whole region. How are the Applicants incorporating these findings in the Fisheries Communication Plan (“FCP”)?</p>	<p>(Table 3.6.1-11). This amount represents 0.81 percent of the total revenue generated by the surfclam fishery throughout the Greater Atlantic Region (Table 3.6.1-13). Additionally, the analysis determined that vessels from all fisheries that land their catch in Atlantic City would experience an average annual revenue exposure of \$270,581 (Table 3.6.1-15), which is 1.25 percent of the total annual revenue generated by landings in Atlantic City (Table 3.6.1-19). The analysis demonstrates that Atlantic City would experience the greatest impacts of any port from the Atlantic Shores South Project.</p>
<p>BOEM-2023-0030-1606-0033</p>	<p>Also the RMI is funding the development of a novel surfclam dredge and the RMI[Footnote 27: NJDEP “Offshore Wind: Research & Monitoring Initiative” as seen July 3 2023 https://dep.nj.gov/offshorewind/rmi/#projects.] is funding the development and calibration of a novel clam dredge that can be employed within windfarms which will enable the continuity of the survey and provide critical data for managing the population. How and where are these results and the status of the project being shared with the fishing community as well as the general public? COA would specifically like to know what efforts have been taken by the Applicants towards mitigation as well as communication and outreach as outlined in the FCP on two recent reports one from Rutgers University that describes significant harm to fisheries and consequently cascading ecosystem impacts.</p>	<p>As described in Table 3.6.1-39, Atlantic Shores will mitigate for impacts of the Proposed Action on fisheries by establishing 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.</p> <p>Atlantic Shores will also conduct a hydraulic clam dredge survey to monitor for impacts associated with construction of the Proposed Action. The survey will involve one year of pre-construction monitoring, during construction monitoring, and three years of post-construction monitoring. Detailed descriptions of these surveys are provided in the Fisheries Monitoring Plan, available at: https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/Appendix%20II-K_Fisheries%20Monitoring%20Plan.pdf.</p> <p>The general strategies for communication and outreach described in the FCP are oriented around minimizing potential conflicts between the fishing industry and the Atlantic Shores South Project and do not include reporting on the potential for adverse impacts on fisheries. The potential</p>

Comment No.	Comment	Response
		for adverse impacts of the Proposed Action on fisheries are analyzed in the EIS, which is publicly available.
BOEM-2023-0030-1606-0034	<p>Of greater concern is the 2023 Report “Fisheries and Offshore Wind Interactions: Synthesis of Science”[Footnote 28: https://repository.library.noaa.gov/view/noaa/49151 Hogan et al. 2023. Fisheries and Offshore Wind Interactions: Synthesis of Science” - NOAA Technical Memorandum NMFS-NE-291.] which identified significant knowledge gaps and the fast-tracking of OSW projects leaving many valid scientific questions unexplored:[Italics: The recommendations indicate an enormous amount of research is still needed in order to understand the impact of OSW on our environment and fisheries but time is limited. A timely productive regional science plan for offshore wind could have resulted in an enhanced ability to understand the environmental interactions resulting from the first large-scale OSW projects especially on a cumulative scale.[Footnote 29: “RODA federal agencies issue ‘synthesis’ report on fisheries and offshore wind” by Kirk Moore National Fisherman March 30 2023 https://www.nationalfisherman.com/national-international/roda-federal-agencies-issue-synthesis-report-on-fisheries-and-offshore-wind.]]Two examples of concern in the report that are very relevant (pg. 232 Section 6 Table 1) point to a lack of knowledge on (i) the effect of substrate change on fisheries populations and (ii) how stochastic events such as Nor’easters and hurricanes factor into variability in distribution and abundance of fish species. These concerns have not been addressed in the DEIS thoroughly rendering it incomplete.</p>	<p>Section 3.5.5, <i>Finfish, Invertebrates, and Essential Fish Habitat</i>, analyzes the potential impacts on fish and invertebrates of conversion from soft-bottom to hard-bottom habitat associated with OSW structures (e.g., foundations, scour protection, cable protection) based on the most recent research. The discussion notes that additional research is needed to understand region-scale impacts. As additional information is gathered through surveys designed to detect the effects of OSW projects on marine species, it will be incorporated into EISs for future OSW projects.</p>
BOEM-2023-0030-1636-0001	<p>What happens to Bra. Bay when you trench it Will bottom be hacked with cables How long will it be before we can fish and crab. I am a senior POV with cty and they are sacared.</p>	<p>The offshore export cables for the Atlantic Shores South Project would not intersect any embayment. The Monmouth export cable will make landfall at the U.S. Army National Guard Training Center in Sea Girt, New Jersey. The Atlantic export cable would make landfall adjacent to the Atlantic City</p>

Comment No.	Comment	Response
		<p>Boardwalk in Atlantic City, New Jersey. The onshore export cables would be sited on land along existing right of ways.</p> <p>Fishing vessels will be allowed to fish along the export cable corridor once cable installation is completed. Installation of the export cables is expected to start in 2025 and take 6-9 months to complete.</p>
BOEM-2023-0030-1689-0004	<p>federal fisheries management has strict regulations on how when and where fishing can occur. Harvesters follow management restrictions promoting the long term biological and economic sustainability of marine fisheries mandated by the Magnuson-Stevens Act. Federal fisheries responsible for stock assessment will not be able to happen in wind arrays. This means long-standing surveys are in peril and may increase experience increased uncertainty unless calibration efforts happen now.</p>	<p>As described in Section 3.6.1.3 under the “Regulated fishing effort” IPF, OSW development could influence fishery management by affecting fisheries’ independent surveys used to inform management measures and by changing patterns of fishing activity. Fisheries managers may need to revise the sampling design of fisheries surveys to include sampling within WTAs to account for uncertainty in stock assessments that may accompany offshore wind development. Increased uncertainty in stock assessments could lead to more conservative quotas and resulting revenue losses in the fishing industry. Changes in fishing behavior from offshore wind development may necessitate new management measures, which would in turn have short-term or long-term impacts on commercial and for-hire recreational fisheries. BOEM expects that changes in regulated fishing effort in response to planned offshore wind activities will cause long term, widespread, moderate impacts on commercial and for-hire recreational fisheries as management adapts to changing fishing patterns, data availability, and management options.</p>
BOEM-2023-0030-1689-0007	<p>The DEIS mentions the possibility of offshore converters stations but nowhere addresses the potential environmental and ecological impacts of those. We ask that Atlantic Shores conduct fisheries impact surveys for the life of the project 25 plus years and we need at least two years of preconstruction baseline data. We request that Atlantic Shores join other developers in using the same methods for Atlantic surf plan and ocean quahog surveys.</p>	<p>Atlantic Shores is evaluating both HVAC and HVDC transmission options. If the HVDC option is selected, it would have a converter station that would be part of one of the OSSs and would use a closed cooling system, which would not require any water withdrawals. Therefore, the Proposed Action would not cause entrainment, impingement or thermal stress associated with cooling water intake.</p>

Comment No.	Comment	Response
		Atlantic Shores will conduct a hydraulic clam dredge survey that will include one year of pre-construction monitoring, during construction monitoring, and three years of post-construction monitoring. These sampling periods are expected to be sufficient to detect changes in clam populations associated with construction impacts. The clam dredge survey will be conducted with the same dredge gear as the NJDEP inventory of New Jersey's surf clam resources survey because it uses a dredge that is smaller (183 cm [72 in]) and more maneuverable than the NMFS clam survey dredge (396 cm [156 in]). Maneuverability is important for safety while operating in and around the WTA.
BOEM-2023-0030-1689-0008	BOEM proposes using the draft compensation guidance document as a basis for the mitigation fund in the DEIS. There are many problems with the draft guidance documents that BOEM still has not addressed. More importantly for this project we strongly believe that Atlantic Shores should commit to working with the fleets to determine what is the best mitigation or compensation solution for them. We have heard that resource enhancement if viable would be the preferred investment for most in the surf plan and quahog industry. Thank you for your time.	Thank you for your suggestion. As described in Table 3.6.1-39, BOEM has developed a claims-based fisheries compensation program for fisherman that are impacted by the Atlantic Shores South Project.
BOEM-2023-0030-1689-0010	The speed and scale of leasing and development will have an irreversible ramifications on commercial fishing and the piece-meal approach that BOEM takes on environmental and impact analyses make it impossible to truly account for those impacts. One project may displace a couple of weeks or take away historic grounds for a dozen of captains but it's not a simple as going to fish somewhere else. One what about all the other lease areas that the captain seeks to fish? Two fish and mollusks are not found uniformly in the ocean. Suitable habitat may be patchy and where the fish go the fishermen need to follow.	Section 3.6.1.3 of the EIS provides an analysis of the cumulative impacts of all planned OSW projects in the Greater Atlantic Region. The analysis discusses the difficulty that some displaced fishing operations may have in locating alternative fishing grounds or switching to different target species.
BOEM-2023-0030-1777-0002	I would ask that you keep reading the science in considering the studies that suggest leaving the monopiles after the	Atlantic Shores would be required to remove and/or decommission all Project infrastructure and clear the seabed

Comment No.	Comment	Response
	<p>leasing period to maintain the reef like ecosystem that supports local fisheries as we have heard from the other speakers.</p>	<p>of all obstructions when these facilities reach the end of their 30-year designed service life. Decommissioning activities would involve removing WTG, OSS, and met tower foundations 15 feet (4.6 meters) below the mudline. Inter-array cables, export cables, and associated scour protection would either be removed or retired in place, depending on the habitat value they provide. Please see Section 2.1.2.3, <i>Conceptual Decommissioning</i>, for details.</p>
BOEM-2023-0030-1797-0002	<p>Now the clam industry in particular our concern was the spacing of turbines and we kept saying if they are two nautical miles apart the clam vessels operating rather expensive heavy bottom tending mobile gear could safely operate within a wind energy area and if the spacing was not such than the area would be come a de facto exclusion zone and the surf clam vessels could not safely enter and operate. In the Atlantic Shores DEIS table 2.6 alternatives considered but not analyzed in detail the two-by-two nautical miles spacing wind turbines so vital to our industry was considered and rejected our worst fears have been realized that we will live we will have to live now with likely 27 exclusion zones where we can no longer operate. Considered and rejected it is so disheartening and demonstrates enormous disrespect to be asked to participate for all these years only to be rejected.</p>	<p>As described in Section 3.6.1.5 under the “Presence of structures” IPF, commercial fishing vessels with large, externally deployed gear may have difficulty navigating within the Lease Area, and fishing vessels that deploy bottom-oriented mobile gear will be at greater risk of gear entanglement. These factors are expected to cause fishing displacement. To mitigate for these impacts, Atlantic Shores will 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. The compensation fund will be based on the revenue exposure numbers provided in Table 3.6.1-11. BOEM recommends that, at minimum, lessees consider the following payment structure be available for claimants: 100 percent of revenue exposure for the first year after construction, 80 percent of revenue exposure 2 years after construction, 70 percent of revenue exposure 3 years after construction, 60 percent after four years, and 50 percent after five years post construction.</p>
BOEM-2023-0030-1998-0003	<p>Underwater power cables make lobsters bad swimmers. APRIL 29 2022. Lobster larvae exposed to the electromagnetic field of underwater power cables can't swim as well a new study published in Journal of Marine Science and Engineering shows. They're also three times more likely to be deformed in some way.(Petra Harsanyi et al The Effects of Anthropogenic Electromagnetic Fields (EMF) on the Early Development of Two Commercially Important Crustaceans</p>	<p>Impacts of EMF are discussed in Section 3.5.5 – Finfish, invertebrates, and Essential Fish Habitat. The section notes that behavioral changes, physiological impacts, and developmental impacts from EMF have been observed in lobsters and crabs. The section references the Harsanyi et al. 2022 study. The section concludes that minor to moderate adverse impacts on finfish, invertebrates, and EFH are expected from EMF and heat emission associated with cables</p>

Comment No.	Comment	Response
	<p>European Lobster <i>Homerus gammarus</i> (L.) and Edible Crab <i>Cancer pagurus</i> (L.) <i>Journal of Marine Science and Engineering</i> (2022) Wind farms could affect the food chain https://www.workboat.com/wind/wind-turbines-will-affect-base-of-ocean-food-chain-study-predicts Offshore wind farms expected to Reduce Clam Fishery Revenue Rutgers Today . June 21 2022. In New Jersey losses could be as high as 25 percent for fishing vessels based in Atlantic City. The two studies which appear in the ICES <i>Journal of Marine Science</i>. The Atlantic surf clam fishery and offshore wind energy development: 1. Model development and verification. Daphne M Munroe <i>ICES Journal of Marine Science</i> Volume 79 Issue 6 August 2022 Pages 1787-1800 The Atlantic surfclam fishery and offshore wind energy development: 2. Assessing economic impacts. Andrew M Scheid Jennifer Beckensteyner. Daphne M Munroe Eric Powell Sarah Borsetti. Eileen E Hofmann John M Klinck. <i>ICES Journal of Marine Science</i> Volume 79 Issue 6 August 2022 Pages 1801-1814</p>	<p>from offshore wind development, though further research is needed to fully understand the impacts of EMF on finfish, invertebrates, and EFH.</p> <p>Impacts of the Atlantic Shores South project on the surfclam fishery were analyzed based on NMFS socioeconomic data from GARFO-permitted vessels operating in the Lease Area and Greater Atlantic Region. The analysis determined the surfclam fishery would experience an average annual revenue exposure of \$244,380 in the Atlantic Shores South Lease Area (Table 3.6.1-11). This amount represents 0.81 percent of the total revenue generated by the surfclam fishery throughout the Greater Atlantic Region (Table 3.6.1-13). Additionally, the analysis determined that vessels from all fisheries that land their catch in Atlantic City would experience an average annual revenue exposure of \$270,581 (Table 3.6.1-15), which is 1.25 percent of the total annual revenue generated by landings in Atlantic City (Table 3.6.1-19). The analysis demonstrates that Atlantic City would experience the greatest impacts of any port from the Atlantic Shores South Project.</p>

N.6.14 Cultural Resources

Table N.6-14. Responses to Comments on Cultural Resources

Comment No.	Comment	Response
BOEM-2023-0030-1466-0002	<p>Under the National Historic Preservation Act and the National Environmental Policy Act (NEPA) BOEM must fully assess and consider impacts upon all cultural and historic resources that may be impacted, whether directly or indirectly. The DEIS, as drafted, falls short of the NHPA's mandates that require consideration of all adverse effects.</p>	<p>BOEM has met and will continue to meet the requirements of NEPA and NHPA through the NEPA substitution for Section 106 process as outlined by the Section 106 regulations (36 CFR 800.8(c)) and the U.S. Council on Environmental Quality and ACHP's handbook on NEPA and Section 106 coordination and substitution (CEQ and ACHP 2013). Under NEPA and</p>

Comment No.	Comment	Response
		<p>NHPA Section 106, BOEM has provided multiple opportunities for consulting parties to review information about the Project, identification of historic properties, assessment of effects, and resolution of adverse effects, and to provide their comments on the Project. BOEM considered consulting party feedback in the development of the Final EIS, including Section 3.6.2, <i>Cultural Resources</i>; Appendix I, <i>Finding of Adverse Effect for the Atlantic Shores Offshore Wind South Project Construction and Operations Plan</i> (hereinafter, <i>Finding of Adverse Effect</i>); and the MOA.</p> <p>BOEM held five NHPA Section 106 Consultation Meetings on August 30, 2022; June 8, 2023; December 4, 2023; February 27, 2024; and April 25, 2024, to provide consulting parties with information regarding the NEPA and NHPA review processes, Project, cultural resources technical reports produced for the Project, BOEM’s <i>Finding of Adverse Effect</i>, and MOA and to solicit feedback from consulting parties on any of the aforementioned topics and documents.</p> <p>On May 4, 2023, BOEM provided consulting parties with the cultural resource technical reports and documents for a 60-day review and comment period; the documents provided to consulting parties included the:</p> <ul style="list-style-type: none"> • Technical memorandum detailing BOEM’s delineation of the APE for the Project; and • Marine archaeological resource assessment (MARA) report (COP Volume II, Appendix Q1); • Terrestrial archaeological resource assessment (TARA) reports (COP Volume II, Appendices II-P1 and II-P2); • Historic resources visual effects assessment (HRVEA) reports (COP, Appendices II-N1, II-N2, II-O, and II-W); • Visual Impacts Assessment (VIA; COP, Appendices II-M1, II-M2, II-M3, and II-M4);

Comment No.	Comment	Response
		<ul style="list-style-type: none"> • Cumulative historic resources visual effects assessment (CHRVEA) report (BOEM 2023); • <i>Finding of Adverse Effect</i> (Final EIS, Appendix I); and • First draft of the MOA. <p>On May 19, 2023, BOEM notified the general public, federally recognized Tribes, and consulting parties that the Draft EIS was available for a 45-day review and comment.</p> <p>Per BOEM’s request, Atlantic Shores revised the aforementioned cultural resource technical reports based on consulting party comments. The revised reports and documents were provided to consulting parties for periods of review and comment on November 20, 2023; February 20, 2024; and April 10, 2024, and also used to revise Section 3.6.2, <i>Cultural Resources</i>; Appendix I, <i>Finding of Adverse Effect</i>; and the MOA. On May 29, 2024, BOEM distributed the Final MOA for signature and a notification to consulting parties of its intention to publish its Notice of Availability of the Final EIS on May 31, 2024.</p>
BOEM-2023-0030-1466-0006	<p>The current visual assessment is inadequate to show the actual impact of the wind turbines and associated infrastructure. For example, BOEM has considered only three observation points within the County, placed miles apart with several towns in between. Because BOEM has improperly limited observation points and associated visual simulations, it is impossible for anyone to figure out from these limited points how Atlantic Shores will affect all historic and cultural resources.</p>	<p>BOEM disagrees with Cape May County’s comment regarding the inadequacy of the visual assessments provided in the HRVEA (COP, Appendices II-N1, II-N2, II-O, and II-W), CHRVEA (BOEM 2023), and VIA (COP, Appendices II-M1, II-M2, II-M3, and II-M4). Visualizations provided in these assessments depict a range of high-contrast conditions from numerous Key Observation Points (KOPs), providing sufficient coverage along the coastline and inland areas of New Jersey; these KOPs include four in Cape May County, including Gillian’s Wonderland Pier (OC04), Corson’s Inlet State Park (OC01), Cape May Lighthouse (LT02), and Townsend Inlet Bridge (SIC02). Please also note that simulations and visualizations are only one aspect of BOEM’s analyses of effects on resources and are not the entire basis of the assessment of effects.</p>

Comment No.	Comment	Response
		<p>The KOPs from which the visual simulations were developed provide a range of vantages with unobstructed views toward the Project and represent views with the greatest potential for change to their existing conditions. Visual simulations were produced to capture a range of lighting conditions (i.e., side lit, back lit, front lit) at different times (e.g., from morning through night) and are consistent with BOEM guidance and extensive analyses of visual effects and impacts conducted over the previous decade on offshore wind facilities (e.g., see Section 7.3.3, <i>KOP Selection and Description</i>, in SLVIA guidance, BOEM 2021). It is neither feasible nor required for BOEM to produce visual simulations of the Project from all historic and cultural resources to determine whether these resources would be subject to visual impacts or accurately characterize the nature of such visual impacts.</p> <p>BOEM has determined the visual assessments represent a good-faith effort to analyze potential visual impacts of the Project and are sufficient to enable an informed assessment of visual impacts found in the HRVEA, CHRVEA, VIA, EIS, and <i>Finding of Adverse Effect</i> (Appendix I).</p>
BOEM-2023-0030-1466-0008	Under NEPA BOEM must consider a wide range of effects specifically including impacts that are “historic cultural [and] economic.” BOEM must carefully consider the impacts on the County’s unique character which qualifies as a “resource” under NEPA’s definition.	BOEM has considered a wide range of potential Project impacts on Cape May County and its resources consistent with NEPA regulations. For the purposes of analysis in Section 3.6.2, <i>Cultural Resources</i> , BOEM has defined cultural resources as <i>physical</i> resources valued by a group of people that may be listed on national, state, or local historic registers or be identified as being important to a particular group during consultation. BOEM determined other resources in the human environment that may be considered “cultural” by another definition are better suited for the scopes of analysis in other sections of Chapter 3, Section 3.6, <i>Socioeconomic Conditions and Cultural Resources</i> . Cape May County and resources within Cape May County—including those of

Comment No.	Comment	Response
		<p>historic, cultural, and socioeconomic significance—are identified and analyzed for potential Project impacts in the following:</p> <ul style="list-style-type: none"> • Section 3.6.1, <i>Commercial Fisheries and For-Hire Recreational Fishing</i> • Section 3.6.2, <i>Cultural Resources</i> • Section 3.6.3, <i>Demographics, Employment, and Economics</i> • Section 3.6.7, <i>Other Uses (Marine Minerals, Military Use, Aviation, and Scientific Research and Surveys)</i> • Section 3.6.8, <i>Recreation and Tourism</i> • Section 3.6.9, <i>Scenic and Visual Resources</i>
BOEM-2023-0030-1466-0011	<p>Due to the high potential for Atlantic Shores to adversely impact cultural sites, historic properties, the viewshed, property values, and tourism, BOEM should conduct additional visual assessments, and provide consulting parties and the public with adequate and easily accessible information that informs all parties and the public of potential impacts.</p>	<p>BOEM has provided consulting parties and the public with adequate and accessible information pertaining to the potential impacts of the Project. BOEM held five NHPA Section 106 Consultation Meetings on August 30, 2022; June 8, 2023; December 4, 2023; February 27, 2024; and April 25, 2024. BOEM also held four public hearings during the 45-day Draft EIS public comment period: two held in-person on June 21 and 22, 2023 and two held virtually on June 26 and 28, 2023. Information about these public meetings, the Project in general, and BOEM’s environmental review has been made available on BOEM’s website throughout the duration of BOEM’s review (https://www.boem.gov/renewable-energy/state-activities/atlantic-shores-south).</p> <p>Please refer to the responses to comments BOEM-2023-0030-1466-0002 for additional information on BOEM’s fulfillment of its NEPA and NHPA obligations to consult with the public and consulting parties; and BOEM-2023-0030-1466-0006 for additional information on visual assessments.</p>
BOEM-2023-0030-1466-0012	<p>In specifically requiring cumulative impacts analyses, NEPA and NHPA recognizes the significant effect that projects can have on the surrounding landscape beyond the scope of a</p>	<p>BOEM has consistently incorporated best practices from ongoing research into assessing cumulative impacts and has included assessments of cumulative impacts in each resource</p>

Comment No.	Comment	Response
	<p>single development. This Project, and how it is evaluated and permitted, will set a precedent for upcoming projects in the area and along the entire Atlantic Coast; therefore, it is essential to apply consistent criteria to this project and subsequent future sites. Due to the historic integrity of historic properties within the Project Area and Area of Potential Effect, BOEM must establish and implement best practices. Based on the omissions described above, the COP should be amended to reflect—and the DEIS should include—a complete assessment of all impacts, including cumulative impacts, to historic and cultural properties and include additional visual simulations for Cape May County’s historic properties.</p>	<p>section of the EIS. Section 3.6.2.5, <i>Impacts of Alternative B – Proposed Action on Cultural Resources</i>, includes an analysis of the cumulative impacts on cultural resources from the Proposed Action in combination with other ongoing and planned non-offshore wind and offshore wind activities, including Atlantic Shores Offshore Wind Bight, Atlantic Shores North, Bight Wind Holdings, Garden State Offshore Energy, Invenergy Wind Offshore, Ocean Wind 1, Ocean Wind 2, and Skipjack Offshore Energy. This analysis is informed by the CHRVEA, which specifically addresses anticipated cumulative visual effects on historic properties accruing from the Project and other foreseeable offshore wind energy developments. The CHRVEA is a form of assessment BOEM has consistently conducted to inform its NEPA and NHPA reviews of proposed offshore wind projects. Section 3.6.2.5 and the CHRVEA sufficiently demonstrate the degree to which the Project and other future foreseeable offshore wind projects would contribute additive effects to cumulative visual effects on historic properties.</p> <p>BOEM provided the CHRVEA produced and revised for the Project to consulting parties for periods of review and comment on May 4, 2023; November 20, 2023; and February 20, 2024. Please refer to the response to comment BOEM-2023-0030-1466-0006 for additional information on visual assessments.</p>
BOEM-2023-0030-1815-0004	<p>Since New Jersey sits between the historic and vital ports of New York and Philadelphia, there are estimated to be at least 3000 shipwrecks that have occurred off NJ in the last 300 years. A large percent of these wrecks occurred during storms, at night, or limited visibility during the 19th century when they came up on the shoals where they were pounded to pieces, or may still be present (although mostly buried) due to a heavy cargo. I belong to another organization, the NJ Historical Divers Association, that is trying to identify and map the multitude of unknown wrecks off NJ, and</p>	<p>BOEM intends to coordinate with the New Jersey Council of Divers and Clubs in the future to see whether this organization could assist in the identification of additional marine archaeological resources offshore of New Jersey. Information regarding potential shipwrecks or other forms of submerged cultural resources improves BOEM’s ability to identify and ultimately protect these resources.</p>

Comment No.	Comment	Response
	<p>cooperated with NOAA in 2014 to supply divers to map the wreck of the Robert J. Walker, an 1860 government owned survey vessel now on the National Register of Historic Places about 10 miles off Atlantic City, and that wreck may be in the wind farm area of Atlantic Shores DEIS.</p>	
BOEM-2023-0030-0916-0020	<p>[The proposed federal action itself is unreasonable, because it:] would adversely impact a number of historic properties on the Island and provide for no mitigation of that impact[.]</p>	<p>Based on BOEM’s NEPA and NHPA consultations with the consulting parties, public comments received on the Draft EIS, and the analyses conducted in the HRVEA (COP Volume II, Appendices II-O and II-W) and Appendix I, <i>Finding of Adverse Effect</i>, BOEM has found the Project would have a visual adverse effect on one historic property on Long Beach Island (i.e., Barnegat Lighthouse) due to the visibility of the Project from the historic property. BOEM has found no effect or no adverse effects on other historic properties located on Long Beach Island based on the low potential visibility of the Project from historic properties identified in the area due to intervening land and structures (COP Volume II, Appendices II-O and II-W).</p> <p>Through fulfillment of its NEPA and NHPA obligations, BOEM has identified avoidance, minimization, and mitigation measures for historic properties that would be adversely affected by the Project. BOEM has consulted with federally recognized Tribes, the New Jersey Historic Preservation Office (NJHPO), and consulting parties, including Save Long Beach Island, Inc., on the identification of historic properties in the Project APE; assessment of effects; and development and implementation of avoidance, minimization, and mitigation measures for resolving adverse effects on historic properties under Section 106 of the NHPA. BOEM provided federally recognized Tribes, NJHPO, and consulting parties with drafts of the MOA and HPTPs describing mitigation for adversely affected historic properties on May 4, 2023; November 20, 2023; February 20, 2024; and April 10, 2024, for periods of review and comment. BOEM also held NHPA Section 106 Consultation Meetings #3 and #4, respectively, on December</p>

Comment No.	Comment	Response
		<p>4, 2023, and February 27, 2024, to provide an overview of the MOA and solicit feedback from federally recognized Tribes and consulting parties, including on potential avoidance, minimization, and mitigation measures; and Meeting #5 on April 25, 2024, to finalize the MOA. Mitigation measures and HPTPs, developed through consultations for the adversely affected historic properties and stipulated in the MOA, will be implemented by the Project to resolve adverse effects in accordance with Section 106 and Section 110(f) of the NHPA.</p>
BOEM-2023-0030-0916-0224	<p>The BOEM Scoring Criteria in the DEIS, The DEIS treatment of finding adverse effects on historic properties is a classic example of how the BOEM creates its own scoring system to show minor impact in conflict with the criteria in implementing regulations. In its scoring system in Table 3.6.2-2 the BOEM ignores the most relevant criteria (item v in the list below [(v) Introduction of visual, atmospheric or audible elements that diminish the integrity of the property's significant historic features"]) for shore communities with ocean and maritime based history, the primary basis for their historic property classification. Instead, for minor impact, it cites Section 800.5(b) which is a procedure, not a criterion. Its criteria for moderate and major impact are the same, and cite 800.5(a)(1) which doesn't have any specific criteria. So, its scoring system is contrived, does not match with the criteria in the NHPA rules, and therefore its scoring of effects as minor, etc. have no relation to the true regulatory criteria.</p>	<p>To facilitate its fulfillment of the NEPA substitution process for NHPA Section 106, BOEM has developed Table 3.6.2-2, <i>Definitions of potential adverse impact levels for cultural resources by type</i> to characterize potential impacts on cultural resources (including historic properties under Section 106) resulting from Project alternatives, including the Proposed Action. This table incorporates the Criteria of Adverse Effect under NHPA Section 106 (36 CFR 800.5(a)), including the introduction of visual, atmospheric, audible, and any other form of potential effects (see Appendix I, Section I.3, <i>Application of the Criteria of Adverse Effect</i>). The table describes how the impact levels under NEPA generally correlate with findings of no effect, no adverse effect, and adverse effect under Section 106 of the NHPA. In addition, Appendix I, <i>Finding of Adverse Effect</i>, Section I.3, describes BOEM's application of the NHPA Section 106 Criteria of Adverse Effect to the Project.</p> <p>As a result of its assessment, BOEM found the Project's adverse effects on historic properties would be physical, visual, and/or cumulatively visual in nature. These are the types of effects that would occur at levels that may potentially alter or diminish the integrity of historic properties identified in the APE. Based on analyses of noise in the COP (COP Volume II, Appendix II-U, <i>Onshore Noise Report</i>) and EIS (Section 3.6.5, <i>Land Use and Coastal Infrastructure</i>), BOEM determined audible elements of the</p>

Comment No.	Comment	Response
		Project would not have a level of impact that would contribute to the undertaking's adverse effects on historic properties.
BOEM-2023-0030-2014-0006	<p>From a general perspective as to what many have identified as a rush to judgment concerning various aspects of the interrelated proposals for the massive construction of off shore wind farms I would certainly object to the process itself and the scope of the proposal as to the New York Bight PEIS and as to the entire New Jersey coast. Even if one looks at the narrower interpretation as to the "protection of historic properties" I would render an objection to the bifurcating procedures as well as to any ultimate decision approving the proposed massive industrial construction of wind farm sites in the New York Bight lease area and off the New Jersey Coast. While I do not find such a narrow interpretation appropriate there are numerous known and unknown historic shipwrecks and underwater sites of significant value which are threatened for destruction by the proposed massive commercial project.</p>	<p>The scope of BOEM's assessment in the EIS includes consideration of all identified resources in the relevant geographic analysis area for the Project and is not limited to historic properties. Pursuant to NEPA, the EIS assesses potential environmental impacts on physical, biological, socioeconomic, and cultural resources that could result from the construction and installation, O&M, and conceptual decommissioning of the PDE described in Atlantic Shores Offshore Wind, LLC's COP submitted for Lease Area OCS-A 0499 (the Project). This includes an analysis of potential cumulative impacts of past, present (ongoing), and reasonably foreseeable future (planned) actions that could occur during the life of the Project in each resource-specific section of Chapter 3. This cumulative analysis includes potential impacts of ongoing and planned offshore wind energy development. Please refer to Chapter 1 for a more detailed description of BOEM's methodology for assessing impacts in the EIS. Pursuant to NHPA Section 106, BOEM has defined the undertaking as the PDE described in the COP and conducted the necessary reviews and consultations in accordance with 36 CFR Part 800 Protection of Historic Properties, including analysis of cumulative effects on historic properties. These processes and resulting findings are described in BOEM's <i>Finding of Adverse Effect</i> (Appendix I). As also described in this document, BOEM has taken into consideration the potential cumulative adverse effects on historic properties as a result of the undertaking combined with other ongoing and planned offshore wind projects.</p> <p>BOEM has determined the MARA (COP Volume II, Appendix II-Q1) represents a good-faith effort to identify historic properties in the marine APE and assess potential effects of the Project on these historic properties. BOEM has</p>

Comment No.	Comment	Response
		<p>determined the MARA sufficiently complies with BOEM’s <i>Guidelines for Providing Archaeological and Historic Property Information Pursuant to 30 CFR Part 585</i> (BOEM 2020). BOEM has determined a subset of the identified marine archaeological resources and ASLFs would be adversely affected by the Project; as such, mitigation measures were developed through consultation with federally recognized Tribes and consulting parties through the NHPA Section 106 consultation process and are stipulated in the MOA (refer to Appendix I, Attachment A, for a draft of the MOA [Draft 4] as of April 10, 2024). The executed MOA will be posted on BOEM’s website following issuance of the ROD at: https://www.boem.gov/renewable-energy/state-activities/atlantic-shores-south. NJHPO concurred with the identification of historic properties, including those located in New Jersey state waters, and assessment of effects in the MARA report on July 3, 2023.</p>
BOEM-2023-0030-1516-0048	<p>During the May On line public input session, a BOEM representative skimmed over the [Underlined: Appendix I: Finding of Adverse Effect for NHPA Section 106 Consultation], and the word “Adverse” was removed from the slide showing the title of the report. The fact that this critical word was removed from the reference demonstrates the bias and misrepresentation of the essence of the finding reported to the participants in the meeting.</p>	<p>BOEM disagrees that it has demonstrated any bias or misrepresentation of its Finding of Adverse Effect on historic properties in any context. Any omission of the word “adverse” in reference to BOEM’s Finding of Adverse Effect under NHPA Section 106 was either inadvertent or was in reference to specific historic properties on which BOEM found the Project would have no effect. BOEM has demonstrated and communicated its Finding of Adverse Effect in multiple ways throughout the NEPA and NHPA processes, including in Section 3.6.2, <i>Cultural Resources</i>; Appendix I, <i>Finding of Adverse Effect</i>; and correspondence and meetings with the public and consulting parties, including four public meetings held during the Draft EIS public comment period and NHPA Section 106 consultation meetings, particularly in Consultation Meeting #2 which was held specifically to review BOEM’s Finding of Adverse Effect with consulting parties.</p>

Comment No.	Comment	Response
BOEM-2023-0030-1516-0050	BOEM states that they had scoping meetings in October 2021 regarding the historic property issue which satisfies the NEPA requirement to inform and receive input from the public. The document, CUMULATIVE HISTORIC RESOURCES VISUAL EFFECTS ANALYSIS – ATLANTIC SHORES OFFSHORE WIND SOUTH PROJECT, was not available until May 2023, 19 months after the scoping meetings.	<p>On September 30, 2021, BOEM issued a Notice of Intent (NOI) to prepare an EIS consistent with NEPA regulations. The NOI commenced a public scoping process for identifying issues and potential alternatives for consideration in the EIS. The formal scoping period was from September 30 through November 1, 2021. During this timeframe, federal agencies, state and local governments, and the general public had the opportunity to help BOEM identify potential significant resources and issues, impact producing factors, reasonable alternatives (e.g., size, geographic, seasonal, or other restrictions on construction and siting of facilities and activities), and potential mitigation measures to analyze in the EIS, as well as provide additional information. The Atlantic Shores South Construction and Operations Plan Scoping Report has been made available to the public on BOEM's website (https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/Atlantic-Shores-South-Scoping-Report-Summary-Appendix.pdf).</p> <p>BOEM elected to use the NEPA substitution process for Section 106 purposes, as described in 36 CFR 800.8(c). The regulations at 36 CFR 800.8(c) provide for use of this process to fulfill a federal agency's NHPA Section 106 review obligations in lieu of the procedures set forth in 36 CFR 800.3 through 800.6 for historic property consultation, identification, assessment of effects, and resolution of adverse effects. BOEM's NOI to prepare an EIS for the Project initiated the first steps of its Section 106 review. BOEM utilized information from the public scoping meetings and consultations with consulting parties, such as the first Section 106 Consultation Meeting held on August 30, 2022, to inform its analysis of effects on historic properties in the Draft EIS and <i>Finding of Adverse Effect</i> (Appendix I). This included the inventory of aboveground historic properties in the visual Area of Potential Effects considered for adverse effects under</p>

Comment No.	Comment	Response
		<p>Section 106 in the HRVEA and CHRVEA. These and other cultural resource and historic property assessment reports and documents were found sufficient to continue consultations with consulting parties for resolving adverse effects on historic properties in May 2023; as such, on May 4, 2023, BOEM provided consulting parties with the cultural resource technical reports and documents for a 60-day review and comment period. Additionally, on May 19, 2023, BOEM made public versions of these Section 106 reports and documents, including the CHRVEA, available to the public on its website to coincide with the publication of the NOA for the Draft EIS in the Federal Register; this commenced a 45-day public comment period which ended on July 3, 2023.</p> <p>Throughout its environmental review, BOEM has provided consulting parties and the public with opportunities to review and comment on the Project’s potential effects on historic properties. BOEM held five NHPA Section 106 Consultation Meetings on August 30, 2022; June 8, 2023; December 4, 2023; February 27, 2024; and April 25, 2024. BOEM also held four public hearings during the 45-day Draft EIS public comment period: two held in-person on June 21 and 22, 2023 and two held virtually on June 26 and 28, 2023. Outside of these meetings, BOEM also welcomed direct communications via email or phone to address questions or concerns or receive information to inform its Section 106 review.</p> <p>Please refer to the response to comment BOEM-2023-0030-1466-0002 for additional information on BOEM’s distribution of information to the public and consulting parties under NEPA and NHPA Section 106.</p>
BOEM-2023-0030-1516-0073	Attachment D lists Consulting Parties to the ASWNJ project as of April 2023. What did these parties do? What activities did they participate in? What information were they provided and what input did they provide to the NHPA Section 106	Consistent with the NHPA Section 106 regulations at 36 CFR 800.2(c), BOEM has invited federally recognized Tribes, NJHPO, federal agencies, local governments, and certain organizations and individuals with demonstrated legal or economic interest or concern with the Project’s effects on

Comment No.	Comment	Response
	<p>review? What essential parties or individuals were excluded from this process?</p>	<p>historic properties. For the lists of entities invited to be consulting parties and participating consulting parties, please refer to Appendix I, Attachments C and D, respectively.</p> <p>Please refer to 36 CFR 800.2(c) for the roles of consulting parties in the Section 106 process; and response to comment BOEM-2023-0030-1466-0002 for additional information on the consulting parties and their involvement in consultation.</p>
<p>BOEM-2023-0030-1556-0015</p>	<p>We appreciate that BOEM is consulting with both federal- and state-recognized tribes for Atlantic Shores South. According to the Draft EIS BOEM has invited the following federally recognized tribes within the Project Area to consult: the Delaware Nation Delaware Tribe of Indians Eastern Shawnee Tribe of Oklahoma Mashpee Wampanoag Tribe Mashantucket (Western) Pequot Tribe Narragansett Indian Tribe Shawnee Tribe Shinnecock Indian Nation and Wampanoag Tribe of Gay Head (Aquinnah). BOEM has asked the following state-recognized tribes to be NHPA Section 106 consulting parties on the proposed Project: the Lenape Indian Tribe of Delaware Nanticoke Indian Tribe Nanticoke Lenni-Lenape Tribal Nation Powhatan Renape Nation Ramapough Lenape Indian Nation and Ramapough Mountain Indians. [Footnote 47: AS DEIS at 3.6.4-18.]</p>	<p>BOEM thanks the National Wildlife Federation, National Audubon Society, New Jersey Audubon, et al. for this comment.</p>
<p>BOEM-2023-0030-1775-0001</p>	<p>I spent sometime on appendix I and I had a couple of questions I was looking at the 21 archeological resources which presumably are shipwrecks that will be negatively impacted as well as the 37 ancient submerged land form features that will be negatively impacted by these projects I was interested to see that in your presentation that the Nanticoke Lenni-Lenape Indians are not part of your conversations I was wondering why that is they are recognized in the state as an official Indian tribe in the State of New Jersey so I am wondering why that is that if these archeological resources are being disturbed and potentially destroyed why the tribe that -- who -- to whom these</p>	<p>BOEM invited the Nanticoke Lenni-Lenape Tribe, as well as five other New Jersey state recognized tribes with potential interests in the Project area, to consult on the Project under NHPA via emailed and hardcopy invitations on November 5, 2021. Additionally, BOEM conducted phone calls to these tribes on November 19, 2021, to confirm receipt of the invitations and solicit the tribes' interest in participating in consultations. However, BOEM did not receive a response from the Nanticoke Lenni-Lenape Tribe indicating the tribe's acceptance to participate in consultations on the Project. BOEM continued to welcome the Nanticoke Lenni-Lenape</p>

Comment No.	Comment	Response
	<p>archeological resources belong why they are not part of these conversations.</p>	<p>Tribe and other state recognized tribes to participate in NHPA Section 106 consultations over the course of the Project.</p>
<p>BOEM-2023-0030-1819-0001</p>	<p>We join the chorus of other Tribes and intertribal organizations calling for an immediate moratorium on the current Bureau of Ocean Energy Management scoping and permitting process including these Section 106 consultations in order to allow time to enact a new Nationwide Programmatic Agreement (“NPA”) for all currently permitted or proposed offshore wind projects that will guide a new and appropriate BOEM scoping and permitting process for future development. This NPA must be inclusive of avoidance measures minimization of impacts integration of Indigenous Knowledge and provide full mitigation through completion of comprehensive and transparent procedures to appropriately protect Tribal environmental cultural and sovereign interests.</p>	<p>BOEM is committed to upholding our Tribal trust responsibilities and fostering working relationships based on trust and meaningful consultation. We are continually working to improve the consultation process to engage Tribes in a respectful way and to help Tribal Nations expand capacity to engage in environmental reviews and NHPA Section 106 consultations.</p> <p>In April 2023, BOEM’s Director, Liz Klein, and other BOEM leaders met with leaders from Tribal Nations at the Tribal Leaders Summit at Mohegan Sun. The discussions centered on BOEM’s renewable energy program and concerns about offshore wind development on the east coast, including the call from Tribal Nations for a moratorium on offshore wind energy development and for execution of a nationwide Section 106 Programmatic Agreement (PA). BOEM looks forward to meeting with Tribal leaders to discuss the follow up actions from this April 2023 meeting and continuing these discussions to ensure we are addressing your concerns.</p> <p>BOEM drafted and finalized multiple Atlantic-specific regional PAs starting in 2012 that address how the federal agency will consult under NHPA Section 106, identify historic properties, assess potential adverse effects on historic properties, and resolve adverse effects associated with offshore renewable energy projects located on the Outer Continental Shelf. BOEM has been and will be consulting on new PAs in the Atlantic region that have since expired, and we look forward to consulting with interested federally recognized Tribes on these new regional PAs. BOEM invited federally recognized Tribes to consult on the new Mid-Atlantic PA presently under development, and we welcome any follow-up meetings to discuss this new PA or currently executed PAs, including the New Jersey-New York PA, South Atlantic PA, and North</p>

Comment No.	Comment	Response
		<p>Carolina PA. Since BOEM has multiple regional PAs already executed and currently being implemented, including in the Atlantic and Pacific regions, we do not see a need to execute a nationwide PA at this time.</p> <p>BOEM is committed to engaging with Tribal Nations at all phases of offshore wind energy development and ensuring that the identification of historic properties and resolution of adverse effects incorporate Indigenous Knowledge and Tribal perspectives through Section 106 consultation. We look forward to continuing to consult with the Wampanoag Tribe of Gay Head (Aquinnah) on these important issues.</p>
BOEM-2023-0030-1466-0003	<p>In its scoping comments, the County requested that the DEIS include a full assessment of effects on all properties within the County listed or eligible for listing in the National Register of Historic Places that are likely to experience adverse visual effects so that the County’s residents can understand the nature and extent of those effects. BOEM, however, did not abide by this request, and its analysis of impacts—direct, indirect, and cumulative—falls short as a result.</p>	<p>The HRVEA reports (COP Volume II, Appendices II-O and II-W) provide an inventory of historic properties listed or eligible for listing in the National Register of Historic Places (NRHP) identified in the visual APE for Offshore Project components (see COP Volume II, Appendix II-O, Section 3.3, <i>Aboveground Historic Properties within the PAPE</i>). These historic properties were also assessed for the potential of adverse effects from the Project in the HRVEA. The HRVEA assessments were used to inform BOEM’s analysis in Section 3.6.2, <i>Cultural Resources</i>, and <i>Finding of Adverse Effect</i> (Appendix I).</p> <p>Please refer to the response to comment BOEM-2023-0030-1466-0006 for additional information on BOEM’s visual assessments conducted to provide sufficient coverage in Cape May County and along the coastline and inland areas of New Jersey.</p>
BOEM-2023-0030-1466-0013	<p>The DEIS’s Visual Impact Assessment is too limited in scope and does not provide enough information for consulting parties to adequately assess potential impacts. Atlantic Shores two projects are expected to have up to 200 total wind turbines, supporting tower structures, up to ten offshore substations, one meteorological tower, as well as associated support and access structures. Proposed</p>	<p>Please refer to the response to comment BOEM-2023-0030-1466-0006 for information on BOEM’s visual assessments conducted to provide sufficient coverage in Cape May County and along the coastline and inland areas of New Jersey.</p>

Comment No.	Comment	Response
	<p>construction is expected to cause significant adverse effects to historic properties within the Project Area and Area of Potential Effect. Although the information provided in the DEIS is helpful in determining what area may be affected, consulting parties and the public cannot reasonably understand the full extent of visual impacts to all of Cape May County’s historic properties. Visual assessments that are this limited in nature are not only unreasonable, but also arbitrary, capricious, and contrary to federal law.</p>	
BOEM-2023-0030-1466-0007	<p>BOEM must therefore amend the DEIS to assess accurately adverse impacts and to determine appropriate avoidance, minimization, or mitigation measures from additional vantage points. These vantage points should include all historic districts, as well as all properties listed or eligible for listing in the National Register, and any National Historic Landmarks. In addition, vantage points for revised simulations should include additional points in Cape May County, including Cape May Historic District—a National Historic Landmark—which has provided countless people with a place for solitude, access to nature, and an uninterrupted seascape for centuries.</p>	<p>The Cape May Historic District NHL is not in the visual APE for the Project. Please refer to the response to comment BOEM-2023-0030-1466-0006 for information on BOEM’s visual assessments conducted to provide sufficient coverage in Cape May County and along the coastline and inland areas of New Jersey.</p>
BOEM-2023-0030-1516-0031	<p>According to table 4 Climate Justice Areas will be near the largest number of historical properties listed in the Cumulative Historic Resources Visual Effects Analysis. The climate justice areas will be in or close to more historic properties negatively impacted by the cumulative effects of offshore wind projects than any other community. As stated in another section of this report, the lighthouse in Atlantic City was not even included in the historical property list. How many more properties in the climate justice areas were omitted from the list?</p>	<p>BOEM has determined the HRVEA (COP Volume II, Appendices II-O and II-W) and CHRVEA (BOEM 2023) represent a good-faith effort to identify historic properties in the visual APE and analyze potential visual effects of the Project and other offshore wind projects on these historic properties. The Absecon Lighthouse in Atlantic City was identified and assessed for potential effects in the HRVEA; however, in response to this and other consulting party comments, BOEM requested Atlantic Shores and their contractor EDR (the preparer of the HRVEA) to revisit its assessment of Project effects on this historic property. Based on this reassessment, BOEM found the Project would have an adverse effect on the Absecon Lighthouse and has updated the analysis (see Appendix I, <i>Finding of Adverse Effect</i>, for</p>

Comment No.	Comment	Response
		<p>additional information). Please refer to the <i>Offshore HRVEA</i> report (COP Volume II, Appendix II-O) for the detailed effects assessment for this historic property. Analyses in the Final EIS and <i>Finding of Adverse Effect</i> (Appendix I) were updated accordingly and where applicable to reflect these HRVEA revisions.</p> <p>Please refer to the response to comment BOEM-2023-0030-1466-0006 for additional information on BOEM’s visual assessments conducted to provide sufficient coverage along the coastline and inland areas of New Jersey. Additionally, BOEM’s analysis on environmental justice communities, including those in and around Atlantic City, is provided in Chapter 3, Section 3.6.4, <i>Environmental Justice</i>.</p>
BOEM-2023-0030-0916-0055	<p>Accurate Presentation of Adverse Impacts to Historic properties, the DEIS uses a very narrow criterion of direct sight from a property that is not consistent with the National Historic Preservation Act rules or even BOEM’s other prior criteria to preposterously conclude that the most visible turbine complex in the world will have no adverse effect on many local historic properties which derive their classification largely from their association with a natural ocean and seascape.</p>	<p>The Draft and Final EISs, including Appendix I, <i>Finding of Adverse Effect</i>, represent a sufficient and good-faith effort to analyze potential visual effects of the Project on aboveground historic properties. BOEM has complied with the NHPA regulations for assessing effects, including in the consistent application of the Criteria of Adverse Effect under NHPA Section 106 (36 CFR 800.5(a)). Assessments of effects are based on a historic property's significance, how its character-defining features contribute to conveying that significance, and how the undertaking or Proposed Action has the potential to affect the historic property’s integrity.</p> <p>The HRVEA/HREA reports (COP Volume II, Appendices II-N1, II-N2, II-O, and II-W) inform analyses in the EIS and provide the historic context of the Project area, including the New Jersey Shore; results of desktop analysis and review of previously identified and potential aboveground historic properties within the APE; and results of the field surveys to document the existing conditions, integrity, maritime setting, and views from historic properties toward the Project. The HRVEA/HREA reports and Appendix I, <i>Finding of Adverse Effect</i>, describe the methodology for assessing visual adverse</p>

Comment No.	Comment	Response
		<p>effects on aboveground historic properties, consistent with other offshore wind energy projects in the Atlantic region. While the ocean may be a component of the historic setting for historic properties in the APE, that does not automatically mean ocean views are character-defining features of those historic properties. BOEM has determined that a change in setting caused by the Project would not rise to the level of causing an adverse effect unless an unobstructed ocean view is a character-defining feature of an historic property.</p>
BOEM-2023-0030-0916-0084	<p>The DEIS arbitrarily dismisses the clearly visible turbines having an adverse effect on the Beach Haven Historic District and other historic properties based on a very narrow criteria that a turbine must be directly visible from a property for there to be an adverse effect. That criterion is not found in the NHPA rules, and is not consistent with other broader criteria there.</p>	<p>The Draft and Final EISs, including Appendix I, <i>Finding of Adverse Effect</i>, represent a sufficient and good-faith effort to analyze potential visual effects of the Project on historic properties. BOEM has complied with the NHPA regulations for assessing effects, including in the consistent application of the Criteria of Adverse Effect under NHPA Section 106 (36 CFR 800.5(a)). The <i>Offshore HRVEA</i> report (COP Volume II, Appendix II-O), which informs analyses in the EIS, found that due to these historic properties' locations a block from the shoreline as well as the density of the surrounding area, the theoretical visibility of the Project would be limited to:</p> <ul style="list-style-type: none"> • 1.09% of the Beach Haven Historic District; • 0.27% of the Beach Haven Historic District (Boundary Increase and Additional Documentation). <p>Based on these assessments, BOEM found the Project would have no adverse effect on these historic properties.</p> <p>Please refer to the response to comment BOEM-2023-0030-0916-0055 for additional information.</p>
BOEM-2023-0030-0916-0085	<p>Its findings of adverse effect also do not consider the impact of turbine noise at the shore nor of atmospheric change, both of which are expected to occur (I.15 and I.16), and which are required by rule to be considered.</p>	<p>Please refer to the response to comment BOEM-2023-0030-0916-0224.</p>
BOEM-2023-0030-0916-0225	<p>From the descriptions in Appendix I of properties found to have adverse effect, it appears that BOEM applied its own</p>	<p>Please refer to the response to comment BOEM-2023-0030-0916-0055.</p>

Comment No.	Comment	Response
	<p>criteria, that the property itself must have unobstructed views of the turbines to have an adverse effect. But that does not appear in the regulatory criteria above, and ignores criteria v which is the most relevant to the properties in the shore communities here that have their historic designation largely based on their ocean setting and maritime history. Direct, unobstructed turbine view is also very restrictive which explains the relatively few properties found to have adverse effect.</p>	
BOEM-2023-0030-0916-0226	<p>Failure to consider atmospheric and audible noise conditions at the shore. In addition to the visible impact misrepresentations described in I.5 and the restrictive adverse impact criteria, item v above calls for consideration of atmospheric and audible noise elements. This has been completely ignored in the Section 106 review. This is a particularly egregious omission there will be atmospheric impacts at the shore including reduce breeze, higher air temperature and humidity as discussed in I.16, and audible and inaudible noise at the shore as discussed in I.15.</p>	<p>Please refer to the responses to comments BOEM-2023-0030-0916-0224 for information on BOEM’s application of the Criteria of Adverse Effect under NHPA Section 106 (36 CFR 800.5(a)); and BOEM-2023-0030-1466-0006 for information on BOEM’s visual assessments conducted to provide sufficient coverage along the coastline and inland areas of New Jersey.</p>
BOEM-2023-0030-0916-0227	<p>Conclusions Regarding the BOEM Historic Preservation Review notwithstanding the production of thousands of pages of text and a number of consultation meetings, the BOEM has not adhered to the regulatory criteria in its determination of adverse effect. In addition, for those properties found to have adverse effect, it cannot apply any mitigating measures to avoid, reduce or minimize that effect because it has artificially restricted its turbine number and placement alternatives. Therefore, the historic preservation review process to date is flawed, and must be redone with different criteria, full disclosure of how they are applied, and with the application of effective mitigating measures.</p>	<p>The undertaking for BOEM’s current NHPA Section 106 review is the construction, operations, maintenance, and conceptual decommissioning of the Atlantic Shores Offshore Wind South Project, as described in the COP. BOEM has conducted Section 106 consultation for this undertaking, including seeking input from federally recognized Tribal Nations, NJHPO, ACHP, and consulting parties on measures to avoid, minimize, or mitigate adverse effects on historic properties. The MOA incorporates measures to avoid, minimize, and mitigate adverse effects on historic properties developed through consultation, including measures related to visual adverse effects. In addition, the EIS analyzes feasible alternatives, including alternatives that reduce the total number of WTGs (i.e., Alternative D). Please refer to BOEM’s <i>Finding of Adverse Effect</i> (Appendix I), Section I.4.1, <i>Alternatives Considered</i>, for an NHPA Section 106 review of</p>

Comment No.	Comment	Response
		<p>the NEPA Alternatives analyzed in the EIS; and Appendix I, Attachment A, for a draft of the MOA (Draft 4) as of April 10, 2024. The executed MOA will be posted on BOEM’s website following issuance of the ROD at: https://www.boem.gov/renewable-energy/state-activities/atlantic-shores-south.</p> <p>BOEM has complied with the NHPA regulations for assessing potential Project effects on historic properties, including in the consistent application of the Criteria of Adverse Effect under NHPA Section 106 (36 CFR 800.5(a)), and has sufficiently analyzed these effects in Appendix I, <i>Finding of Adverse Effect</i>.</p> <p>Please refer to the responses to comments BOEM-2023-0030-0916-0224 for additional information on BOEM’s application of the Criteria of Adverse Effect under NHPA Section 106 (36 CFR 800.5(a)); BOEM-2023-0030-0916-0055 for information on how historic properties are assessed for Project effects.</p>
BOEM-2023-0030-0916-0230	<p>With regard to the Barnegat Lighthouse, this DEIS should include a cumulative visual assessment, similar to that done for the Ocean Wind project. That should include not just Atlantic Shores projects one and two, but also project three in the northern part of the Lease area, which is much closer to the Lighthouse. With that assessment, the visible impact on viewers from the Lighthouse will be similar or even worse than that to Beach Haven. The lighthouse is also steeped in maritime tradition and depends in very large part on views of the sea for its value as a historic property. It meets the criteria associating its value with the sea and its visual setting.</p>	<p>The Barnegat Lighthouse in Barnegat Light Borough, Ocean County was identified and assessed for potential effects in the HRVEA. In response to this and other consulting party comments, BOEM requested EDR (the preparer of the HRVEA) to revisit its assessment of Project effects on the Barnegat Lighthouse. EDR’s reassessments supported the revised finding that Barnegat Lighthouse would be adversely affected by the Project (see Appendix I, <i>Finding of Adverse Effect</i>, for more information). As such, Barnegat Lighthouse was incorporated into the CHRVEA for the Project, which provides an assessment of cumulative visual effects from the Project and other reasonably foreseeable offshore wind energy development, including Atlantic Shores Offshore Wind North (referred to as “project three” in this comment). Please refer to the <i>Offshore HRVEA</i> report (COP Volume II, Appendix</p>

Comment No.	Comment	Response
		<p>II-O) for the complete effects assessment for this historic property.</p> <p>Analyses in the Final EIS and <i>Finding of Adverse Effect</i> (Appendix I) were updated accordingly and where applicable to reflect these HRVEA revisions.</p>
BOEM-2023-0030-1812-0001	<p>We are pleased to find that Appendix 1-Finding of Adverse Effect (“FOE”) classifies the Tract as potentially eligible to be a historic district. Appendix 1 FOE pg. I-4243 and the Attachment 14-Historic Property Treatment Plan at p. 8 both contain accurate if somewhat brief descriptions of the Tract’s historic nature. The Association is proud to note that not only is the Tract home to an abundance of historic houses the Tract also hosted numerous historic figures such as Charles Lindbergh Irving Berlin as well as Presidents Johnson Humphrey and Clinton. A more detailed description of the Tract and its history is provided on the Association’s website: http://www.stleonardstract.org</p>	<p>BOEM thanks the St. Leonard’s Association for this comment. Research presented in the HRVEA, as well as BOEM’s consultations with the NJHPO, indicate Saint Leonard’s Tract in Ventnor City, Atlantic County to be a historic district eligible for listing in the NRHP. The NJHPO issued this opinion on this historic property’s eligibility on December 30, 1993.</p>
BOEM-2023-0030-1812-0002	<p>In particular, BOEM has identified in the FOE that Alternative D2 has the potential to reduce the adverse visual impact the Tract would experience as a result of the Project. The FOE states that the Tract is 12.69 miles from the nearest WTG and Alternative D2 would remove WTGs within 12.75 miles and lower maximum hub height. The net effect of these measures is that: “... D2 would involve a substantial enough reduction in visibility as to minimize or potentially fully avoid adverse effects on specific individual historic properties.” (FOE at 1-55.) The DEIS concludes:” Alternatives D1 and D2 would reduce the impacts on cultural resources overall to a moderate level...” (DEIS at pg. 3.6.2-40). It is worth noting that Alternative D2 would also avoid or reduce the Project’s adverse effect on two of our region’s National Historic Landmarks- Lucy the Elephant and the Atlantic City Convention Center. (FOE at I-56).</p>	<p>In response to this and other consulting party comments, BOEM requested Atlantic Shores to produce viewshed modeling for Alternative D (No Surface Occupancy at Select Locations to Reduce Visual Impacts) and visual simulations for the NEPA Alternatives, using the same methodology used for analyses of the Proposed Action (the undertaking), to improve the specificity of the alternatives analysis and facilitate consultations. Analysis of the viewshed modeling indicated that adoption of Alternative D, or any of its sub-alternatives, would not avoid adverse effects on any of the aboveground historic properties that would otherwise be adversely affected by the Proposed Action. This is due to the proximity of the adversely affected historic properties to the coastline; even with the removal or height restrictions under any of the Alternative D sub-alternatives, the views of the Project from these historic properties would still result in an adverse effect. However, BOEM found that the removal of</p>

Comment No.	Comment	Response
	<p>However, the BOEM implicitly discredits Alternative D2 when it concludes that : “...[n]o alternative that meets the purpose and need of the Project development in the Lease Area would fully avoid adverse effect on historic properties, including NHLs.” Elevating an applicant’s goals to the point that they are inviolate runs contrary to the notion baked into the Section 106 process that alternatives must be meaningfully considered and when warranted, implemented. We believe that, in this instance, the BOEM should not let the perfect be the enemy of the good. The Association respectfully submits that the record demonstrates that there are simply too many adverse effects generated by the Project for it to be approved without alteration. While Alternative D2 would result in a decrease in electrical generation, that pales in comparison to what the BOEM has determined would occur to the Tract which is a potential historic district composed of approximately 250 houses if the Project proceeds unchanged: Due to the close proximity of the Saint Leonard’s Tract Historic District, 12.69 miles from the Projects, the properties along the Atlantic Ocean beachfront will have unobstructed views of the Projects. In addition, the Projects are expected to be a significant focus of viewer attention from this area due to the proximity of the Projects to the property; therefore, the Projects will have an adverse effect on the setting of this historic district.</p> <p>Further, given that the Tract will be adversely affected by the Project as proposed, the St. Leonard’s Association requests BOEM consult with the Association as BOEM and Atlantic Shores develop the History Property Treatment Plan provided in draft form as Attachment 14-Historic Property Treatment Plan.</p> <p>For the reasons stated above, the Association strongly urges the BOEM to adopt Alternative D-2.</p>	<p>WTGs and WTG height restrictions may allow for a reduction in the intensity of these adverse effects. While each of these sub-alternatives would reduce Project visibility from historic aboveground resources, only Alternatives D1 and D2 would involve a substantial enough reduction in visibility as to minimize adverse effects on individual historic properties.</p> <p>Analyses in the Final EIS and <i>Finding of Adverse Effect</i> (Appendix I) were updated with expanded Alternative D analyses accordingly and where applicable. BOEM provided the results of this expanded analysis in the revised <i>Finding of Adverse Effect</i> and NEPA Alternative visual simulations to consulting parties on November 20, 2023; and February 20, 2024. BOEM’s Preferred Alternative in the Final EIS includes the restriction of WTG height per Alternative D3.</p>

Comment No.	Comment	Response
BOEM-2023-0030-1815-0025	Nor did it help that a resource we are interested in protecting (shipwrecks) is considered a confidential resource by BOEM so that it is impossible to determine if an adequate or complete underwater survey was performed, or if known wrecks that often cover up were detected in the survey.	<p>To satisfy its obligations under Section 304 of the NHPA (54 U.S.C. 307103(a)), BOEM has withheld from public disclosure the location, character, and/or ownership of historic properties where it has determined that disclosure may cause a significant invasion of privacy, risk harm to the historic properties, or impede the use of a traditional religious site by practitioners.</p> <p>BOEM has determined the MARA (COP Volume II, Appendix II-Q1) represents a good-faith effort to identify historic properties in the marine APE and assess potential effects of the Project on these historic properties. BOEM has determined the MARA sufficiently complies with BOEM’s <i>Guidelines for Providing Archaeological and Historic Property Information Pursuant to 30 CFR Part 585</i> (BOEM 2020). BOEM has determined a subset of the identified marine archaeological resources and ASLFs would be adversely affected by the Project; as such, mitigation measures were developed through consultation with federally recognized Tribes, NJHPO, and consulting parties through the NHPA Section 106 consultation process and are stipulated in the MOA. Refer to Appendix I, Attachment A, for a draft of the MOA (Draft 4) as of April 10, 2024. The executed MOA will be posted on BOEM’s website following issuance of the ROD at: https://www.boem.gov/renewable-energy/state-activities/atlantic-shores-south. NJHPO concurred with the identification of historic properties, including those located in New Jersey state waters, and assessment of effects in the MARA report on July 3, 2023.</p>
BOEM-2023-0030-1815-0032	Although within easy SCUBA diving depth, apparently none of the side scanned targets have yet been dove to determine significance and possible National Register eligibility. Since BOEM decided to hide the location of these targets by leaving them out of the DEIS, shipwrecks whose identity and history may already be known cannot be determined from this DEIS. Most of the research done on shipwrecks off the Jersey coast	<p>Thank you for your comment. BOEM will take this into consideration.</p> <p>Please refer to the response to comment BOEM-2023-0030-1815-0025 for additional information regarding BOEM’s</p>

Comment No.	Comment	Response
	is done by the sport diving community. Perhaps when the DEIS for Atlantic Shores North is considered, I could be of more help since I'm very familiar with those wrecks.	obligations under Section 304 of the NHPA (54 U.S.C. 307103(a)).
BOEM-2023-0030-1516-0071	The DEIS does not present any significant mitigation measures to measurably reduce the most severe impacts of the proposal such as turbine exclusion zones from shore similar to those being provided to other states to address visual impacts and adverse impacts to the historic properties under the National Historic Preservation Act and New Jersey Coastal Zone Management rules. The ASOWNJ DEIS's list of historic sites excludes a number of historic and tourist sights including but not limited to light houses along the coast.	<p>BOEM has determined the <i>Offshore HRVEA</i> (COP Volume II, Appendix II-O) represents a good-faith effort to identify and assess potential Project effects on historic properties in the visual APE and complies with BOEM's <i>Guidelines for Providing Archaeological and Historic Property Information Pursuant to 30 CFR Part 585</i> (BOEM 2020). This identification and assessment effort included numerous historic properties in New Jersey, including lighthouses such as the Absecon Lighthouse, Barnegat Lighthouse, Brigantine Lighthouse, Hereford Lighthouse, and Cape May Lighthouse. As an assessment and report completed to inform BOEM's NHPA Section 106 obligations to identify historic properties, the HRVEA does not explicitly address tourist sites unless they are also historic properties (i.e., resources listed or eligible for listing in the NRHP). Additional information on recreation and tourism resources can be found in Section 3.6.8, <i>Recreation and Tourism</i>.</p> <p>BOEM has consulted with federally recognized Tribes, NJHPO, and consulting parties on the development and implementation of avoidance, minimization, and mitigation measures for resolving adverse effects on historic properties under Section 106 of the NHPA. BOEM provided federally recognized Tribes, NJHPO, and consulting parties with drafts of the MOA and HPTPs describing mitigation for adversely affected historic properties on May 4, 2023, and November 20, 2023; February 20, 2024; and April 10, 2024, for periods of review and comment. BOEM also held NHPA Section 106 Consultation Meetings #3 and #4, respectively, on December 4, 2023, and February 27, 2024, to provide an overview of the MOA and solicit feedback from federally recognized Tribes and consulting parties, including on potential avoidance, minimization, and mitigation measures; and Meeting #5 on</p>

Comment No.	Comment	Response
		April 25, 2024, to finalize the MOA. Mitigation measures and HPTPs, developed through consultations for the adversely affected historic properties and stipulated in the MOA, will be implemented by the Project to resolve adverse effects in accordance with Section 106 and Section 110(f) of the NHPA.
BOEM-2023-0030-1518-0007	We also believe that BOEM's approach of relying solely on financial solutions to address environmental cultural and historic preservation concerns is negligent.	Mitigation measures stipulated in the MOA and HPTPs, inclusive of any contributions to a mitigation fund, were developed through Section 106 consultations with federally recognized Tribes, NJHPO, and consulting parties and encompass a variety of measures to resolve adverse effects, including projects to expand public understanding of historic properties. The mitigation fund measure was developed specifically as a response to consulting party feedback on offshore wind projects in the region. Please refer to comment BOEM-2023-0030-2015-0038 for additional information.
BOEM-2023-0030-1815-0006	Why are the shipwrecks inadequately protected? The first reason has to do with a 50-meter buffer zone that is woefully deficient. Some of the cable laying motorized barges may be 300 or 400 ft long with very questionable maneuverability, and expecting a barge that size to lay cable within an area that is half as long as the barge itself is not realistic. Furthermore, wrecks tend to spread out over time and much of the wreck may be buried just a foot or so under the surface, so the nearby cable would not be buried to the required six feet although the wreck may not show with side-scanning within 50 meters. The buffer zone needs to be at least 100 meters.	Qualified Marine Archaeologists (QMAs) use a combination of methods, including side scan sonar, magnetometer, and sub bottom profiler, when conducting MARAs and consider the results of these efforts in developing avoidance buffer zones. The QMA-recommended buffer zones for marine archaeological resources and ASLFs in the marine APE constitute a 50-meter radius from the outer extent of the sonar target or magnetic signature (or both) and not a centroid location. BOEM has determined these recommended buffers to be sufficient for avoiding adverse effects on historic properties in the marine APE. These and other avoidance, minimization, and mitigation measures as well as a Marine Archaeology PRDP are stipulated in the MOA. Refer to Appendix I, Attachment A, for a draft of the MOA (Draft 4) as of April 10, 2024. The executed MOA will be posted on BOEM's website following issuance of the ROD at: https://www.boem.gov/renewable-energy/state-activities/atlantic-shores-south .
BOEM-2023-0030-1815-0031	The other possible problem is the attitude of some barge captains, who think if something is underwater, no one will	The Lessee has agreed to avoidance and minimization measures developed based on QMA recommendations and

Comment No.	Comment	Response
	<p>see it and it doesn't matter. In 1997 one motorized barge dredge captain was caught at least 400 feet past the designated borrow area, hit two shipwrecks that had a 100-ft buffer, and failed to report wood brought up on the dredge as required by the COE. The resulting investigation generated a report (I have a copy) and recommended a 750 ft buffer zone around shipwrecks. Perhaps it might be a good idea to threaten penalties for hitting a surveyed or known cultural resources (shipwreck), and require an experienced marine archaeologist to check out all surveyed shipwrecks near wind turbines before and after construction.</p>	<p>NHPA Section 106 consultations for historic properties in the marine APE, and BOEM has stipulated these measures in the MOA. The MOA also stipulates mitigation measures to resolve adverse effects for any historic properties in the marine APE that cannot be avoided and would be adversely affected by the Project. Should the Lessee fail to comply with measures stipulated in the MOA, a notice of non-compliance would be issued, and the Lessee may face further corrective action and/or civil penalties. Refer to Appendix I, Attachment A, for a draft of the MOA (Draft 4) as of April 10, 2024. The executed MOA will be posted on BOEM's website following issuance of the ROD at: https://www.boem.gov/renewable-energy/state-activities/atlantic-shores-south.</p> <p>Please refer to response to comment BOEM-2023-0030-1815-0006 for additional information on the QMA avoidance buffer development process.</p>
BOEM-2023-0030-1815-0008	<p>What really concerns me is that an electrical cable is accidentally laid over a low-lying wood or metal wreck, and that would be most of them off the NJ coast. Wrecks are intensely fished and dived on, and party, charter, and private boats will anchor with a lot of line out and sometimes with two anchors so that the boat can maneuver over the wreck by adjusting the lines. The anchor ropes could extend several hundred feet past the wreck. Dive boats will often throw a grapple upwind of a wreck and let it drag into the wreck. As a diver, I have seen wrecks uncover over 4 feet, and the area near a wreck can uncover due to scouring. What would happen if an electrical cable near a wreck was partially uncovered and an anchor or grapple hook snagged it? For anchoring reasons alone it would be advisable to have at least a 100-meter buffer zone around any surveyed wreck.</p>	<p>Please refer to the responses to comments BOEM-2023-0030-1815-0006 and BOEM-2023-0030-1815-0031.</p>
BOEM-2023-0030-1815-0027	<p>After reviewing Atlantic Shores South "Monitoring Plan and Post Review Discoveries Plan: Submerged Cultural Resources", I have some compliments, criticism, and</p>	<p>Thank you for your comment and suggestion of incorporating a visit to the New Jersey Shipwreck Museum into the training program. As noted in the response to comment BOEM-2023-</p>

Comment No.	Comment	Response
	<p>suggestions. The artifact training program for contractors, project staff, and barge captains by a qualified archaeologist is a good idea. Atlantic Shores may also want to consider a tour of the NJ Shipwreck Museum at Info Age, 2201 Marconi Rd, Wall Township for artifact identification. What your likely to find, however, is reluctance on the motorized barge captain to report any cultural material if a stop work order is threatened.</p>	<p>0030-1815-0006 and 0031, the Lessee must comply with avoidance, minimization, and mitigation measures as well as the Marine Archaeology PRDP stipulated in the MOA, which includes a requirement to report post-review discoveries and/or Project effects on marine archaeological resources.</p>
BOEM-2023-0030-1815-0028	<p>That Qualified Marine Archaeologist needs to be on the barge monitoring what's happening whenever cables are being laid or with bottom disturbance activity during construction, not just training staff. Remember that shipwrecks are a multiuse resource, and most wrecks have been dove on for 50 years off Atlantic City. The best idea is to avoid shipwrecks with a 100-meter buffer.</p>	<p>The existing process for training personnel coupled with the 50-meter avoidance buffer, as stipulated in the MOA and with respect to the Marine Archaeology Monitoring and PRDP (MOA, Attachment 4), are consistent with the processes in place on other offshore wind projects.</p> <p>Please refer to response to comment BOEM-2023-0030-1815-0006 for additional information on the QMA avoidance buffers.</p>
BOEM-2023-0030-1516-0071	<p>The DEIS does not present any significant mitigation measures to measurably reduce the most severe impacts of the proposal such as turbine exclusion zones from shore similar to those being provided to other states to address visual impacts and adverse impacts to the historic properties under the National Historic Preservation Act and New Jersey Coastal Zone Management rules. The ASOWNJ DEIS's list of historic sites excludes a number of historic and tourist sights including but not limited to light houses along the coast.</p>	<p>BOEM has determined the <i>Offshore HRVEA</i> (COP Volume II, Appendix II-O) represents a good-faith effort to identify and assess potential Project effects on historic properties in the visual APE and complies with BOEM's <i>Guidelines for Providing Archaeological and Historic Property Information Pursuant to 30 CFR Part 585</i> (BOEM 2020). This identification and assessment effort included numerous historic properties in New Jersey, including lighthouses such as the Absecon Lighthouse, Barnegat Lighthouse, Brigantine Lighthouse, Hereford Lighthouse, and Cape May Lighthouse. As an assessment and report completed to inform BOEM's NHPA Section 106 obligations to identify historic properties, the HRVEA does not explicitly address tourist sites unless they are also historic properties (i.e., resources listed or eligible for listing in the NRHP). Additional information on recreation and tourism resources can be found in Section 3.6.8, <i>Recreation and Tourism</i>.</p>

Comment No.	Comment	Response
		<p>BOEM has consulted with federally recognized Tribes, NJHPO, and consulting parties on the development and implementation of avoidance, minimization, and mitigation measures for resolving adverse effects on historic properties under Section 106 of the NHPA. BOEM provided federally recognized Tribes, NJHPO, and consulting parties with drafts of the MOA and HPTPs describing mitigation for adversely affected historic properties on May 4, 2023, November 20, 2023; February 20, 2024; and April 10, 2024, for periods of review and comment. BOEM also held NHPA Section 106 Consultation Meetings #3 and #4, respectively, on December 4, 2023, and February 27, 2024, to provide an overview of the MOA and solicit feedback from federally recognized Tribes and consulting parties, including on potential avoidance, minimization, and mitigation measures; and Meeting #5 on April 25, 2024, to finalize the MOA. Mitigation measures and HPTPs, developed through consultations for the adversely affected historic properties and stipulated in the MOA, will be implemented by the Project to resolve adverse effects in accordance with Section 106 and Section 110(f) of the NHPA.</p>

N.6.15 Demographics, Employment, and Economics

Table N.6-15. Responses to Comments on Demographics, Employment, and Economics

Comment No.	Comment	Response
BOEM-2023-0030-0213-0021	<p>As reported in an opinion piece in the New York Post on April 9, 2021 the cost of offshore wind power is very high even after subsidized by the government. It stated that the U.S. Energy Information Administration in a report published in February 2021 showed that the cost of offshore wind power (after government subsidy) is more than three times as high as for natural gas. The cost for offshore wind was reported at</p>	<p>According to the BPU OREC Award, ratepayers could see an increase in their monthly energy bill of \$2.21 for residential customers, \$20.18 for commercial customers, and \$172.25 for industrial customers (State of New Jersey Board of Public Utilities 2022). This information was added to the Final EIS.</p>

Comment No.	Comment	Response
	<p>\$121 per MWhr as compared to \$37 per MWhr for natural gas. All of us who use electricity will pay that increased cost. BOEM and the NJ BPU should be taking a hard look at these cost implications on rate payers commerce and industry? Will industries move from or not locate in NJ because of the high cost of electricity? How many jobs would be lost if that were to occur? In addition to the windmills themselves how will the power grid transmission needs for redirecting the flow of electricity in New Jersey be paid for?</p>	<p>Potential displacement of ratepayers due to an increased cost of energy is speculative (not reasonably foreseeable) and therefore not assessed in the EIS.</p>
BOEM-2023-0030-0213-0029	<p>A reassessment of comparative costs and impacts on electricity users is also needed. Increased costs of electricity from offshore wind will negatively impact residential and business users and in the case of commercial and industrial enterprises may lead to siting these facilities elsewhere not NJ. This will affect job opportunities and tax revenues. This analysis should be included in the DEIS.</p>	<p>Potential displacement of ratepayers due to an increased cost of energy is speculative (not reasonably foreseeable) and therefore not assessed in the EIS.</p> <p>Atlantic Shores submitted a cost-benefit analysis (CBA) as part of its Application as required by N.J.A.C. 14:86.5(a)(11). Levitan & Associates, Inc. (LAI) conducted an independent CBA to ensure that all Projects were compared on a consistent basis. Content provided by the Applicants helped inform LAI's independent CBA. LAI's CBA resulted in a value of 1.246, which meets the eligibility requirements of positive economic and environmental net benefits to the State (State of New Jersey Board of Public Utilities 2022). This information has been added to the EIS, Section 3.6.3, <i>Demographics, Employment, and Economics</i>.</p>
BOEM-2023-0030-0213-0038	<p>That BOEM complete a thorough numeric economic analysis for the Proposed Action and compare it to the No Action Alternative in the Supplemental DEIS. Analysis of impact on electric ratepayers should be included including residential commercial and industrial ratepayers. Will the higher costs drive commerce and industry from NJ resulting in job loss or prevent commerce and industry from locating in NJ.</p>	<p>According to the BPU OREC Award, ratepayers could see an increase in their monthly energy bill of \$2.21 for residential customers, \$20.18 for commercial customers, and \$172.25 for industrial customers (State of New Jersey Board of Public Utilities 2022). This information was added to the Final EIS.</p> <p>Potential displacement of ratepayers due to an increased cost of energy is speculative (not reasonably foreseeable) and therefore not assessed in the EIS.</p>
BOEM-2023-0030-0544-0002	<p>Also as important is what impact it will have on real estate value with impeded views of these turbines.</p>	<p>Hoehn et al. (2013) analyzed housing prices from home sales occurring within 10 mi (16 km) of onshore wind facilities in</p>

Comment No.	Comment	Response
		<p>nine US states and found no statistical evidence that home values were affected in the post-announcement/pre-construction or post-construction periods. The MassCEC also commissioned a report—Relationship between Wind Turbines and Residential Property Values in Massachusetts (Atkinson Palombo & Hoen 2014)—to study if home values were affected by their proximity to onshore WTGs. The study analyzed 122,198 home sales occurring between 1998 and 2012 of homes located within 5 mi (8 km) of 41 Massachusetts wind turbines. Results of this study indicated that there were no effects to nearby home prices resulting from the development of a wind farm in a community. Additionally, a 2017 study found that when placed more than 8 mi (7 nm; 13 km) from shore, there is a minimal effect on vacation rental values associated with offshore wind farms (Lutzeyer et al. 2017). A 2018 study also found that there was no impact on property values when the wind farm is located 5.6 mi (9 km) offshore (Jensen et al. 2018). Since the Project will be located more than 5.6 mi from shore, and since the majority of landward Project visibility occurs within 10–20 miles (16–32 kilometers) of the Project, any impacts on property values are expected to be negligible. This information was added to the Final EIS, Section 3.6.3, <i>Demographics, Employment, and Economics</i>.</p>
BOEM-2023-0030-0619-0002	<p>We have a unique opportunity for local involvement in the development of responsible wind power. This clean energy will enable us to reduce our reliance upon fossil fuels and foreign oil and will lessen the air pollution that occurs from the production of other energy forms. This offshore wind power project will create many good jobs for our local residents and existing unions already back this effort. A new 22 week paid wind turbine technician training program has been created at Rowan University. This is one of our nation’s fastest growing career paths pays well and would enable its graduates to work on wind turbines in the United States and internationally. As a former local high school teacher, I know</p>	<p>Section 3.6.3, <i>Demographics, Employment, and Economics</i>, of the EIS discusses potential economic benefits including local employment. As stated in the EIS, “Atlantic Shores is committed to maximizing the hiring and recruiting of its Project workforce from programs targeted at training and providing talent to the offshore wind industry from local New Jersey communities (COP Volume II; Atlantic Shores 2024).” According to the COP, Atlantic Shores is committed to recruiting, training, and hiring a diverse workforce that will enable the needs of New Jersey’s offshore wind workforce to be met by local communities. Atlantic Shores will provide scholarship support for Rowan College students. Rowan</p>

Comment No.	Comment	Response
	<p>that this educational opportunity would have a positive impact on our young people. This could be life-changing for many of them. I provided information about this training program to the guidance counselors at both Southern Regional and Pinelands Regional High Schools.</p>	<p>College at Burlington County's Workforce Development Institute offers a suite of programs that prepare students for careers in renewable energy, many of which are women and people of color. By providing scholarship funds, Atlantic Shores support will specifically benefit students with a demonstrated financial need.</p>
BOEM-2023-0030-0826-0008	<p>10-Will The OFW vessels/ships carry a majority American Workers? Who is going to police this? Coast Guard?</p>	<p>Section 3.6.3, <i>Demographics, Employment and Economics</i> of the EIS discusses potential economic benefits including local employment. As stated in the EIS, "Atlantic Shores is committed to maximizing the hiring and recruiting of its Project workforce from programs targeted at training and providing talent to the offshore wind industry from local New Jersey communities (COP Volume II; Atlantic Shores 2024)."</p> <p>The Project will also comply with the domestic crewing requirements of the Merchant Marine Act of 1920 (also known as the Jones Act) for applicable activities. The U.S. Customs and Border Protection agency enforces the provisions of the Jones Act.</p>
BOEM-2023-0030-0826-0013	<p>21-How Many jobs will be gained by the OSW and what revenues can the state see from this? Do these numbers outweigh what is lost in Tourism/real estate/retail/fishing industry etc? Is this really what is best for NJ?</p>	<p>Section 3.6.3 <i>Demographics, Employment and Economics</i> discusses the Project's anticipated job creation. Impacts to fishing are discussed in Section 3.6.1, <i>Commercial Fisheries and For-Hire Recreational Fishing</i>; impacts to recreation and tourism are discussed in Section 3.6.8, <i>Recreation and Tourism</i>.</p> <p>As discussed in the EIS, in a study conducted by BW Research Partnership on behalf of E2, a national, nonpartisan group of advocates for policies that benefit both the economy and environment, every \$1.00 spent building an offshore wind farm is estimated to generate \$1.83 for New Jersey's economy (E2 2018).</p> <p>Atlantic Shores submitted a cost-benefit analysis (CBA) as part of its Application as required by N.J.A.C. 14:86.5(a)(11).</p>

Comment No.	Comment	Response
		Levitan & Associates, Inc. (LAI) conducted an independent CBA to ensure that all Projects were compared on a consistent basis. Content provided by the Applicants helped inform LAI's independent CBA. LAI's CBA resulted in a value of 1.246, which meets the eligibility requirements of positive economic and environmental net benefits to the State (State of New Jersey Board of Public Utilities 2022). This information has been added to the EIS, Section 3.6.3, <i>Demographics, Employment, and Economics</i> .
BOEM-2023-0030-0916-0011	would through the sum and synergistic effect of visible effect turbine operational noise reduced shore breeze and surf and increased local temperature and humidity destroy the beach experience entirely and create a socio-economic impact far beyond what has been studied for visible impact of a stationary turbines alone	Section 3.6.3, <i>Demographics, Employment and Economics</i> discusses potential impacts to demographics, economics, and employment from noise and the presence of structures. Wind turbines extract kinetic energy from the atmosphere and thus can reduce wind speeds downwind of the turbine. Wind turbines increase vertical mixing in the atmosphere and thus can increase (or decrease) air temperatures and humidity downwind depending on local meteorological conditions. However, these effects dissipate with distance downwind. Because of the distance of the Project from land (approximately 16 miles from the center of the WTG array), substantial effects on wind speed, temperature and humidity are unlikely to occur over land. WTG arrays also, by altering vertical and horizontal air circulation, can affect precipitation, leading to an increase in precipitation upwind of the WTG array and a decrease downwind. However, studies indicate that the changes in precipitation are very small. Therefore, socioeconomic impacts are expected to be negligible as a result of potential changes to weather patterns. See also Section 3.4.1, <i>Air Quality</i> , Section 3.6.8, <i>Recreation and Tourism</i> and Section 3.6.9, <i>Scenic and Visual Resources</i> .
BOEM-2023-0030-0916-0029	it does not present job losses in the commercial and industrial sectors from the increase in State energy cost from both taxpayer subsidies and electric bill increases.	Potential displacement of ratepayers due to an increased cost of energy is speculative (not reasonably foreseeable) and therefore not assessed in the EIS.
BOEM-2023-0030-0916-0030	It does not show that the job gains from the project are mostly temporary and how they would be offset by job losses	Potential displacement of ratepayers due to an increased cost of energy is speculative (not reasonably foreseeable) and

Comment No.	Comment	Response
	in rentals tourism and from those higher electric rates in the commercial and industrial sectors	therefore not assessed in the EIS. Section 3.6.8 discusses potential impacts on tourism. Information on the projected numbers of full-time equivalent (FTE) employment positions and the length of the various phases of the Project Schedule is contained in Section 3.6.3, <i>Demographics, Employment and Economics</i> .
BOEM-2023-0030-0916-0043	Other Socio-Economic Impacts. It presents no analyses of lost revenues and jobs from the impacts of the higher commercial and industrial rates attributable to the project. It does not include benefits from the sale of the lease area and from contracts for services donations and gifts made by the company to determine whether the public has received a fair return on the sale and use of the lease area	Atlantic Shores submitted a cost-benefit analysis (CBA) as part of its Application as required by N.J.A.C. 14:86.5(a)(11). Levitan & Associates, Inc. (LAI) conducted an independent CBA to ensure that all Projects were compared on a consistent basis. Content provided by the Applicants helped inform LAI's independent CBA. LAI's CBA resulted in a value of 1.246, which meets the eligibility requirements of positive economic and environmental net benefits to the State (State of New Jersey Board of Public Utilities 2022). This information has been added to the EIS, Section 3.6.3, <i>Demographics, Employment, and Economics</i> . Potential displacement of ratepayers due to an increased cost of energy is speculative (not reasonably foreseeable) and therefore not assessed in the EIS.
BOEM-2023-0030-0916-0071	Other such impacts that must be evaluated together in the DEIS to get to the proper cumulative impact include the socio-economic impact on shore communities from the multiple near shore wind projects affecting each community	Section 3.6.3, <i>Demographics, Employment and Economics</i> includes an assessment of cumulative impacts on demographics, employment, and economics.
BOEM-2023-0030-0916-0076	the socio-economic impact of higher electric rates from the full program as opposed to one project	Information on potential impacts to monthly energy bills has been added to Section 3.6.3 <i>Demographics, Employment and Economics</i> .
BOEM-2023-0030-0916-0192	The BOEM should have conducted an updated economic impact study for the DEIS. At a minimum the DEIS should have presented the results of these prior survey studies using that same approach i.e., the data points in them for the smaller turbines and closer distances that are visually comparable to what will be seen off of LBI. When that is done	Section 3.6.9, <i>Scenic and Visual Resources</i> , includes information on potential impacts to scenic and visual resources. Section 3.6.8, <i>Recreation and Tourism</i> , discusses the Project's potential impacts on recreation and tourism. Section 3.6.3 <i>Demographics, Employment and Economics</i>

Comment No.	Comment	Response
	as shown above the socio-economic impacts are clearly significant and the DEIS scoring as moderate is without a technical basis and an arbitrary one.	assesses the Project's potential impacts to demographics, employment, and economics from the presence of structures.
BOEM-2023-0030-0916-0193	The DEIS should therefore estimate the socio-economic costs to the local communities -such as the impacts on tourism rentals and property values and to local commercial and recreational fisheries. Those subjects are addressed qualitatively but not quantified.	Section 3.6.8, <i>Recreation and Tourism</i> , discusses impacts on tourism. Information on potential impacts to property values has been added to Section 3.6.3 <i>Demographics, Employment and Economics</i> . Impacts to fisheries are discussed in Section 3.6.1, <i>Commercial Fisheries and For-Hire Recreational Fishing</i> . A quantitative cost benefit analysis is not feasible given the available information. In addition, a quantitative cost benefit analysis is not necessary for BOEM to make an informed decision.
BOEM-2023-0030-0916-0194	The DEIS should present the increased electric costs to NJ ratepayers from this project and the cumulative electric cost increases for the full New Jersey 11000 mw program.	Information on potential impacts to monthly energy bills has been added to Section 3.6.3, <i>Demographics, Employment and Economics</i> .
BOEM-2023-0030-0916-0196	The DEIS should show those cost and revenue numbers for the project so the decision-maker and the public can judge whether the public has received a fair return on the lease sale. In doing so it should also include the benefits below	Information on the Project's costs is proprietary. Section 3.6.3, <i>Demographics, Employment and Economics</i> includes an assessment of the Projects' potential economic benefits.
BOEM-2023-0030-0996-0002	The burgeoning offshore wind industry in the United States is poised to benefit consumers the economy and the environment in at least five key areas including: • Delivering significant economic benefits to the United States and the State of New Jersey. Constructing operating and servicing offshore wind farms along the east coast will require improvements to port and harbor infrastructure. To support development construction and operation of offshore wind projects as well as related infrastructure improvements it is estimated that the offshore wind industry could create up to 83000 new well-paying jobs by 2030. [Footnote 1: American Clean Power. U.S. Offshore Wind Power Economic Impact Assessment March 2020. https://supportoffshorewind.org/wp-	Atlantic Shores agrees that the AWEA study finds that in a high build and high domestic content scenario, offshore wind could support up to 83,000 jobs by 2030. This information is included in the EIS, Section 3.6.3, <i>Demographics, Employment, and Economics</i> .

Comment No.	Comment	Response
	content/uploads/sites/6/2020/03/AWEA_Offshore-Wind-Economic-ImpactsV3.pdf]	
BOEM-2023-0030-1257-0012	Robust socioeconomic analysis is critical to reach maximum economic benefits from offshore wind projects. The FEIS should detail all anticipated job-creation involving port utilization and development supply chain and manufacturing of offshore wind components construction operations and maintenance and decommissioning. In addition to salary information should include health and safety certifications training pathways recruitment and retention plans project labor agreements and union neutrality commitments if applicable and commitments and requirements for targeted hire of disadvantaged and underrepresented communities.	Section 3.6.3, <i>Demographics, Employment and Economics</i> of the EIS discusses potential economic benefits including local employment. As stated in the EIS, “Atlantic Shores is committed to maximizing the hiring and recruiting of its Project workforce from programs targeted at training and providing talent to the offshore wind industry from local New Jersey communities (COP Volume II; Atlantic Shores 2024).” As stated in Section 3.6.3, <i>Demographics, Employment and Economics</i> , “The Proposed Action’s beneficial impacts on demographics, employment, and economics depend on what proportion of workers, materials, vessels, equipment, and services can be locally sourced. The Proposed Action includes a number of EPMs to this end, including establishment of an O&M facility in Atlantic City, New Jersey, to be staffed primarily with local workers; hiring of a diverse and local workforce recruited from local training programs; and locally sourced construction materials and other supplies, to the extent possible and practical (DEM-01-DEM-09, Appendix G, Table G-1).” Further, COP Volume II indicates that these initiatives are targeted to provide training and opportunities for students from low-income backgrounds, minority and women-owned business enterprises (MWBs), and veterans (see Section 3.6.4, <i>Environmental Justice</i> , for additional information on how the Project provides opportunities to directly benefit environmental justice and disadvantaged communities).
BOEM-2023-0030-1257-0013	Atlantic Shores South should adopt a “look local first” ethic and utilize existing maritime resources and talent wherever possible.	Section 3.6.3, <i>Demographics, Employment and Economics</i> of the EIS discusses potential economic benefits including local employment. As stated in the EIS, “Atlantic Shores is committed to maximizing the hiring and recruiting of its Project workforce from programs targeted at training and providing talent to the offshore wind industry from local New Jersey communities (COP Volume II; Atlantic Shores 2024).”

Comment No.	Comment	Response
		As stated in Section 3.6.3, <i>Demographics, Employment and Economics</i> , “The Proposed Action’s beneficial impacts on demographics, employment, and economics depend on what proportion of workers, materials, vessels, equipment, and services can be locally sourced. The Proposed Action includes a number of EPMs to this end, including establishment of an O&M facility in Atlantic City, New Jersey, to be staffed primarily with local workers; hiring of a diverse and local workforce recruited from local training programs; and locally sourced construction materials and other supplies, to the extent possible and practical (DEM-01-DEM-09, Appendix G, Table G-1).”
BOEM-2023-0030-1516-0014	The total cost of delivery to the grid is not even included in the PPA energy price agreements with the NJ BPU. The agreement states that the rates will be adjusted once the energy is connected to the grid. The risk of the cost is minimized for the Wind Energy Companies because there is maximum cost responsibility but there is no maximum cost responsibility for rate payers. The cost burden on rate payers is open ended. The DEIS does not address issues with the PJM Grid. The Center on Global Energy Policy is begging for money to overhaul of the PJM grid needed to effectively operate with offshore wind. In NJ and MD.	Information has been added to Section 3.6.3, <i>Demographics, Employment and Economics</i> regarding the estimated effects of the Project on ratepayers. However, a detailed analysis of the PJM grid is beyond the scope of the EIS.
BOEM-2023-0030-1516-0015	The DEIS does not consider the actual guarantee of jobs presented in the PPA agreements with the NJ BPU. According the PPA solicitation 1 and 2 the GUARANTEE of jobs by the wind developers is minimal. Jobs related to Salem County wind port and Paulsboro facility are heavily funded by tax dollars and NJ rate payers. This is nothing more than a transfer of money in the form of increased taxes and utility rates from residents and business to the pockets of union members.	According to the PPA Solicitation 2, “ASOW’S Application contained comprehensive technical information covering its economic benefits, including firm in-State spending and job guarantees to mitigate various un-certainty factors.” Atlantic Shores guarantees O&M jobs for the 20-year OREC term. This information has been added to the EIS, Section 3.6.3, <i>Demographics, Employment, and Economics</i> .
BOEM-2023-0030-1516-0067	The DEIS fails to demonstrate that the project will not significantly drive up the cost of electricity for ratepayers in New Jersey.	Information on potential impacts to monthly energy bills has been added to Section 3.6.3 <i>Demographics, Employment and Economics</i> .

Comment No.	Comment	Response
BOEM-2023-0030-1516-0105	BOEM’s ASOWNJ DEIS ignores any calculation of economic impact and uses studies that have little external validity to the Jersey Shore and BOEM disregards key findings in other studies as justification for doing so. The tourist data referred to as the 2019 “Ocean Economy” in table B-4.8 (NOEP 2019) is significantly lower than 2019 (comparable year used in DEIS) and 2022 (most recent report) data on tourism economic research analysis reports by the NJ State Government New Jersey Division of Travel and Tourism at VisitNJ.org. Economic Impact (visitnj.org) [Link: https://visitnj.org/sites/default/files/2023-05/2022_Tourism_Economic_Impact_Study.pdf]	Impacts to tourism are discussed in Section 3.6.8 Recreation and Tourism. Section 3.6.3 <i>Demographics, Employment and Economics</i> discusses the Projects’ potential impacts to recreation and tourism economies. As discussed in Section 3.6.3, <i>Demographics, Employment and Economics</i> , NOAA tracks economic activity dependent upon the ocean in its “Ocean Economy” data, which includes, among other categories, commercial fishing and seafood processing, marine construction, commercial shipping and cargo-handling facilities, ship and boat building, marine minerals, harbor and port authorities, passenger transportation, boat dealers, and coastal tourism and recreation. Therefore, the tourism and recreation sector of the Ocean Economy is associated with the coast and is a subset of the State of New Jersey’s overall tourism economy.
BOEM-2023-0030-1516-0109	We have already stated why the Study on Block Island ([Underlined: Analysis of the Effects of the Block Island Wind Farm on Rhode Island Recreation and Tourism Activities] (BOEM Smythe Et. Al. University of Rhode Island Dec 2018) is irrelevant to how the Offshore Wind projects will impact real estate at the Jersey Shore. Neither BOEM (ASOWNJ DEIS) or Atlantic Shores (ASOWNJ COP) prepared any analysis to the impact of the offshore wind development to residential home values. This is another significant aspect of the economic impact that is left out of the analysis.	Information on potential impacts to property values has been added to Section 3.6.3, <i>Demographics, Employment and Economics</i> .
BOEM-2023-0030-1516-0110	It is very logical to use the Lutzeyer et. al. August 2017 study to draw conclusions about consumer behavior in the real estate market given that the Lutzeyer study examined choices that renters made with properties that had views of wind turbines. This study included nighttime views which increased the visual disamenities and avoidance of rental properties with views of the wind turbines. Participants were divided into categories: 55% never wanted a view from a rental property no matter how much rent was discounted 23% would tolerate some view along with various rent discounts	Information on potential impacts to property values has been added to Section 3.6.3, <i>Demographics, Employment and Economics</i> .

Comment No.	Comment	Response
	<p>and 21% would rent with a view all the time. No participants would pay more rent to see the wind turbines. The results from the study used in the calculations on Economic Impact have a 95% confidence level. ([Underlined: North Carolina State University the Amenity Costs of Offshore Wind Farms- Evidence from a Choice Experiment] Lutzeyer et. al. August 2017. [Underlined: https://cenrep.ncsu.edu/cenrep/wp-content/uploads/2016/03/WP-2017-017.pdf]) The results of this study are a great cause of concern to those who own real estate at the Jersey Shore especially owners of beach view properties. Yet the BOEM fails to prepare any analysis of the impact.</p>	
BOEM-2023-0030-1518-0047	<p>The Township understands that offshore wind projects have the potential to produce job creation in the offshore wind industry but raises concerns about the disparity in job distribution. Citing testimony from the CEO of Orsted the Township believes the majority of new jobs and investments have been allocated outside of New Jersey providing limited benefits to Long Beach Township. Additionally, questions remain about whether the creation of new full-time-equivalent jobs will outweigh the job losses in fishing and tourism- related industries. While the State of New Jersey claims that thousands of new jobs will be generated the developer of Ocean Wind 1 indicates that the majority of these jobs (500 or less) are short-term with only a small fraction (69) being permanent positions [Footnote 40: Atlantic Shores South Benefits to New Jersey (Orsted) Archived online at https://www.waterlog.net/download/6810/]. The South Fork wind project according to the Department of Interior will produce only 165 short-term and 10 long-term jobs. To potentially put hundreds of tourism- and fishing-related workers out of jobs for such minimal job creation is a violation of N.J.A.C. 7:7-15.4 which states that coastal energy facility construction and operation shall not directly or indirectly result in net loss of employment in the State for any</p>	<p>Orsted is not the developer of the proposed Project; the developer is Atlantic Shores (Atlantic Shores Offshore Wind, LLC). Section 3.6.3, <i>Demographics, Employment and Economics</i> discusses the Project’s anticipated job creation. Impacts to fishing are discussed in Section 3.6.1, <i>Commercial Fisheries and For-Hire Recreational Fishing</i>; impacts to recreation and tourism are discussed in Section 3.6.8, <i>Recreation and Tourism</i>.</p>

Comment No.	Comment	Response
	single year... Coastal energy facility construction and operation resulting in the loss of 200 or more person-years of employment in jobs in New Jersey directly or indirectly related to the State's coastal tourism industry in any single year is prohibited.	
BOEM-2023-0030-1518-0048	Consequently, the potential closure and sale of long-established family businesses may result in the loss of essential services contributing to a decline in rental and home values. The Township emphasizes the potential negative impact on the economy and the unique spirit of the Jersey Shore as a result of these developments.	Information on potential impacts to property values has been added to Section 3.6.3, <i>Demographics, Employment and Economics</i> . Also, as discussed in the EIS, a large number of seasonal housing units are available in the vicinity of the Project. During the summer, competition for temporary accommodations may arise, leading to higher rents.
BOEM-2023-0030-1518-0053	Long Beach Township will be a recipient of the energy generated by Atlantic Shores South. As a result, ratepayers within Long Beach Township will be forced to pay higher rates than they did previously for other sources of power. The Township is concerned that offshore wind turbines will produce energy that is more costly than land-based energy. While The Township may be willing to pay more for clean energy sources there are other options than offshore wind such as nuclear and solar power that offer significant advantages over offshore wind and are far more acceptable to its residents than the Atlantic Shores project.	Information on potential impacts to monthly energy bills has been added to Section 3.6.3, <i>Demographics, Employment and Economics</i> .
BOEM-2023-0030-1518-0054	Based on the best available data there is no doubt that prices for ratepayers in Long Beach Township will be significantly above current electricity prices. The state has provided enormous tax subsidies to wind developers which are financed by taxpayers and ratepayers in New Jersey. The New Jersey ratepayer advocate Division of Rate Counsel has repeatedly stated its concerns about cost and believes offshore wind projects will undoubtedly result in higher prices being paid by ratepayers." [Footnote 42: Despite criticism lawmakers advance big tax win for offshore-wind developer https://www.njspotlightnews.org/2023/06/orsted-offshore-wind-company-advances-to-big-tax-win-in-nj/]. Rate Counsel Director Brian Lipman has been on record	Information on potential impacts to monthly energy bills has been added to Section 3.6.3, <i>Demographics, Employment and Economics</i> .

Comment No.	Comment	Response
	several times raising his concerns about the drastic increases in electricity costs that will be forced onto ratepayers as a result of offshore wind development in New Jersey.	
BOEM-2023-0030-1518-0056	With the limited information currently available on what residents will pay Long Beach Township is unable to support the project in its current form. The New Jersey Board of Public Utilities (NJBPUB) should require a disclosure from the developer on what the expected costs are for residents. In addition, NJBPUB should hold consumers harmless if the project does not produce a significant portion of its generating capacity as was proposed in Virginia [Footnote 47: Application of Virginia Electric and Power Company For approval and certification of the Coastal Virginia Offshore Wind Commercial Project and Rider Offshore Wind; Commonwealth of Virginia State Corporation Commission August 5 2022; Case No. PUR-2021-00142].	Information on potential impacts to monthly energy bills has been added to Section 3.6.3, <i>Demographics, Employment and Economics</i> .
BOEM-2023-0030-1520-0010	It will realistically also have a severe impact on New Jersey economy including: Losses in tourism revenue (estimated at \$337 million per year). Property value losses (ranging from \$1 million for ocean fronts to \$200k for ocean view homes) with corresponding implications for other property owners. Vacation rental losses (55% of previous renters of oceanfront & ocean view properties indicated they would not return if turbines were visible even if offered an incentive). Job losses in multiple areas including hotels restaurants and business bankruptcies foreclosures and related business services.	Information on potential impacts to monthly energy bills has been added to Section 3.6.3, <i>Demographics, Employment and Economics</i> . Section 3.6.3 also discusses the anticipated impacts and benefits to the overall economy. Impacts to fishing are discussed in Section 3.6.1, <i>Commercial Fisheries and For-Hire Recreational Fishing</i> ; impacts to recreation and tourism are discussed in Section 3.6.8, <i>Recreation and Tourism</i> .
BOEM-2023-0030-1523-0005	Therefore, the County requests economic analyses be made available in the FEIS or supplemental DEIS to demonstrate the full range of alternatives considered for the Atlantic Shores South offshore wind project.	Section 3.6.3, <i>Demographics, Employment and Economics</i> includes information on the potential impacts to demographics, employment, and economics from the Project alternatives.
BOEM-2023-0030-1523-0006	The County demands to see under the hood on developers' financial models and have complete financial assurance from BOEM the State of New Jersey and the developer that well-	Information on Project costs and finances is proprietary.

Comment No.	Comment	Response
	vetted plans are in place to protect taxpayers from project failures.	
BOEM-2023-0030-1523-0038	<p>The County acknowledges the prospects for new jobs the offshore wind industry may create. However, citing a testimony from the CEO of Orsted the County is concerned that the vast majority of new jobs and investments have been made outside of the State of New Jersey and have no benefit to Cape May County.⁴⁴ The County is uncertain that the creation of new full-time-equivalent jobs will be greater than the jobs lost in commercial fisheries and tourism. Currently the vast majority of components and labor required for offshore wind projects are coming from foreign countries with no allegiance to the United States. Projections for ‘hundreds of thousands of jobs’ linked to offshore wind development and have not materialized and appear to be nothing more than politically motivated statements to gain the approval of labor unions and environmental groups. Empirical data tells another story. While the State of New Jersey claims that thousands of new jobs will be created according to the developer of Ocean Wind 1 many of those jobs (500 or less) are short term and only a small amount (69) are permanent jobs.⁴⁵</p>	<p>Orsted is not the developer of the proposed Project; the developer is Atlantic Shores (Atlantic Shores Offshore Wind, LLC). Section 3.6.3, <i>Demographics, Employment and Economics</i> discusses the Project’s anticipated job creation. Impacts to fishing are discussed in Section 3.6.1, <i>Commercial Fisheries and For-Hire Recreational Fishing</i>; impacts to recreation and tourism are discussed in Section 3.6.8, <i>Recreation and Tourism</i>.</p>
BOEM-2023-0030-1523-0039	<p>The South Fork wind project according to the Department of the Interior will produce only 165 short-term and 10 long-term jobs. Atlantic Shores believes that more than 40000 jobs will be created by this project (See Table B.4-11). That is simply impossible and is a testament to the severity of public deception required to advance these projects in addition to the manipulation of elected officials to gain their approval.</p>	<p>It is important to note that Table B.4-11 presents the total number of job-years anticipated to result from the Project. A job-year is the equivalent of one person working full-time for one year. Therefore, to arrive at an estimated number of full-time equivalent (FTE) jobs annually, one must divide the number of job-years by the length of the development phase in years. For example, the estimated 13,360 direct FTE job-years during the 10-year development and construction period equates to an average of 1,336 FTE jobs annually, and 19,925 direct FTE job-years during approximately 34 years of operations and decommissioning equals approximately 586 FTE jobs annually. This has been clarified in the Final EIS.</p>

Comment No.	Comment	Response
BOEM-2023-0030-1523-0040	To potentially put hundreds of tourism and fishing-related workers out of jobs for such minimal job creation is a violation of N.J.A.C. 7:7-15.4 which states that coastal energy facility construction and operation shall not directly or indirectly result in net loss of employment in the State for any single year... Coastal energy facility construction and operation resulting in the loss of 200 or more person-years of employment in jobs in New Jersey directly or indirectly related to the State's coastal tourism industry in any single year is prohibited. With an economy based almost entirely on tourism and commercial fishing the County is unable to sustain drastic changes to its workforce and culture as a result of offshore wind farms. Small family businesses that have been operating for generations will face hardship and may be forced to close and sell existing assets creating a vacuum for activities and services that have been routinely provided for residents and tourists for generations. Without these services rental and home values will begin to decline in value and demand as the spirit and workforce of the Jersey Shore is lost.	Section 3.6.3, <i>Demographics, Employment and Economics</i> discusses the Projects' potential overall economic impacts, including impacts related to property values and rents. Impacts to fishing are discussed in Section 3.6.1, <i>Commercial Fisheries and For-Hire Recreational Fishing</i> ; impacts to recreation and tourism are discussed in Section 3.6.8, <i>Recreation and Tourism</i> .
BOEM-2023-0030-1523-0041	According to the New Jersey Rate Counsel Director Brian Lipman the Atlantic Shores South project will undoubtedly lead to higher electricity prices for ratepayers in Cape May County due to the substantial tax subsidies provided to wind developers which are funded by taxpayers and ratepayers in New Jersey. Lipman has expressed concerns multiple times about the significant increases in electricity costs that will be imposed on ratepayers as a consequence of offshore wind development in the state. Taxpayers and ratepayers in the State of New Jersey have already provided enormous subsidies for the construction of facilities related to offshore wind. According to the Heritage Foundation the upfront construction cost of the Governor Murphy's 11-GW offshore wind plan will cost just over \$8000 per resident. ⁴⁶ New Jersey taxpayers provided \$225 million to the Port of Paulsboro which according to the Mayor of Paulsboro was	Information on potential impacts to monthly energy bills has been added to Section 3.6.3, <i>Demographics, Employment and Economics</i> . Developing estimates of federal and state subsidies is outside the scope of the EIS.

Comment No.	Comment	Response
	<p>importing steel from Russia and still hasn't created the jobs it was promised. New Jersey taxpayers provided \$637 million for the construction of the New Jersey Wind Port in Salem as well and Cape May County has noted any increase in jobs in connection with these projects or the construction of Ocean Wind 1 or Atlantic Shores.</p>	
BOEM-2023-0030-1523-0042	<p>The construction of wind turbine-based electric utilities is known to be quite costly. In the case of the Atlantic Shores South project each tower will support a 12-MW turbine surpassing the size of any similar power supply in the United States. The DOE acknowledges that offshore wind energy entails greater operational costs and downtime and as wind turbine output diminishes over time operating and maintenance costs increase. The U.S. Energy Information Administration predicts that offshore wind energy is approximately 3.4 times more expensive than power generated by natural gas plants. Considering the escalating demand for electricity the substantial operating costs and the declining energy output over time of wind energy there is no evidence to suggest that this project will effectively reduce climate change in New Jersey. This is further supported by the Heritage Foundation's report which relied on the U.N. Intergovernmental Panel on Climate Change Climate Simulator Model which determined that the temperature reduction from the Governor's 11-GW plan would be no more than 0.0003 degrees Celsius by 2050 and 0.0007 degrees Celsius by 2100 (see footnote 42). Given the lack of comprehensive information available regarding the costs for residents Cape May County cannot endorse the project in its current state. The New Jersey Board of Public Utilities (NJBPU) should mandate that the developer disclose the expected costs for residents. Additionally NJBPU should safeguard consumers' interests by ensuring they are not financially burdened if the project fails to generate a significant portion of its proposed capacity.</p>	<p>Information on potential impacts to monthly energy bills has been added to Section 3.6.3, <i>Demographics, Employment and Economics</i>. Information on Project costs is proprietary.</p>

Comment No.	Comment	Response
BOEM-2023-0030-1545-0008	In addition to its environmental and public health benefits the Atlantic Shores South Wind Project will provide significant economic and community benefits including the creation of substantial new employment opportunities. The Project is expected to create or induce more than 40000 full time equivalent (FTE) jobs throughout the Project's life cycle. Atlantic Shores will utilize local supply chains and contribute to the establishment of facilities and the development of ports that will help to attract and supply future offshore wind projects.	Section 3.6.3 <i>Demographics, Employment and Economics, Demographics, Employment, and Economics</i> , discloses the Project's anticipated job creation.
BOEM-2023-0030-1557-0012	Revised Cost Estimates Show Energy Master Plan Will Cost \$1.4 Trillion Sending the State Back to the Drawing Board Affordable Energy For NJ (njaffordableenergy.com) AENJ Email 2/20/23: Governing By Press Release Affordable Energy For NJ (njaffordableenergy.com) AENJ Email 6/5/23: Back Door Gas Stove Ban Affordable Energy For NJ (njaffordableenergy.com)	Information on Project costs is proprietary.
BOEM-2023-0030-1677-0001	What are the potential financial impacts on property values and tourism?	Section 3.6.3, <i>Demographics, Employment, and Economics</i> , discusses the Project's potential impacts on property values. Section 3.6.8, <i>Recreation and Tourism</i> , discloses potential impacts to tourism.
BOEM-2023-0030-1681-0005	What effects on real estate have litoral turbine projects had? Have values declined in comparable locations?	Information on the Project's potential impacts on property values has been added to Section 3.6.3, <i>Demographics, Employment, and Economics</i> .
BOEM-2023-0030-1727-0003	I am also not happy with your claim that it's going to create jobs where did you come up with that? The number of jobs created by these massive destructive turbines will not come anywhere near close to the tens of thousands of jobs that you are going to destroy in the fishing industry in the realty business in the construction business and general economy here at the beach with my local business.	Section 3.6.3 <i>Demographics, Employment and Economics</i> discusses the Project's anticipated job creation and overall economic impacts. Information on the Project's anticipated job creation was based on Atlantic Shores' COP Volume II (2023). Section 3.6.8, <i>Recreation and Tourism</i> , discusses the Project's potential impacts on Recreation and Tourism. Impacts to fishing are discussed in Section 3.6.1, <i>Commercial Fisheries and For-Hire Recreational Fishing</i> .

Comment No.	Comment	Response
BOEM-2023-0030-1738-0002	And finally, the economic assessment the economic impact again I am not going to talk about what is better oil natural gas wind solar that's not my point my question is everyone living at or near the shore has made an investment in it and it's certainly possible that all of us will have a permanent decrease in the enjoyment of our properties and their financial value.	Information on the Project's potential impacts on property values has been added to Section 3.6.3, <i>Demographics, Employment, and Economics</i> .
BOEM-2023-0030-1791-0008	Number three real estate values in any of our Jersey coastal communities where the Atlantic Shores project is are going to decline. Property values are going to be impacted by turbine noise and infrasound.	Information on the Project's potential impacts on property values has been added to Section 3.6.3, <i>Demographics, Employment, and Economics</i> .
BOEM-2023-0030-1793-0004	Household electricity bills for everyday working Americans take the hit with a substantial increase in monthly household bills for basic needs. In ten states with high solar and wind electricity expenses they have increased between 18 and 40 percent versus seven percent for the U.S.A. as a whole.	Information on potential impacts to monthly energy bills has been added to Section 3.6.3, <i>Demographics, Employment and Economics</i> .
BOEM-2023-0030-1796-0004	Advancing Atlantic Shores South protects these investments. Locally the Atlantic Shores South project important to excuse me locally the Atlantic Shores South is important to New Jersey's economy. The project is estimated to create more than 33825 full-time equivalent jobs over the project one and project two lifecycles with tens of thousands of more created indirectly and induced through local expenditures.	Section 3.6.3, <i>Demographics, Employment and Economics</i> discusses the Projects' anticipated job creation.
BOEM-2023-0030-1809-0003	We also firmly believe that all the offshore wind developers should be required to invest NOW fn training the various tradesmen that are needed now and for the future of the marine construction industry as we are still experiencing a skilled labor shortage in NJ.	Section 3.6.3, <i>Demographics, Employment and Economics</i> of the EIS discusses potential economic benefits including local employment. As stated in the EIS, "Atlantic Shores is committed to maximizing the hiring and recruiting of its Project workforce from programs targeted at training and providing talent to the offshore wind industry from local New Jersey communities (COP Volume II; Atlantic Shores 2024)." According to the COP, Atlantic Shores is committed to recruiting, training, and hiring a diverse workforce that will enable the needs of New Jersey's offshore wind workforce to be met by local communities. For example, Atlantic Shores

Comment No.	Comment	Response
		will provide scholarship support for Rowan College students. Rowan College at Burlington County's Workforce Development Institute offers a suite of programs that prepare students for careers in renewable energy.
BOEM-2023-0030-1809-0006	we firmly believe that If the Local Content requirement is not enforced in the construction of these new offshore wind farm service vessels and to our knowledge it has been waived in several instances in New England the local economic impact will be greatly diminished and it will not create any new full time jobs in the marine vessel construction industry in NJ.	As stated in Section 3.6.3, <i>Demographics, Employment and Economics</i> , "The Proposed Action's beneficial impacts on demographics, employment, and economics depend on what proportion of workers, materials, vessels, equipment, and services can be locally sourced. The Proposed Action includes a number of EPMs to this end, including establishment of an O&M facility in Atlantic City, New Jersey, to be staffed primarily with local workers; hiring of a diverse and local workforce recruited from local training programs; and locally sourced construction materials and other supplies, to the extent possible and practical (DEM-01-DEM-09, Appendix G, Table G-1)."
BOEM-2023-0030-1953-0003	What makes these foreign companies and our political leaders think these windmills won't be affected and how the already- bourdoned taxpayers will continue to pay for the repair cleanup from their destructions through these storms.	Information on potential impacts to monthly energy bills has been added to Section 3.6.3, <i>Demographics, Employment and Economics</i> . Developing estimates of subsidies associated with storm damage is outside the scope of the EIS.

N.6.16 Environmental Justice

Table N.6-16. Responses to Comments on Environmental Justice

Comment No.	Comment	Response
BOEM-2023-0030-1257-0012	Robust socioeconomic analysis is critical to reach maximum economic benefits from offshore wind projects. The FEIS should detail all anticipated job-creation involving port utilization and development supply chain and manufacturing of offshore wind components construction operations and maintenance and decommissioning. In addition to salary information should include health and safety certifications training pathways recruitment and retention plans project labor agreements and union neutrality commitments if	BOEM addresses economic and employment impacts in Chapter 3.6.3, <i>Demographics, Employment, and Economics</i> . Local hiring plans are addressed within that section.

Comment No.	Comment	Response
	applicable and commitments and requirements for targeted hire of disadvantaged and underrepresented communities.	
BOEM-2023-0030-1450-0004	<p>Among the faulty notice and due process violations in the DEIS process to date are the following Socioeconomic Conditions and Cultural Resources mandated by Chapter 3 such that at least three socioeconomic populations (minority low-income elderly/aged and Native American) were left out of the USEPA guidance for environmental justice analysis and DHAI was not addressed “where these populations could potentially be impacted by activities associated with the proposed Project [Footnote 5: Sec. 3.6.4-2.]” as follows: Pursuant to Secs. 3.6.3 3.6.4-1-3 adequate notice must be given to minority populations. There was no DEIS available in Spanish. Therefore, the surrounding population in the affected area of the proposed Project lacked adequate notice and their due process rights denied because no Spanish version of the DEIS was available. Nor were there accommodations made for Spanish speakers available at the public meeting I attended virtually on June 26 2023, thus these environmental justice communities lacked proper and full notice of the proposed project resulting in further denial of due process rights under the DEIS. Sec. 3.6.4-2. Nor was there reasonable accommodation for the low income/elderly retiree population of the proposed impact area of the Project to attend the public meeting held on June 22 2023 at the Atlantic City Convention Center, pursuant to public testimony given at the virtual public hearing on June 26 2023. These populations who comprise an environmental social justice community pursuant to Secs. 3.6.4-1 and 3.6.4-2 in the geographical analysis area affected by the Project whose participation in the NEPA process must be considered in public participation strategies were denied due process rights pursuant to Secs. 3.6.4-1 and 3.6.4-16. From BOEM’s own public testimony at the June 26 2023 public hearing held virtually, BOEM’s representative declined to name which Native American tribe was represented and engaged showing</p>	<p>Section ES.3 of the EIS provides an overview of the public engagement process and activities to date. The publication of the Draft EIS initiated a 45-day public comment period, which commenced with publication of the Notice of Availability (NOA) of the Draft EIS in the Federal Register on May 19, 2023. Outreach included publication of the NOA in the Federal Register, BOEM press releases and social media announcements, notification letters to state congressional members, email notifications to tribal nations, cooperating agencies, and consulting parties, and publication of legal notices in local newspapers to advertise the public comment period and solicit input on the Draft EIS from the public, elected officials, and federal, tribal, state, and local agencies. The legal notice was published in The Press of Atlantic City, Star-Ledger, Asbury Park Press, Cape May Herald, Philadelphia Inquirer, South New Jersey Times, and the Daily Journal.</p> <p>Additionally, BOEM conducted both in-person and virtual meetings to inform interested attendees of the Draft EIS and proposed project and to provide the opportunity for the public to provide oral testimony. Two in-person meetings were held in Manahawkin, NJ and Atlantic City, NJ on June 21 and June 22, 2023, respectively. Two virtual meetings were held on June 26 and 28, 2023. The potential visual impacts of the Project was presented and discussed at each of the four public meetings. If additional accommodations were needed, BOEM provided an email address and phone number to arrange such accommodations.</p> <p>In addition, BOEM is conducting ongoing government-to-government consultation with federally recognized tribes in the analysis area, as described in Section A.2.2.3, <i>Government-to-Government Tribal Consultation</i>, in Appendix</p>

Comment No.	Comment	Response
	lack of transparency in the process over Native American tribe engagement with BOEM, thus resulting in impairment of the entire DEIS process under Sec. 3.6.4.1.	A of the EIS. Federally and state recognized Tribes are included as consulting parties to the National Historic Preservation Act Section 106 review for the Project as discussed in Section 3.6.4.1, <i>Environmental Justice</i> , Section A.2.2.4, <i>National Historic Preservation Act</i> , of Appendix A, and Appendix I, <i>Finding of Adverse Effect</i> .
BOEM-2023-0030-1516-0023	[Bold and Underlined: Environmental Injustice] BOEM’s DEIS for the ASOWNJ project ignores the major impacts related to Climate Justice Areas. Some of the worse visual impact changes and disruption to everyday living increased pollution vessel and road traffic construction and operation noise greatly reduced enjoyment of the natural free beaches in Atlantic City and increased energy costs as a percentage of income will occur in many of the 87 locations identified as environmental climate justice areas based on minority and low-income populations. As mentioned in other areas of these comments the ASOWNJ project will not reduce the flooding rising seas and severe climate events at or near the residences or recreational areas used by the minorities and low-income populations. The ASOWNJ project will divert 1.7 acres of parkland for a non-recreation and conservation use which includes the installation of underground utility facilities and associated activities between Atlantic City Beach and an area between South Texas Avenue and IOWA Ave. The project will also temporarily impact 11 acres of parkland in the climate justice areas and encumbered by NJDEP Green Acres restrictions. [See original comment for screenshot of Environmental Justice Areas description and map of Environmental Justice Areas on page 30.]	BOEM estimates the impacts on environmental justice communities for each of the impact producing factors in Chapter 3.6.4, <i>Environmental Justice</i> .
BOEM-2023-0030-1516-0025	The great majority of green energy jobs related to offshore wind will not be located in Climate Justice Areas in Atlantic County but in other counties in New Jersey. The jobs held by many residents of Atlantic City are associated with the tourist industry which will be negatively impacted by the offshore wind projects. In addition any positive impact related to the	Atlantic Shores has stated that it will hire locally to the extent practicable for non-specialized skilled labor (COP Volume II, Section 7.2.2.2), and BOEM anticipates that in addition to the direct employment from the project, there will be additional jobs generated from project activity in the analysis area. Please see Section 3.6.3, <i>Demographics, Employment, and</i>

Comment No.	Comment	Response
	jobs must be offset with the public money being used to “purchase” the jobs.	<i>Economics</i> , for a discussion on potential employment impacts.
BOEM-2023-0030-1556-0027	We also urge BOEM to pursue measures to ensure that any negative impacts to environmental justice communities are mitigated and that the many environmental and economic benefits offshore wind can provide communities are maximized. One way to do this is to ensure that the Projects’ construction occurs in a manner that does not create a level of pollution at any one port that could have deleterious impacts to that community.	BOEM acknowledges the comment and has engaged with Atlantic Shores to ensure that adequate mitigation measures are in place for environmental justice communities.
BOEM-2023-0030-1588-0001	Extremely concerned that BOEM has not extended the public comment period for the AS DEIS. A document that is thousands of pages long cannot possibly be digested appropriately by the general public in such a short time period. It is also of utmost concern that BOEM has not made this document available in the Spanish language considering that over 40% of the community in Atlantic City and Vintner City speak Spanish as their primary language. For example, the EMF cable coming onshore in Atlantic City will be underneath an elementary school--a school where over 98% of the student body is minority. These poor people have no idea what is coming in their community. And there has been no informed consent on the part of this poor minority population.	BOEM provided the standard NEPA public comment period. In addition, BOEM plans to publish notices in Spanish (and other languages, as applicable) going forward. BOEM notes that the Cardiff Onshore cable route does not run underneath any school, the only school the cable route is adjacent to is the western edge of the Atlantic City High School campus.
BOEM-2023-0030-1791-0006	Has anyone looked up what the population of Sovereign Avenue school is it's 98 percent minority. How concerning is it an earlier presenter mentioned that the burden of these projects will fall on low income communities and communities of color well there you see it right there. If you look at the data Atlantic City residents 31.59 percent are Spanish speakers. In Ventnor City where the projects will be highly visible you have 15 percent Spanish speakers. Add the numbers together you have 46.59 percent of people in those communities who do not speak English. The DEIS is not	BOEM plans to publish notices in Spanish (and other languages, as applicable) going forward. BOEM provides the NEPA standard calculations for minority populations and environmental justice/overburdened community designation in Table 3.6.4-1 and the preceding sub-sections for each geography in the analysis area. While the Sovereign Avenue School is adjacent to the road ROW for the Cardiff onshore cable route, BOEM does not anticipate that the school will experience disproportionate

Comment No.	Comment	Response
	available in Spanish it should be made available to the public in Spanish	and adverse impacts due to noise ordinances, construction hours, and the distance of the school from Pete Pallitto field where the cable route crosses and is at its closest to the school.
BOEM-2023-0030-1819-0003	We understand the need for clean sustainable energy. However, we cannot be silent when – despite promises made by this Administration regarding the need to mitigate the impact of environmental injustices that plague Tribal communities – we are yet again on the front lines facing the disproportionate impact of the environmental burden that will be placed on us by offshore wind development. While we believe the goals of this Administration are both admirable and achievable, we also believe that there is a way to move forward without the desecration of our historic and ceremonial sites, destruction of our marine mammal relatives, irreversible negative impacts on the delicate balance of our aquatic ecosystem and our traditional fishing activities and cultural practices. We believe that way begins with an immediate moratorium on all activities unless and until adequate meaningful consultation with impacted Tribes as the first people and original caretakers of the continent you now call home, is completed and an agreement reached.	BOEM worked with and will continue to work with the Wampanoag Tribe of Gay Head (Aquinnah) in identifying conservation and/or mitigation measures to reduce potential impacts to areas and resources of spiritual cultural, and natural significance to the Tribes.

N.6.17 Land Use and Coastal Infrastructure

Table N.6-17. Responses to Comments on Land Use and Coastal Infrastructure

Comment No.	Comment	Response
BOEM-2023-0030-0916-0048	Indirect Impacts: The DEIS does not present any indirect environmental impacts from the refurbishment of the Paulsboro facility for construction of foundations or from construction of the staging area at Alloways Creek. Those	The Proposed Action does not include port expansion activities but would use ports that have expanded or would expand to support the wind energy industry generally. For instance, the New Jersey Wind Port may be used for WTG

Comment No.	Comment	Response
	environmental impacts there are a direct result of the project at least in part and must be included in the DEIS.	pre-assembly and load out, but the expansion of this port is not part of the Atlantic Shores South Project.
BOEM-2023-0030-1606-0079	Overall in Volume 1 Section 4.10 the COP gives an inadequate description of necessary onshore facilities. The EIS fails to include specific and clear descriptions of the potential onshore facilities. The COP EIS must account for all potential port activities. The EIS must also include the following for operation and maintenance: Type of maintenance approach (ship-based air support); Land use requirements; Proximity to the offshore wind farm; Storage capabilities for spare components; Wharf area required bearing capacity; Ship depth requirements; and Secondary impacts from influx of workers and support services. Specifically, COA advocates that the DEIS review land-based facilities that are or may be used for development of wind turbine generators as well as operation and management.	The EIS discusses onshore facilities, including an O&M facility that would be constructed in Atlantic City as part of the Proposed Action in Section 3.6.5, <i>Land Use and Coastal Infrastructure</i> . Additionally, onshore facilities are described in Section 2.1.2, <i>Alternatives</i> .
BOEM-2023-0030-0755-0005	Relying on the weather as a primary source of our energy is poorly thought out. No wind would require backup fossil fueled generators and too much wind would require the same. Our energy would be at the behest of mother nature. And what in the event of another Sandy-like storm? The turbines would collapse into the sea releasing and dumping all of the fossil fuel oils & SF6 into the sea and atmosphere. NJ fought for decades to clean up the coast that back in the 70's & 80's was a dumping ground. Our coast has finally come back and it is healthy and thriving after many many years of effort. Don't make these efforts be in vane.	The WTGs will be designed in accordance with IEC 61400 which includes specific load cases corresponding to typical hurricanes for the project area. When wind speeds exceed the operational threshold, the turbines will automatically enter into a safe mode in which the blades are pitched and the nacelle is rotated to minimize wind loading on the turbine. The WTGs are equipped with batteries and other features to ensure that the function of critical equipment is maintained during severe weather such as a hurricane, even if connection to the grid is lost. The Project WTGs do not contain SF ₆ . The SF ₆ would be contained in the switchgears in the substations. In the case of an oil spill, Atlantic Shores has developed an Oil Spill Response Plan (OSRP) which can be found in Atlantic Shores' COP Appendix I-D and discussed in Section 3.4.2, <i>Water Quality</i> . This plan includes responses in the case of storms (hurricanes), and in the case of a spill would only terminate cleanup in the opinion of the FOOSC and the QI/Atlantic Shores Incident Commander, detailed in section 2.8 of Appendix I-D.

Comment No.	Comment	Response
BOEM-2023-0030-0826-0001	2-What is the plan to decommission the turbines? Who will be responsible for removing them from the Ocean? Who will Pay the costs of decommissioning? What is the life span of Turbines placed in an environment as the Atlantic Ocean with hurricanes Nor'Easters salt water etc?	<p>See response to comment BOEM-0916-0223 in Table N.6-22 regarding how decommissioning will be paid for.</p> <p>Atlantic Shores has submitted a conceptual decommissioning plan as part of the COP. Before decommissioning can occur, Atlantic Shores must submit a decommissioning application and receive approval from BSEE. The decommissioning application must be submitted to BSEE at least two years before the expiration of the lease pursuant to § 285.905. The required contents of the decommissioning application can be found in § 285.906.</p> <p>Decommissioning will be subject to environmental review through the NEPA process. The NEPA review of the Decommissioning Plan will examine the impacts of various decommissioning scenarios.</p> <p>The Project has a lifetime of 30 years. The WTGs will be designed in accordance with IEC 61400 which includes specific load cases corresponding to typical hurricanes for the Project area. When wind speeds exceed the operational threshold, the turbines will automatically enter into a safe mode in which the blades are pitched and the nacelle is rotated to minimize wind loading on the turbine. The WTGs are equipped with batteries and other features to ensure that the function of critical equipment is maintained during severe weather such as a hurricane, even if connection to the grid is lost.</p>
BOEM-2023-0030-0826-0007	6-Who will be responsible for making repairs to the turbines? Who will pay for this? How much will it cost?	<p>Regular operation and maintenance activities, including repairs, will be conducted by Atlantic Shores, as detailed in the Construction and Operations Plan (COP) (COP Volume I; Atlantic Shores South).</p> <p>Information on Project cost is proprietary.</p>

Comment No.	Comment	Response
BOEM-2023-0030-0916-0022	absent any technical feasibility analysis proving that these extremely large and heavy blades towers and foundations can be dismantled removed and disposed of safely irresponsibly commits the country to an irreversible irretrievable and permanent loss of 183353 acres of ocean resource exactly the kind of environmental resource loss that the NEPA was designed to avoid.	Atlantic Shores has submitted a conceptual decommissioning plan as part of the COP. Prior to commencing decommissioning activities, Atlantic Shores is required to submit a decommissioning application that will undergo Federal technical and environmental reviews, including an opportunity for public and municipal, state, and federal management agency comments.
BOEM-2023-0030-0916-0075	decommissioning impact of multiple projects	The cumulative impacts of the Proposed Action in combination with other ongoing and planned offshore wind activities are described throughout all Chapter 3 resource sections under <i>Cumulative Impacts of the Proposed Action</i> .
BOEM-2023-0030-0916-0238	The DEIS does not fulfill its purpose outlining the environmental impact concerning SF6 use since that does not begin and end with the Atlantic Shores projects.	Section 3.4.1, <i>Air Quality</i> , discusses SF ₆ leakage and cumulative impacts. The EIS analyzes cumulative impacts of the Proposed Action in combination with other ongoing and planned offshore wind activities are described throughout all Chapter 3 resource sections under <i>Cumulative Impacts of the Proposed Action</i> .
BOEM-2023-0030-0926-0004	What is the specific plan to decommission the wind turbines at the end of their useful life of 25-30 years? Will they simply be buried at the bottom of the ocean? What about the 70 foot blades which aren't able to be recycled?	Atlantic Shores has submitted a conceptual decommissioning plan as part of the COP. Prior to commencing decommissioning activities, Atlantic Shores is required to submit a decommissioning application that will undergo Federal technical and environmental reviews, including an opportunity for public and municipal, state, and federal management agency comments. The dismantling and removal of the turbine components (blades, nacelles, and towers) and other offshore components would largely be a "reverse installation" process subject to the same constraints as the original construction phase.
BOEM-2023-0030-1357-0004	Decommissioning of wind farms is going to be a problem if BOEA follows the same procedures that they did with the oil and gas wells in the Gulf of Mexico. There are thousands of abandon wells that have very small bonds to fund their removal. The owners have declared bankruptcy and BOEM does not have the \$30 plus billion to remove them. The same	Atlantic Shores has submitted a conceptual decommissioning plan as part of the COP. Prior to commencing decommissioning activities, Atlantic Shores is required to submit a decommissioning application that will undergo Federal technical and environmental reviews, including an opportunity for public and municipal, state, and federal

Comment No.	Comment	Response
	<p>thing is going to happen in the New England and Mid Atlantic region in 30 years if the developers are not required to post a bond that will assure the turbines foundations and inter array and export cables are removed in a reasonable amount of time. It is estimated that it will cost almost as much to remove them as it did to build a wind farm. It will require the same expensive ship it took to build them will be needed to take them apart. With the smallest turbines being built everything is 500 tons or more and is 500 feet above the ocean. The parts cannot be cut off and let fall into the water it must be taken apart. In addition there is almost 2000 gallons of lube oil which must be pumped of on to a ship for removable. The only good news is that the foundation tower generator and blades can be recycled.</p>	<p>management agency comments. The dismantling and removal of the turbine components (blades, nacelles, and towers) and other offshore components would largely be a “reverse installation” process subject to the same constraints as the original construction phase.</p>
BOEM-2023-0030-1379-0001	<p>I am very concerned with the use of sulfur hexafluoride in these "green" projects. You can not conflate the most potent greenhouse gas known with "clean" and "green."</p>	<p>Section 3.4.1, <i>Air Quality</i>, includes information on potential impacts to air quality. Section 3.4.1 assesses the Project’s potential impacts to air quality from the Project, including sulfur hexafluoride (SF₆).</p>
BOEM-2023-0030-1379-0002	<p>Considering that BOEM admits there is a yearly loss of SF6 from switchgear disclosing the full amounts that may be used in these projects is crucial. The EIS does not disclose expected leakage of SF6 in its table listing project emissions.</p>	<p>Section 3.4.1, <i>Air Quality</i>, includes information on potential impacts to air quality. Section 3.4.1 assesses the Project’s potential impacts to air quality from the Project, including sulfur hexafluoride (SF₆).</p>
BOEM-2023-0030-1379-0003	<p>The EPA states that leaks of SF6 can occur during “installation maintenance and servicing and decommissioning” of equipment that contains the gas. The EIS does not fulfill its purpose outlining the environmental impact concerning SF6 use since that does not begin and end with the Atlantic Shores projects. As BOEM has previously stated (1) “...the impact of GHG emissions does not depend upon the source location.” Since numerous other wind energy projects several in close proximity to Atlantic Shores will also be using SF6 in OSSs and wind turbines this singular approach in evaluating the environmental impact of just Atlantic Shores makes the EIS flawed and too limited to fulfill its purpose.</p>	<p>Section 3.4.1, <i>Air Quality</i>, includes information on potential impacts to air quality. Section 3.4.1 assesses the Project’s potential impacts to air quality from the Project, including sulfur hexafluoride (SF₆). The cumulative impacts of the Proposed Action in combination with other ongoing and planned offshore wind activities are described in the Section 3.4.1 subsection, <i>Cumulative Impacts of Alternative B - Proposed Action</i>.</p>

Comment No.	Comment	Response
BOEM-2023-0030-1520-0008	Also there is a lack of information re: long term plan/cost impact to citizens US taxpayers re: the proposed dismantling and disposal of aged out proposed turbine machinery and impact to environment- again there was/is there rush to push through the completely non transparent site sales off of New Jersey's proximal coastline before adequate comprehensive project research/impact analyses with results yet to be fully shared with stakeholders-lack of which may be devastating environmentally.	Atlantic Shores has submitted a conceptual decommissioning plan as part of the COP. Prior to commencing decommissioning activities, Atlantic Shores is required to submit a decommissioning application that will undergo Federal technical and environmental reviews, including an opportunity for public and municipal, state, and federal management agency comments.
BOEM-2023-0030-1599-0004	We urge BOEM to eliminate the use of sulfur-hexafluoride (SF6) the most potent GHG known from use in the WTG's. Although the estimated 0.5% loss of the initial charge is already accounted for in the GHG emissions estimates we remain concerned about catastrophic releases of the remaining amount. It is only mildly comforting to know that this would be "less than the emissions displaced during operation of the Project".	The Project WTGs do not contain SF ₆ . The SF ₆ would be contained in the switchgears in the substations. Section 3.4.1, <i>Air Quality</i> , includes information on potential impacts to air quality. Section 3.4.1 assesses the Project's potential impacts to air quality from the Project, including sulfur hexafluoride (SF ₆).
BOEM-2023-0030-1669-0001	How will adequate financial assurance be provided to decommission the project? (Using 2053 dollars) And how long will the decommissioning take? NJ has far too many land based industrial remediation sites my concern is how will this project be remediated should it fail or at end of life.	Atlantic Shores has submitted a conceptual decommissioning plan as part of the COP. Prior to commencing decommissioning activities, Atlantic Shores is required to submit a decommissioning application that will undergo Federal technical and environmental reviews, including an opportunity for public and municipal, state, and federal management agency comments.
BOEM-2023-0030-1736-0001	Number one they say 20-25 years max life what is the plan after 20-25 years are they going to dismantle them what is going to happen with the system the concrete that's going to be there. They are saying it doesn't impact know the sealife that's not true because it's interfering with the Right Whale the endangered species with the migratory pattern.	Atlantic Shores has submitted a conceptual decommissioning plan as part of the COP. Prior to commencing decommissioning activities, Atlantic Shores is required to submit a decommissioning application that will undergo Federal technical and environmental reviews, including an opportunity for public and municipal, state, and federal management agency comments. The dismantling and removal of the turbine components (blades, nacelles, and towers) and other offshore components would largely be a "reverse installation" process subject to the same constraints as the original construction phase.

Comment No.	Comment	Response
		Section 3.5.6, <i>Marine Mammals</i> , includes information on potential impacts, including potential decommissioning impacts, to marine mammals, including the North Atlantic right whale.
BOEM-2023-0030-1736-0002	I still haven't heard what the windmills companies are going to do when they experience an Atlantic hurricane category one 74 75 miles an hour. What is the plan then? What is the plan for you know long term maintenance of all these windmills you know because they do take they need fossil fuel they need oil for the turbines.	<p>The WTGs will be designed in accordance with IEC 61400 which includes specific load cases corresponding to typical hurricanes for the project area. When wind speeds exceed the operational threshold, the turbines will automatically enter into a safe mode in which the blades are pitched and the nacelle is rotated to minimize wind loading on the turbine. The WTGs are equipped with batteries and other features to ensure that the function of critical equipment is maintained during severe weather such as a hurricane, even if connection to the grid is lost.</p> <p>Regular operation and maintenance activities will be conducted by Atlantic Shores, as detailed in the Construction and Operations Plan (COP) (COP Volume I; Atlantic Shores South).</p>
BOEM-2023-0030-1793-0001	They are not as green as people think the information that's being presented to people is not accurate. So I encourage people and organizations to continue to investigate what is happening here. The turbines use sulphur hexafluoride or SF-6 which is the key chemical component to maintaining the wind energy projects and is one of the world's potent greenhouse gases which stays in the atmosphere and warms the earth for at least 3200 years. One unit of SF-6 is 25 thousand more times potent than a unit of CO2 that's alarming.	Section 3.4.1, <i>Air Quality</i> , includes information on potential impacts to air quality. Section 3.4.1 assesses the Project's potential impacts to air quality from the Project, including from sulfur hexafluoride (SF ₆). Even with the use of SF ₆ , the Project would provide beneficial impacts on the air quality near the Project location and the surrounding region to the extent that energy produced by the Project would displace energy produced by fossil-fueled power plants in the region.
BOEM-2023-0030-1978-0001	If wind turbines require a large amount of energy to operate how is this a good thing? They are big ugly and disrupt the coastline and migration patterns.2. When the turbines break down and start to corrode as nothing last forever what is the	The Project would provide beneficial impacts on the air quality near the Project location and the surrounding region to the extent that energy produced by the Project would displace energy produced by fossil-fueled power plants in the region.

Comment No.	Comment	Response
	plan to ensure environmental safety for all the living species in the water and in the air?	The EIS discusses the potential impacts of coastal views and migration. Section 3.6.9, <i>Scenic and Visual Resources</i> , describes changes in seascape, open ocean, and landscape conditions as a result of WTGs and which beaches are anticipated to have visual impacts and Section 3.5, <i>Biological Resources</i> , discusses potential impacts to migration patterns of migratory animals as a result of the Proposed Action.
BOEM-2023-0030-1985-0004	What happens to this mammoth machinery when a nor'easter or hurricane hits? Where will you dispose of these parts when they are no longer useful? Fossil fuels are an integral part of this operation – but to what extent?	<p>The WTGs will be designed in accordance with IEC 61400 which includes specific load cases corresponding to typical hurricanes for the project area. When wind speeds exceed the operational threshold, the turbines will automatically enter into a safe mode in which the blades are pitched and the nacelle is rotated to minimize wind loading on the turbine. The WTGs are equipped with batteries and other features to ensure that the function of critical equipment is maintained during severe weather such as a hurricane, even if connection to the grid is lost.</p> <p>Atlantic Shores has submitted a conceptual decommissioning plan as part of the COP. Prior to commencing decommissioning activities, Atlantic Shores is required to submit a decommissioning application that will undergo Federal technical and environmental reviews, including an opportunity for public and municipal, state, and federal management agency comments.</p>
BOEM-2023-0030-1987-0001	When these turbines are removed what happens to the acres and acres of concrete on the ocean floor? What happens to the chemicals in the turbines and substations?	Atlantic Shores has submitted a conceptual decommissioning plan as part of the COP. Prior to commencing decommissioning activities, Atlantic Shores is required to submit a decommissioning application that will undergo Federal technical and environmental reviews, including an opportunity for public and municipal, state, and federal management agency comments.
BOEM-2023-0030-1998-0001	Hurricanes. Everyone knows hurricanes are getting stronger and ocean temperatures are getting warmer. Awareness of	The EIS describes how WTGs are designed to sufficiently withstand severe storm events and describes actions that

Comment No.	Comment	Response
	<p>potential hurricane risk to offshore wind farms along the US East Coast is high and with potentially thousands of offshore wind turbines to be constructed over the coming decades. According to Jon Sanders Research Editor at the John Locke Foundation Hurricane Winds Can Destroy Offshore Wind Turbines raises the question of failure in NC but can be applied to NJ hurricane season. Another article Why offshore wind turbines can't handle the toughest hurricanes Science June 23 2017 discuss that fact "Researchers predict new offshore turbines would face hurricane wind gusts of more than 223 miles per hour - but the turbines can only manage gusts of 156 miles per hour based on current engineering standards. Part of the problem: Offshore turbine designs often draw from onshore wind turbines in Europe where hurricane conditions are essentially nonexistent.". So the question is are the turbines being built in Atlantic Shores able to withstand a category 5 hurricane? A peer reviewed article Hurricane eyeball winds and structural response of wind turbines Amber Kapoor Slimane Ouakka Sanjay R. Arwade Julie K. Lundquist Matthew A. Lackner Andrew T. Myers Rochelle P. Worsnop and George H. Bryan. European Academy of Wind Energy V.5 issue 1WES 5 89-104 2020 also discusses hurricanes. Part of the conclusion includes 'With the expansion of offshore wind off the US East Coast critical questions emerge regarding hurricane-induced loads on offshore wind turbines. Given the paucity of high-rate observations of winds and turbulence offshore in turbine rotor altitudes we have integrated atmospheric large eddy simulations (LESs) of an idealized Category 5 hurricane with theCM1 into the engineering wind field simulator TurbSim to estimate loads on a 10MW turbine using FAST. In particular we evaluate how turbine and tower structures respond to flows characteristic of the hurricane boundary layer particularly the eye wall such as high wind speeds veer in wind profiles and rapid wind direction changes".</p>	<p>would be taken in the event of a spill or release (Section 2.3, <i>Non-Routine Activities and Low-Probability Events</i>). Atlantic Shores has committed to adhering to IEC 61400, which requires the designs of WTGs include a specification for a 500-year hurricane event in line with the requirements in IEC 61400-3-1 Annex I Wind energy generation systems – Part 3-1: Design requirements for fixed offshore wind turbines: Recommendations for alignment of safety levels in tropical cyclone regions.</p> <p>When wind speeds exceed the operational threshold, the turbines will automatically enter into a safe mode in which the blades are pitched and the nacelle is rotated to minimize wind loading on the turbine. The WTGs are equipped with batteries and other features to ensure that the function of critical equipment is maintained during severe weather such as a hurricane, even if connection to the grid is lost.</p>

Comment No.	Comment	Response
BOEM-2023-0030-0355-0005	No Risk Assessment has been carried out to ensure that noise pollution regulations are adhered to especially during the pile driving work which produces amongst the highest noise levels 4Referencing directly from the USCG Circular:	Section 3.6.5, <i>Land Use and Coastal Infrastructure</i> , includes information on noise pollution as it relates to onshore noise. Temporarily increased noise levels during construction would be minimized through BMPs and would not change existing land uses.
BOEM-2023-0030-0531-0002	In addition these projects will negatively impact residents of coastal towns not only because of the negative visual impact but also because the noise from the turbine operation will be audible at the shore and exceed the State of NJ's nighttime residential noise standards.	Section 3.6.9, <i>Scenic and Visual Resources</i> , includes information on potential impacts to scenic and visual resources. Section 3.6.5, <i>Land Use and Coastal Infrastructure</i> , assesses the Project's potential impacts to land use and coastal infrastructure from noise. Overall, the noise generated by the Project would have localized, short term, and minor impacts on land use and coastal infrastructure. Temporarily increased noise levels during construction would be minimized through BMPs and would not change existing land uses.
BOEM-2023-0030-0826-0005	5 - What is the noise level Heard or silent of the OSW farms and how does it affect humans? Has any other OSW farm of this size been tested this close to humans? Can you be 100% sure that it will not make humans sick?	Section 3.6.5, <i>Land Use and Coastal Infrastructure</i> , assesses the Project's potential impacts to land use and coastal infrastructure from noise. Overall, the noise generated by the Project would have localized, short term, and minor impacts on land use and coastal infrastructure. Temporarily increased noise levels during construction would be minimized through BMPs and would not change existing land uses. At a distance of 1,000 feet (305 meters), the sound pressure is on the order of 50 dBA, a level lower than normal conversation. In this case, operational noise from the offshore WTGs will not be audible onshore (Wind Turbine-Related Noise: Current Knowledge and Research Needs; NYSERDA). As such, noise from the OSW farm is not expected to affect human health. Additional information on onshore noise from WTGs was added to Section 3.6.5 of the Final EIS. Section 3.6.4, <i>Environmental Justice</i> , includes a discussion of potential health impacts from the Project.
BOEM-2023-0030-0916-0009	would further degrade the beach experience by creating audible noise above State criteria at residential areas near	Section 3.6.5, <i>Land Use and Coastal Infrastructure</i> , of the EIS assesses the Project's potential impacts to land use and

Comment No.	Comment	Response
	<p>the beach in conflict with New Jersey Noise Control Act rules and create inaudible infrasound noise there as well with potential health effects</p>	<p>coastal infrastructure from noise. Overall, the noise generated by the Project would have localized, short term, and minor impacts on land use and coastal infrastructure. Temporarily increased noise levels during construction would be minimized through BMPs and would not change existing land uses. At a distance of 1,000 feet (305 meters), the sound pressure is on the order of 50 dBA, a level lower than normal conversation. In this case, operational noise from the offshore WTGs will not be audible onshore (Wind Turbine-Related Noise: Current Knowledge and Research Needs; NYSERDA). As such, noise from the OSW farm is not expected to affect human health. Additional information on onshore noise from WTGs was added to Section 3.6.5 of the Final EIS.</p> <p>Section 3.6.4, <i>Environmental Justice</i>, includes an in-depth discussion of potential health impacts from the Project.</p>
BOEM-2023-0030-0916-0087	<p>Regarding the Noise Control Act: The DEIS does not assess at all the problem of audible and infrasonic noise at the shore from the turbines which by our analysis herein in I.15 will exceed background and New Jersey rule property line noise levels criteria.</p>	<p>Section 3.6.5, <i>Land Use and Coastal Infrastructure</i>, of the EIS assesses the Project's potential impacts to land use and coastal infrastructure from noise. Overall, the noise generated by the Project would have localized, short term, and minor impacts on land use and coastal infrastructure. Temporarily increased noise levels during construction would be minimized through BMPs and would not change existing land uses.</p>
BOEM-2023-0030-0916-0101	<p>Inexplicably the DEIS does not even contain an impact analysis using BOEM's own underestimated noise source level for the 15-mw turbine of 125 dB at 100 meters. Back calculating that noise level to the turbine source using the 47.4 dB noise loss in the Tougaard study results in a noise source level for a single turbine of 172.4 dB. Accounting for the full 200 wind turbine complex using the same formula that Tougaard uses i.e. $10 \log_{10}(\text{turbine number})$ in this case 200 turbines adds 23 dB to the 172.4 dB source level for a single turbine to create an effective noise source level of 195.4 dB centered in the middle of the full wind complex.</p>	<p>COP Appendix II-U, <i>Onshore Noise Report</i>, states that noise levels near the WTG will be audible but sound levels diminish rapidly with distance. At a distance of 1,000 feet (305 meters), the sound pressure is on the order of 50 dBA, a level lower than normal conversation. In this case, operational noise from the offshore WTGs will not be audible onshore (Wind Turbine-Related Noise: Current Knowledge and Research Needs; NYSERDA). Additional information on onshore noise from WTGs was added to the Final EIS.</p>

Comment No.	Comment	Response
	<p>Using the generally accepted 15 dB noise loss factor for greater distances it requires 62 miles (76 miles from shore) for that effective noise source level of 195.4 dB to drop down to 120 dB so as not to disturb the whale's behavior. That distance extends into most of the historically seen migration corridors for the right whale off the NJ coast.</p>	
BOEM-2023-0030-0916-0212	<p>The airborne noise level emanating from today's larger turbines is significant. Therefore offshore wind projects often conduct an assessment of airborne noise and its propagation to the shoreline. Notwithstanding the proximity of the projects proposed off Long Beach Island NJ no such assessment was included in the Atlantic Shores Offshore Wind company Construction and Operations Plan or in this DEIS. Given the extreme proximity of this project to the shore compared to other modern projects worldwide this seemed an odd omission and raises concerns that the issue is not being given the proper attention.</p>	<p>Section 3.6.5, <i>Land Use and Coastal Infrastructure</i>, of the EIS assesses the Project's potential impacts to land use and coastal infrastructure from noise. Overall, the noise generated by the Project would have localized, short term, and minor impacts on land use and coastal infrastructure. Temporarily increased noise levels during construction would be minimized through BMPs and would not change existing land uses. At a distance of 1,000 feet (305 meters), the sound pressure is on the order of 50 dBA, a level lower than normal conversation. In this case, operational noise from the offshore WTGs will not be audible onshore (Wind Turbine-Related Noise: Current Knowledge and Research Needs; NYSERDA). Additional information on onshore noise from WTGs was added to Section 3.6.5 of the Final EIS.</p>
BOEM-2023-0030-0916-0213	<p>It is concerning that the impact of audible and inaudible noise at the shore has not been addressed at all in the DEIS or the project's Construction and operations Plan. The noise frequency spectrum for the Vesta-236 turbine needs to be disclosed and a full study done and disclosed of audible and infrasonic noise impact at the shore before the project is approved.</p>	<p>Section 3.6.5, <i>Land Use and Coastal Infrastructure</i>, assesses the Project's potential impacts to land use and coastal infrastructure from noise. Overall, the noise generated by the Project would have localized, short term, and minor impacts on land use and coastal infrastructure. Temporarily increased noise levels during construction would be minimized through BMPs and would not change existing land uses. At a distance of 1,000 feet (305 meters), the sound pressure is on the order of 50 dBA, a level lower than normal conversation. In this case, operational noise from the offshore WTGs will not be audible onshore (Wind Turbine-Related Noise: Current Knowledge and Research Needs; NYSERDA). Additional information on onshore noise from WTGs was added to Section 3.6.5 of the Final EIS.</p>

Comment No.	Comment	Response
BOEM-2023-0030-0916-0214	The proximity of these turbines also creates the potential for reduced shore wind wave action and changes in air temperature. Along with the visible and audible impacts the DEIS should have provided an analysis of the potential impacts of the wind turbine complex on shore wind speed temperature humidity and wave action. Several prior measurement studies of such downwind impacts from smaller turbine complexes indicate the potential for reduced wind speeds and higher temperatures. An extrapolation of those results for the wind turbine sizes and atmospheric settings expected here should have been presented in the DEIS.	<p>Section 3.4.1, <i>Air Quality</i>, includes information on potential impacts to air quality. Section 3.4.1 assesses the Project's potential impacts to air quality.</p> <p>Wind turbines extract kinetic energy from the atmosphere and thus can reduce wind speeds downwind of the turbine. Wind turbines increase vertical mixing in the atmosphere and thus can increase (or decrease) air temperatures and humidity downwind depending on local meteorological conditions. However, these effects dissipate with distance downwind. Because of the distance of the Project from land (approximately 16 miles from the center of the WTG array), substantial effects on wind speed, temperature and humidity are unlikely to occur over land.</p>
BOEM-2023-0030-0916-0244	As discussed in I.2 the noise source level of the Vesta 15-mw turbine is much higher than that of more moderate size turbines. The DEIS should have considered the use of an 8-mw turbine instead of the 15-mw turbine. Based on the data in the Figure presented above in I.2 for monopile foundations an 8-mw gearbox turbine would have a noise source level of $128 + 47.4 = 175.4$ dB. In addition, there may be advantages to using direct drive turbines. It has been suggested that this could result in a reduction of 10 dB in source level. If so such a turbine would have a noise source level of 165.4 dB.	The PDE does not specify the turbine size; however, the WTGs could be up to 20 MW. The analysis of a 15-MW or 20-MW WTG would provide a more conservative estimate, as the potential impacts would be greater than with an 8-MW WTG. Such an analysis does not preclude the use of an 8-MW turbine.
BOEM-2023-0030-1488-0003	Audible and infrasonic noise to persons at the shore is expected from turbine operation exceeding the New Jersey night time residential standard of 50 decibels not addressed in the EIS.	COP Appendix II_U, <i>Onshore Noise Report</i> , states that noise levels near the WTG will be audible but sound levels diminish rapidly with distance. At a distance of 1,000 feet (305 meters), the sound pressure is on the order of 50 dBA, a level lower than normal conversation. In this case, operational noise from the offshore WTGs will not be audible onshore (Wind Turbine-Related Noise: Current Knowledge and Research Needs; NYSERDA). Additional information on onshore noise from WTGs was added to the Final EIS.

Comment No.	Comment	Response
BOEM-2023-0030-1516-0053	The DEIS fails to demonstrate that the audible and infrasonic noise to persons at the shore is not expected from turbine operation exceeding the New Jersey night time residential standard of 50 decibels.	COP Appendix II_U, <i>Onshore Noise Report</i> , states that noise levels near the WTG will be audible but sound levels diminish rapidly with distance. At a distance of 1,000 feet (305 meters), the sound pressure is on the order of 50 dBA, a level lower than normal conversation. In this case, operational noise from the offshore WTGs will not be audible onshore (Wind Turbine-Related Noise: Current Knowledge and Research Needs; NYSERDA). Additional information on onshore noise from WTGs was added to the Final EIS.
BOEM-2023-0030-1556-0011	Furthermore BOEM should signal to Atlantic Shores South and all developers a preference for quiet foundations and provide comprehensive guidance encouraging and incentivizing the use of quiet foundations. Ideally this information would be provided prior to COP development so developers can include these considerations (e.g. fewer seasonal restrictions and/or time of installation restrictions for quiet foundations; discussed further in Sections II.C.4 and V.B) into their procurement decisions.	Comment noted.
BOEM-2023-0030-1557-0003	NOISE PROPAGATES MORE EFFECTIVELY OVER WATER THAN LAND ANNOYING AT BEACH & CAUSING SLEEP DISRUPTION• Continual Turbine Operation Measurement Study: o 1 operating turbine = 118 dBs/Vesta-236 15-megawatt turbine Specifications AND 7 turbines = 126.3 dB o Noise loss over 9 miles = 73 dBo Net noise = 53.3 dB o Night time noise level is 50 dB o 3 dB difference doubles the noise intensity to the receiver• Construction Pile Driving o 137 dB 10.7 dB higher than the 7-turbine array used above for operational noise example. o Noise loss over 9 miles = 73 dB which results in a noise level at the shore of 64 dB close to the daytime standard of 65 dB or equal to the noise of a vacuum cleaner	COP Appendix II_U, <i>Onshore Noise Report</i> , states that noise levels near the WTG will be audible but sound levels diminish rapidly with distance. At a distance of 1,000 feet (305 meters), the sound pressure is on the order of 50 dBA, a level lower than normal conversation. In this case, operational noise from the offshore WTGs will not be audible onshore (Wind Turbine-Related Noise: Current Knowledge and Research Needs; NYSERDA). Additional information on onshore noise from WTGs was added to the Final EIS.
BOEM-2023-0030-1715-0001	Okay. How will the noise from the large number of these huge turbines so close to land effect the people living along the coast?	COP Appendix II_U, <i>Onshore Noise Report</i> , states that noise levels near the WTG will be audible but sound levels diminish rapidly with distance. At a distance of 1,000 feet (305 meters), the sound pressure is on the order of 50 dBA, a level

Comment No.	Comment	Response
		lower than normal conversation. In this case, operational noise from the offshore WTGs will not be audible onshore (Wind Turbine-Related Noise: Current Knowledge and Research Needs; NYSERDA). Additional information on onshore noise from WTGs was added to the Final EIS.

N.6.18 Navigation and Vessel Traffic

Table N.6-18. Responses to Comments on Navigation and Vessel Traffic

Comment No.	Comment	Response
BOEM-2023-0030-0826-0011	13-Can large boats/ships travel safely between the turbines?	A robust vessel traffic study was conducted that included the types and length/draft of vessels that transited through the WTA. The WTGs would be placed in a uniform grid along east-northeast/west-southwest rows spaced 1.0 nautical mile apart and north/south columns spaced 0.6 nautical miles apart. The proposed layout of the grid includes positioning the OSSs and met tower off-grid from the WTGs. A discussion of the potential impacts of siting the met tower and OSSs off-grid has been added to Section 3.6.6.5 of the Final EIS under the “presence of structures” IPF and the determination of potential adverse impacts to Navigation and Vessel Traffic has increased from moderate to major. The Preferred Alternative, as defined in Chapter 2, <i>Alternatives</i> , of the Final EIS states that no permanent structures will be placed in a way that narrows any linear rows and columns to fewer than 0.6 nautical miles nor to a layout that eliminates two distinct lines of orientation in a grid pattern. The Project’s OSSs and met tower will be relocated to maintain the proposed grid layout of 0.6 nautical miles by 1.0 nautical miles.

Comment No.	Comment	Response
		USCG has determined that 0.6 nautical miles is the minimum spacing between structures for vessels to safely maneuver within a wind farm (USCG 2020).
BOEM-2023-0030-0916-0015	would create substantial commercial and military vessel navigation risk and exacerbate the right whale migration problem by compromising marine radar capability from the wind turbines and at the same time channeling all vessel traffic away from the NJ and NY Bight lease area into a narrow 11-mile wide (potentially 7 miles if proper clearance zones are applied) deep draft corridor that the USCG is establishing between the NJ lease area and the Hudson South wind development area which also happens to be a primary migration corridor for the right whale as shown above in dark brown thus creating more hazard to the whale as well	<p>The EIS addresses the adverse impacts of WTG structures on marine vessel radars in Section 3.6.6.3 and 3.6.6.5, under the “presence of structures” IPF. As part of its assessment, BOEM considered the USCG analysis of WTG array impacts on marine vessel radar included as part of <i>The Areas Offshore of Massachusetts and Rhode Island Port Access Route Study (MARIPARS, USCG 2019-0131)</i>, published May 14, 2020 and the National Academies of Sciences, Engineering, and Medicine 2022 study published by the National Academies Press (2022) titled: <i>Wind Turbine Generator Impacts to Marine Vessel Radar</i>. This latter reference is already incorporated in the EIS.</p> <p>BOEM will continue to engage with the fishing community, offshore wind developers, and other stakeholders regarding the issue of marine vessel radar interference. However, BOEM cannot delay the approval of the Project for an indefinite amount of time for new technological solutions to be tested as doing so would jeopardize the economic viability of the Project and would not meet the purpose and need. BOEM expects that certain technology-based measures and non-technology-based measures will be used to reduce impacts on marine radar such as greater use of AIS and electronic charting systems, new technologies like LiDAR, employing more watch-standers, and avoidance of wind farms altogether. This information has been added to Section 3.6.6.3, under the “presence of structures” IPF.</p> <p>It is outside the scope of the NEPA process to require additional USCG analyses or studies beyond what USCG has relied upon for its review and decisions regarding the Project. Additionally, cumulative impacts on all marine mammals, including NARW, are evaluated in this EIS (Section 3.5.6,</p>

Comment No.	Comment	Response
		<i>Marine Mammals</i>), as well as the EISs for all other offshore wind projects.
BOEM-2023-0030-0916-0047	Vessel Flags/Ownership. It does not disclose the environmental and safety implications of using reflagged foreign flag vessels to carry the turbine components to the wind turbine installation vessel. which will appear to be necessary due to the scarcity of capable US flag vessels	The vessels to be used would be provided after the COP approval determination, and thereby is not within the scope of the EIS.
BOEM-2023-0030-0916-0088	Regarding the Jones Act: The DEIS does not provide any information regarding what vessels will be used and the environmental and safety implications of using converted foreign flag vessels vs US flag vessels to transport turbine components to the installation site.	The vessels to be used would be provided after the COP approval determination, and thereby is not within the scope of the EIS.
BOEM-2023-0030-0916-0090	It provides no radar interference analyses to show how the OCSLA criterion to protect navigation safety will be met	<p>The EIS addresses the adverse impacts of WTG structures on marine vessel radars in Sections 3.6.6.3 and 3.6.6.5, under the “presence of structures” IPF. As part of its assessment, BOEM considered the USCG analysis of WTG array impacts on marine vessel radar included as part of <i>The Areas Offshore of Massachusetts and Rhode Island Port Access Route Study (MARIPARS, USCG 2019-0131)</i>, published May 14, 2020 and the National Academies of Sciences, Engineering, and Medicine 2022 study published by the National Academies Press (2022) titled: <i>Wind Turbine Generator Impacts to Marine Vessel Radar</i>. This latter reference is already incorporated in the EIS.</p> <p>BOEM will continue to engage with the fishing community, offshore wind developers, and other stakeholders regarding the issue of marine vessel radar interference. However, BOEM cannot delay the approval of the Project for an indefinite amount of time for new technological solutions to be tested as doing so would jeopardize the economic viability of the Project and would not meet the purpose and need. BOEM expects that certain technology-based measures and non-technology-based measures will be used to reduce impacts on marine radar such as greater use of AIS and</p>

Comment No.	Comment	Response
		<p>electronic charting systems, new technologies like LiDAR, employing more watch-standers, and avoidance of wind farms altogether. This information has been added to Section 3.6.6.3, under the "presence of structures" IPF.</p> <p>It is outside the scope of the NEPA process to require additional USCG analyses or studies beyond what USCG has relied upon for its review and decisions regarding the Project.</p>
BOEM-2023-0030-0916-0208	<p>Buried in one sentence on page 3.6.6.3 is the reason for that. That page expresses BOEM support for the US Coast Guard creation of a deep draft vessel lane just east of the lease area. Other parts of the discussion refer to the assumptions made in the DEIS regarding collision and allision risk that vessel traffic will be rerouted around the project area-but it does not say to where. What the DEIS failed to mention is that with turbines planned to be placed in the farther -out Hudson South area as well all that rerouting will have to go in between the Atlantic Shores lease area in the Hudson south area in an 11-mile wide (potentially 6.6 miles) deep draft vessel corridor.</p>	<p>Robust regional vessel traffic studies were conducted and any rerouting that may occur would be in full compliance and agreement with BOEM and USCG.</p>
BOEM-2023-0030-0916-0209	<p>Regarding navigation safety the DEIS on page 3.6.6–14 acknowledges the marine radar degradation that can occur from the wind turbines but defers a real analysis to the "site specific". The site-specific is here and now and the DEIS should have provided a radar interference study showing the effect on marine radars for both civilian and military vessel traffic in this deep draft lane from large rotating blade wind turbines on both sides of it.</p>	<p>The EIS addresses the adverse impacts of WTG structures on marine vessel radars in Section 3.6.6.3 and 3.6.6.5, under the "Presence of structures" IPF. As part of its assessment, BOEM considered the USCG analysis of WTG array impacts on marine vessel radar included as part of <i>The Areas Offshore of Massachusetts and Rhode Island Port Access Route Study (MARIPARS, USCG 2019-0131)</i>, published May 14, 2020 and the National Academies of Sciences, Engineering, and Medicine 2022 study published by the National Academies Press (2022) titled: <i>Wind Turbine Generator Impacts to Marine Vessel Radar</i>. This latter reference is already incorporated in the EIS.</p> <p>BOEM will continue to engage with the fishing community, offshore wind developers, and other stakeholders regarding the issue of marine vessel radar interference. However,</p>

Comment No.	Comment	Response
		<p>BOEM cannot delay the approval of the Project for an indefinite amount of time for new technological solutions to be tested as doing so would jeopardize the economic viability of the Project and would not meet the purpose and need. BOEM expects that certain technology-based measures and non-technology-based measures will be used to reduce impacts on marine radar such as greater use of AIS and electronic charting systems, new technologies like LiDAR, employing more watch-standers, and avoidance of wind farms altogether. This information has been added to Section 3.6.6.3, under the “presence of structures” IPF.</p> <p>It is outside the scope of the NEPA process to require additional USCG analyses or studies beyond what USCG has relied upon for its review and decisions regarding the Project.</p>
BOEM-2023-0030-0916-0231	Regarding wind turbine installation Customs and Border Protection (CBP) has determined that a foreign flag wind turbine installation vessel (WTIV) can be used for the actual installation. Time will tell whether that is legally sound but it appears that that vessel will not be able to leave from or go to a U.S. port. Therefore the DEIS should describe its travel and operation and the environmental and safety risk of such a vessel remaining at sea in the lease area for an extended period of time particularly in storm conditions.	The vessels to be used would be provided after the COP approval determination, and thereby is not within the scope of the EIS.
BOEM-2023-0030-0916-0232	Finally it appears that maintenance operations which will carry personnel equipment and merchandise from a US port to the turbine site would have to be done by US flag vessels. So that too should be clarified in the DEIS and whether such vessels are available.	The vessels to be used would be provided after the COP approval determination, and thereby is not within the scope of the EIS.
BOEM-2023-0030-1223-0005	All permanent structures including offshore substations and meteorological towers should be placed within the same uniform grid layout as the turbines to reduce safety risks for navigation.	BOEM has considered this comment and applying the grid layout to all permanent structures in the offshore Project area is included as part of the Preferred Alternative, defined in Section 2.1.7 of the Final EIS.

Comment No.	Comment	Response
BOEM-2023-0030-1223-0021	<p>All alternatives use a uniform grid spacing for wind turbine generators. The orientation of the grid pattern is based on vessel traffic patterns within the lease area. The proposed 0.6 nautical mile spacing between wind turbine generators within this grid pattern is tighter than several other proposed projects (e.g., the Southern New England projects are on a 1x1 nm grid which has 0.7 nm corridors on the diagonal) and poses concerns for safe navigation. However no additional options for turbine spacing are considered in the DEIS. The DEIS notes that 2 nm spacing would not meet the purpose and need (page 2-47) but it does not indicate if a spacing of greater than 0.6 but less than 2 nm is feasible. It would be helpful to clarify the spacing of the grid in all directions in the description for Alternative B. The north to south corridors appear to be 0.6 nm and the southwest to northeast corridors appear to be wider – perhaps 1.0 nm as referenced in the fishing impacts section – but this is not clearly delineated in Section 2.</p>	<p>Text has been added when describing the Project’s grid layout in EIS Chapter 2, <i>Alternatives</i>, to clarify spacing between all structures. Discussion has also been added to the EIS regarding potential impacts to the off-grid spacing of the OSSs and met tower, particularly in Sections 3.6.1, <i>Commercial Fisheries and For-Hire Recreational Fishing</i>, and 3.6.6, <i>Navigation and Vessel Traffic</i>.</p> <p>Per USCG's recommendation in the Massachusetts Rhode Island Port Access Route Study (MARIPARS), 0.6 nautical miles is the minimum spacing recommended for vessels to safely maneuver within a wind farm (USCG 2020).</p>
BOEM-2023-0030-1223-0026	<p>As noted above all offshore substations and the permanent met tower must be located at regular grid positions. Locating these structures outside of the regular grid spacing for the wind turbine generators negates the safety benefits of the grid pattern. If necessary fewer wind turbine generators should be used to maintain the uniform grid spacing for all permanent structures within the project area. As noted above we also recommend using the larger substations to reduce the number of positions occupied.</p>	<p>BOEM has considered this comment and applying the grid layout to all permanent structures in the offshore Project area is included as part of the Preferred Alternative, defined in Section 2.1.7 of the Final EIS.</p>
BOEM-2023-0030-1339-0015	<p>Protecting safety at sea is paramount and should never be an optional mitigation measure. We are supportive of putting AIS on every single turbine to help with navigational safety. In 2020 RODA conducted a survey asking fishermen about aids to navigation in wind arrays through the now inactive Joint Industry Task Force (15. Summary of recommendations available here: BOEM-2023-0030-DRAFT-1370-A1.pdf). There was strong support for AIS on turbines particularly on all</p>	<p>BOEM acknowledges this comment.</p>

Comment No.	Comment	Response
	turbines in early projects. Understanding if cluttering and interference pose an issue could be assessed once AIS is implemented and measures could be taken to adjust accordingly.	
BOEM-2023-0030-1516-0063	The DEIS fails to demonstrate that the project will not impose navigation risk to a unique NJ situation with turbines close in and farther out in the NY Bight-will cause the channeling of all commercial and military vessels into a 9-mile-wide strip between the NJ lease area and the Hudson South area which also happens to be a migration corridor for the endangered right whale. Marine radars potentially compromised by turbines on both sides.	Robust regional vessel traffic studies were conducted and the project will proceed in full compliance and agreement with BOEM, USCG and other stakeholders. Additionally, cumulative impacts on all marine mammals, including NARW, are evaluated in this EIS (Section 3.5.6, <i>Marine Mammals</i>), as well as the EISs for all other offshore wind projects.
BOEM-2023-0030-1518-0043	For generations fishermen have relied on unobstructed pathways between their fishing grounds and ports. Atlantic Shores South in addition to several other wind farms planned immediately offshore of Long Beach Township pose significant risks to captains that include traffic and congestion in and around ports congestion of fishing grounds and traffic through the wind farm. Fishermen have major concerns about transit in and out of wind farms and protocols on ingress and egress from various points along the coast.	<p>The NSRA conducted a robust analysis of all vessel traffic around the Project area. It is acknowledged that, due to AIS carriage requirements, fishing vessels are not fully captured in the data and the analysis assumes that this category is underrepresented; therefore, a reasonable maximum number of transits of non-AIS commercial fishing vessels was added to the base-case model. Catch-analysis summaries show that commercial fishing vessels encompass 19.6% of vessel traffic in the geographic analysis area but do not indicate significant commercial fishing occurring within the Project area, with the possible exception of surfclam. While vessel traffic is likely to increase during construction and O&M, the traffic is likely to be spread out among several different ports and across time, not all at once, so as to cause minimal disruption to the fishing vessel fleet.</p> <p>All components of the wind farm will be properly marked and navigation charts updated as required. Proper seamanship practices will reduce any risk to mariners, vessels, or equipment. rules-of-the-road refresher training.</p>
BOEM-2023-0030-1518-0045	Another area of major concern is navigational safety especially under low-visibility and high-seas conditions created by weather. Some vessel operators have stated that	The NSRA conducted a robust analysis of all vessel traffic around the Project area. It is acknowledged that, due to AIS carriage requirements, fishing vessels are not fully captured

Comment No.	Comment	Response
	<p>they would be forced to fish elsewhere due to safety issues while navigating through the array. Other vessel operators have said they would not transit the wind farm at all while some said that they would not transit the wind farm during poor weather conditions. Radar and communications will also be degraded within the turbine array. This issue is only likely to grow as thousands of turbines are installed along the Eastern Seaboard.</p>	<p>in the data and the analysis assumes that this category is underrepresented; therefore, a reasonable maximum number of transits of non-AIS commercial fishing vessels was added to the base-case model. Catch-analysis summaries show that commercial fishing vessels encompass 19.6% of vessel traffic in the geographic analysis area but do not indicate significant commercial fishing occurring within the Project area, with the possible exception of surfclam. While vessel traffic is likely to increase during construction and O&M, the traffic is likely to be spread out among several different ports and across time, not all at once, so as to cause minimal disruption to the fishing vessel fleet.</p> <p>All components of the wind farm will be properly marked and navigation charts updated as required. Proper seamanship practices will reduce any risk to mariners, vessels, or equipment.</p>
BOEM-2023-0030-1523-0017	<p>The Atlantic Shores Construction and Operation Plan states that construction would involve 550 to 2050 vessel trips annually for operation and maintenance and up to 22 vessels operating simultaneously during construction. These numbers are far lower than the proposed numbers for the Ocean Wind 1 wind farm which is half the proposed size of Atlantic Shores. The County requests an explanation for this difference</p>	<p>Atlantic Shores anticipates an average of two to six vessel trips per day during operations in support of the Atlantic Shores South Project. BOEM cannot speak to another developer's plans.</p>
BOEM-2023-0030-1523-0033	<p>The Construction and Operation Plan cites that construction would involve roughly 3847 vessel trips during construction and installation and over 1100 annual trips for operation and maintenance. In addition construction activities could require up to 51 vessels operating stationing or transiting within the Atlantic Shores South area and local ports simultaneously. This traffic could negatively affect fishermen by delaying offloading requiring crews to search for new fishing grounds and disturbing existing fishing grounds during transit.</p>	<p>The NSRA conducted a robust analysis of all vessel traffic around the Project area. It is acknowledged that, due to AIS carriage requirements, fishing vessels are not fully captured in the data and the analysis assumes that this category is underrepresented; therefore, a reasonable maximum number of transits of non-AIS commercial fishing vessels was added to the base-case model. Catch-analysis summaries show that commercial fishing vessels encompass 19.6% of vessel traffic in the geographic analysis area but do not indicate significant commercial fishing occurring within the</p>

Comment No.	Comment	Response
		<p>Project area, with the possible exception of surfclam. While vessel traffic is likely to increase during construction and O&M, the traffic is likely to be spread out among several different ports and across time, not all at once, so as to cause minimal disruption to the fishing vessel fleet.</p> <p>All components of the wind farm will be properly marked and navigation charts updated as required.</p>
BOEM-2023-0030-1536-0014	<p>Transit Safety Concerns. The GSSA has always supported the need for transit lanes proposed in the lease area. Based on our experience transit corridors of a minimum of 2nm are necessary in order to keep our state’s fishermen safe at sea and to lessen the economic impact. It is also worth noting that without transit corridors there is a significant impact to fishermen who operate under a day’s at sea quota. Specifically in the case of Scallop fishery identified a lack of a transit corridor would have direct impact on the time constrained permit of the industry with a limited number of days at sea and running 24-hour clocks. Therefore we strongly support the inclusion of an alternative with transit lanes from Atlantic City and Barnegat Light NJ.</p>	<p>Robust regional vessel traffic studies were conducted and the project will proceed in full compliance and agreement with BOEM, USCG and other stakeholders.</p>
BOEM-2023-0030-1606-0074	<p>The DEIS does not adequately consider the top-down impacts of the increased vessel activity increased onshore activity shifts in recreational and commercial ocean uses and the foundation cabling and interconnection infrastructure associated with the projects. In sum the DEIS does not adequately consider changing traffic patterns navigational safety and port access conflicts.</p>	<p>Robust regional vessel traffic studies were conducted by the leaseholder that included projections for increased vessel traffic as well as analyses of impacts on vessel incidents. The EIS also addresses anchoring, cable emplacement and maintenance, port utilization and traffic as IPFs within each applicable environmental resource, including in Sections 3.6.1, <i>Commercial Fisheries and For-Hire Recreational Fishing</i> and 3.6.6, <i>Navigation and Vessel Traffic</i>.</p>
BOEM-2023-0030-1606-0077	<p>One danger is that vessel density – ships operating within the same sea space – would be increased by the funneling effect of constricting traffic between turbine arrays.</p>	<p>The WTGs would be placed in a uniform grid along east-northeast/west-southwest rows spaced 1.0 nautical mile apart and north/south columns spaced 0.6 nautical miles apart. The proposed layout of the grid includes positioning the OSSs and met tower off-grid from the WTGs. A discussion of the potential impacts of siting the met tower and OSSs off-grid has been added to Section 3.6.6.5 of the Final EIS under</p>

Comment No.	Comment	Response
		<p>the “presence of structures” IPF and the determination of potential adverse impacts to Navigation and Vessel Traffic has increased from moderate to major. The Preferred Alternative, as defined in Chapter 2, <i>Alternatives</i>, of the Final EIS states that no permanent structures will be placed in a way that narrows any linear rows and columns to fewer than 0.6 nautical miles nor to a layout that eliminates two distinct lines of orientation in a grid pattern. The Project’s OSSs and met tower will be relocated to maintain the proposed grid layout of 0.6 nautical miles by 1.0 nautical miles.</p> <p>USCG has determined that 0.6 nautical miles is the minimum spacing between structures for vessels to safely maneuver within a wind farm (USCG 2020).</p>
BOEM-2023-0030-1606-0078	Another consideration is the radar shadow effect of rotating turbine blades that can affect navigation radars.	<p>The EIS addresses the adverse impacts of WTG structures on marine vessel radars in Sections 3.6.6.3 and 3.6.6.5, under the “presence of structures” IPF. As part of its assessment, BOEM considered the USCG analysis of WTG array impacts on marine vessel radar included as part of <i>The Areas Offshore of Massachusetts and Rhode Island Port Access Route Study (MARIPARS, USCG 2019-0131)</i>, published May 14, 2020 and the National Academies of Sciences, Engineering, and Medicine 2022 study published by the National Academies Press (2022) titled: <i>Wind Turbine Generator Impacts to Marine Vessel Radar</i>. This latter reference is already incorporated in the EIS.</p> <p>BOEM will continue to engage with the fishing community, offshore wind developers, and other stakeholders regarding the issue of marine vessel radar interference. However, BOEM cannot delay the approval of the Project for an indefinite amount of time for new technological solutions to be tested as doing so would jeopardize the economic viability of the Project and would not meet the purpose and need. BOEM expects that certain technology-based measures and non-technology-based measures will be used to reduce</p>

Comment No.	Comment	Response
		<p>impacts on marine radar such as greater use of AIS and electronic charting systems, new technologies like LiDAR, employing more watch-standers, and avoidance of wind farms altogether. This information has been added to Section 3.6.6.3, under the “presence of structures” IPF.</p> <p>It is outside the scope of the NEPA process to require additional USCG analyses or studies beyond what USCG has relied upon for its review and decisions regarding the Project.</p>
BOEM-2023-0030-1606-0103	<p>In addition to the impacts to marine life as described herein COA also raises additional issues of safety and navigation which the DEIS fails to adequately address. First the DEIS and Applicant [Bold: lacks a Spill Response Plan for major oil chemical or other hazardous harmful or floatable materials from container ships].</p>	<p>The NSRA conducted a robust analysis of all vessel traffic around the Project area. It is acknowledged that, due to AIS carriage requirements, fishing vessels are not fully captured in the data and the analysis assumes that this category is underrepresented; therefore, a reasonable maximum number of transits of non-AIS commercial fishing vessels was added to the base-case model. Catch-analysis summaries show that commercial fishing vessels encompass 19.6% of vessel traffic in the geographic analysis area but do not indicate significant commercial fishing occurring within the Project area, with the possible exception of surfclam. While vessel traffic is likely to increase during construction and O&M, the traffic is likely to be spread out among several different ports and across time, not all at once, so as to cause minimal disruption to the fishing vessel fleet.</p> <p>All components of the wind farm will be properly marked and navigation charts updated as required. Proper seamanship practices will reduce any risk to mariners, vessels, or equipment. BOEM considers safety and navigation adequately addressed in this EIS, and Spill Response Plans are the responsibility of the container ships and their companies.</p>
BOEM-2023-0030-1606-0104	<p>Also of concern is the Navigation Safety Risk Assessment prepared by paid consulting firms W.F. Baird & Associates Ltd and Epsilon Associates Inc. Since they accept no responsibility for damages there should be an independent assessment of their conclusions.</p>	<p>The information and conclusions contained in the NSRA have been thoroughly vetted by the lessee, BOEM, USCG, US Army Corps of Engineers and other relevant stakeholders. The process for selecting a consultant to produce the report is the</p>

Comment No.	Comment	Response
		same for all projects: the consultants have nothing to lose or gain by making incorrect conclusions.
BOEM-2023-0030-1689-0006	Third we are supportive of putting AIS on every single turbine to help with navigational safety. We maintain that cable should be buried deeper eight to ten feet rather than five to six feet included in the proposed action. Neither fishing nor wind industries want any interaction between gear and cables and every measure should be taken to achieve this.	BOEM acknowledges the commenter’s support for equipping each WTG with AIS. The EIS assesses the impacts associated with anchoring over export cables in Section 3.6.6.5, under the “anchoring” and “cable emplacement and maintenance” IPFs. As described, Atlantic Shores intends to bury offshore export cables at a target depth of 5 feet to 6.6 feet (1.5 – 2 meters) to avoid interference with existing marine uses and protect the cable. The analysis in the EIS determined that impacts from anchoring in an emergency situation would be negligible.
BOEM-2023-0030-1712-0001	Question two how many helicopters are going out to the turbines in a six month period? Question three how many ships go out in a six month period to the turbines?	The number of anticipated vessels and aircraft trips to the WTGs are covered in the COP, Volume II, Section 4.10, Table 4.10-1. The number of annual round trips during construction and operation are presented in Table 3.6.6-3 of the EIS.
BOEM-2023-0030-1715-0003	How are all these huge turbines so close to land -- based on the studies was radar -- how was navigational radar effected when they studied this with these huge turbines they haven't studied them because they haven't made them this big so how can they plan on putting thousands of these giant giant turbines that aren't green and aren't reliable and aren't recyclable and aren't made in this country how can they say this is good?	<p>The EIS addresses the adverse impacts of WTG structures on marine vessel radars in Section 3.6.6.3 and 3.6.6.5, under the “Presence of structures” IPF. As part of its assessment, BOEM considered the USCG analysis of WTG array impacts on marine vessel radar included as part of <i>The Areas Offshore of Massachusetts and Rhode Island Port Access Route Study (MARIPARS, USCG 2019-0131)</i>, published May 14, 2020 and the National Academies of Sciences, Engineering, and Medicine 2022 study published by the National Academies Press (2022) titled: <i>Wind Turbine Generator Impacts to Marine Vessel Radar</i>. This latter reference is already incorporated in the EIS.</p> <p>BOEM will continue to engage with the fishing community, offshore wind developers, and other stakeholders regarding the issue of marine vessel radar interference. However, BOEM cannot delay the approval of the Project for an indefinite amount of time for new technological solutions to be tested as doing so would jeopardize the economic viability</p>

Comment No.	Comment	Response
		<p>of the Project and would not meet the purpose and need. BOEM expects that certain technology-based measures and non-technology-based measures will be used to reduce impacts on marine radar such as greater use of AIS and electronic charting systems, new technologies like LiDAR, employing more watch-standers, and avoidance of wind farms altogether. This information has been added to Section 3.6.6.3, under the “presence of structures” IPF.</p> <p>It is outside the scope of the NEPA process to require additional USCG analyses or studies beyond what USCG has relied upon for its review and decisions regarding the Project.</p>
BOEM-2023-0030-1781-0002	Because of the interference to ships radar I am also very concerned about the safety of the fishing industry issues navigating through these wind farms with impaired radar.	<p>The EIS addresses the adverse impacts of WTG structures on marine vessel radars in Section 3.6.6.3 and 3.6.6.5, under the “Presence of structures” IPF. As part of its assessment, BOEM considered the USCG analysis of WTG array impacts on marine vessel radar included as part of <i>The Areas Offshore of Massachusetts and Rhode Island Port Access Route Study (MARIPARS, USCG 2019-0131)</i>, published May 14, 2020 and the National Academies of Sciences, Engineering, and Medicine 2022 study published by the National Academies Press (2022) titled: <i>Wind Turbine Generator Impacts to Marine Vessel Radar</i>. This latter reference is already incorporated in the EIS.</p> <p>BOEM will continue to engage with the fishing community, offshore wind developers, and other stakeholders regarding the issue of marine vessel radar interference. However, BOEM cannot delay the approval of the Project for an indefinite amount of time for new technological solutions to be tested as doing so would jeopardize the economic viability of the Project and would not meet the purpose and need. BOEM expects that certain technology-based measures and non-technology-based measures will be used to reduce impacts on marine radar such as greater use of AIS and electronic charting systems, new technologies like LiDAR,</p>

Comment No.	Comment	Response
		<p>employing more watch-standers, and avoidance of wind farms altogether. This information has been added to Section 3.6.6.3, under the “presence of structures” IPF.</p> <p>It is outside the scope of the NEPA process to require additional USCG analyses or studies beyond what USCG has relied upon for its review and decisions regarding the Project.</p>
BOEM-2023-0030-1815-0017	The probability of collisions is at an increased level due to the number of vessels involved.	Robust regional vessel traffic studies and incident analyses were conducted and the results are included in this EIS in Section 3.6.6, <i>Navigation and Vessel Traffic</i> .
BOEM-2023-0030-1953-0004	The east coast is the most heavily trafficked waterways with cruise ships fishing boats cargo ships -- this presents a danger to their navigation. If it endangers our ships it also endangers our sea life that rely on their own communications that are threatened by the activity of these windmills.	<p>The NSRA conducted a robust analysis of all vessel traffic around the Project area. It is acknowledged that, due to AIS carriage requirements, fishing vessels are not fully captured in the data and the analysis assumes that this category is underrepresented; therefore, a reasonable maximum number of transits of non-AIS commercial fishing vessels was added to the base-case model. Catch-analysis summaries show that commercial fishing vessels encompass 19.6% of vessel traffic in the geographic analysis area but do not indicate significant commercial fishing occurring within the Project area, with the possible exception of surfclam. While vessel traffic is likely to increase during construction and O&M, the traffic is likely to be spread out among several different ports and across time, not all at once, so as to cause minimal disruption to the fishing vessel fleet.</p> <p>All components of the wind farm will be properly marked and navigation charts updated as required. Proper seamanship practices will reduce any risk to mariners, vessels, or equipment. BOEM considers safety and navigation adequately addressed in this EIS, and Spill Response Plans are the responsibility of the container ships and their companies.</p>

N.6.19 Other Uses (Marine Minerals, Military Use, Aviation, and Scientific Research and Surveys)

Table N.6-19. Responses to Comments on Other Uses

Comment No.	Comment	Response
BOEM-2023-0030-0826-0014	22- How do the red blinking lights effect airplanes? What changes to the local airports and air traffic can NJ residents expect if any?	<p>The red blinking lights that are proposed are aviation aids and assist aviators in identifying structures.</p> <p>Atlantic Shores plans to use an FAA approved Aircraft Detection Lighting System (ADLS), subject to FAA and BOEM approval. This lighting system would only activate WTG and met tower lighting when aircrafts enter a predefined airspace. The ADLS provides nighttime conspicuity on an as-needed basis thereby reducing the amount of time that obstruction lights will be illuminated. Depending on the volume of nighttime flights transiting a project’s light activation volume, an ADLS could result in a significant reduction in the amount of time obstruction lights are illuminated (Atlantic Shores COP 2023, Appendix II-M4).</p> <p>Impacts to aviation and air traffic is discussed in Section 3.6.7.5, <i>Impacts of Alternative B – Proposed Action on Other Uses (Marine Minerals, Military Use, Aviation, and Scientific Research and Surveys)</i>.</p> <p>BOEM assumes that offshore wind project operators would coordinate with aviation interests throughout the planning, construction, operations, and conceptual decommissioning processes to avoid or minimize impacts on aviation activities and air traffic.</p>
BOEM-2023-0030-0213-0002	Examples of missing information ongoing studies and lack of evidence include: the need for peer reviewed studies to determine the cause of the unprecedented number of whale deaths; future impacts of noise on marine mammals; the interference with national defense and associated DOD operations off the East Coast; inclusion of alternative clean energy development onshore as part of the No Action alternative and how the project compares to and an analysis	<p>Impacts on military uses within the Lease Area are evaluated in Section 3.6.7.5, <i>Impacts of Alternative B – Proposed Action on Other Uses (Marine Minerals, Military Use, Aviation, and Scientific Research and Surveys)</i>.</p> <p>Atlantic Shores would continue to coordinate with DoD through the Military Aviation and Installation Assurance</p>

Comment No.	Comment	Response
	<p>of how the project provides affordable and reliable clean energy when compared to clean onshore alternatives.</p>	<p>Siting Clearinghouse as well as FAA and USCG as part of the mitigation measure included in Appendix G, Table G-1.</p> <p>Please refer to Section 3.5.6, <i>Marine Mammals</i>, for a discussion on potential impacts of the Proposed Action and other ongoing and planned offshore wind projects on marine mammals.</p> <p>The scope of the EIS, per BOEM's regulations, is to analyze the COP Atlantic Shores Offshore Wind, LLC submitted for Lease Area OCS-A 0499. Analysis of onshore clean energy development is not part of the scope of the EIS.</p> <p>Please refer to EIS Section 3.6.3, <i>Demographics, Employment, and Economics</i>, for a discussion on anticipated energy bill rates for residential customers.</p>
BOEM-2023-0030-0213-0030	<p>When compared to onshore energy facilities hundreds of wind turbines and several substations located 9 or more miles from shore are more vulnerable to attack by terrorists and war time adversaries. The Coast Guard will not have the resources to protect this vast infrastructure and the Navy will be preoccupied elsewhere. If developed how will this electric infrastructure on which we will be so dependent be secured and protected. It is not sufficient as was said in the Ocean Wind DEIS (Section 2.2) that such actions are unlikely (so was the attack on the World Trade Center in 2001 AND the destruction of the Nord 2 gas pipeline in 2022) and further that impacts would be the same as outcomes already described for severe weather or seismic activity (short term natural events) therefore not further analyzed. The Nord 2 pipeline is still not in service many months after its destruction. I ask is it wise to have such a vital resource so vulnerable to deliberate destruction be relied upon so heavily. This issue needs to be studied and addressed in the DEIS from the perspective of national security. What is the backup system that would provide reliable and secure</p>	<p>Impacts on military uses, including USCG, within the Lease Area are evaluated in Section 3.6.7.5, <i>Impacts of Alternative B – Proposed Action on Other Uses (Marine Minerals, Military Use, Aviation, and Scientific Research and Surveys)</i>.</p> <p>Atlantic Shores would continue to coordinate with DoD through the Military Aviation and Installation Assurance Siting Clearinghouse as well as FAA and USCG as part of the mitigation measure included in Appendix G, Table G-1.</p> <p>In Section 2.3 <i>Non-Routine Activities and Low-Probability Events</i>, BOEM considers terrorist attacks to be unlikely though the impacts can vary depending on magnitude and extent. In the case of an event an Emergency Response Plan would be prepared by Atlantic Shores, in coordination with USCG, to provide clear instructions regarding procedures to be followed during emergency incident scenarios, including terrorist attacks.</p>

Comment No.	Comment	Response
	<p>energy? As noted above Section 4.3 of the DEIS says that a long term goal of the Proposed Action is to promote reliable safe and secure clean energy. This concern for security is further heightened when one looks at the cumulative impact from all the offshore wind projects proposed off the East Coast.</p>	<p>Back-up systems for the proposed project extend outside of the scope required to meet the purpose and need.</p>
BOEM-2023-0030-0755-0003	<p>The safety and security of our shore will be in jeopardy by lining our shore with a wall of turbines and substations it will present a navigational mine field and create obstacles that would hinder rescue operations and interfere with radar. The USCG and Pentagon have expressed concerns. And by allowing foreign companies control our infrastructure is not well thought out.</p>	<p>Impacts on USCG SAR efforts, including how the increase in navigational complexity due to WTGs may affect searches, are described in Section 3.6.7.5 <i>Impacts of Alternative B – Proposed Action on Other Uses (Marine Minerals, Military Use, Aviation, and Scientific Research and Surveys); Military and National Security Uses.</i></p> <p>Navigation around the structures offshore is described in Section 3.6.6.5 <i>Impacts of Alternative B – Proposed Action, Presence of Structures.</i> Additionally, the Project has been designed to facilitate the transit of vessels through the WTA based on a review of existing traffic patterns.</p> <p>BOEM’s conclusion that there would be moderate impacts to radar due to the cumulative impacts of the Proposed Action and all alternatives include consideration of all applicable mitigation and monitoring measures in Appendix G of the Final EIS.</p>
BOEM-2023-0030-0826-0004	<p>7-Will the Coast Guard be adding more military to police the OSW vessels especially those from foreign countries?8-If the Coast Guard is not expanding their presence how are they expected to police the OFW and everyone on the Atlantic Coast?9-Can you guarantee citizens 100% that we will be protected and need our Coast Guard when we do?</p>	<p>Impacts on military uses, including USCG, within the Lease Area are evaluated in Section 3.6.7.5, <i>Impacts of the Proposed Action on Other Uses (Marine Minerals, Military Use, Aviation, and Scientific Research and Surveys).</i> Coordination with the Military Aviation and Installation Assurance Siting Clearinghouse, responsible for evaluating potential risks of new energy projects to national security and DoD missions, found that the Proposed Action would result in minor adverse impacts on military and national security uses other than USCG SAR operations.</p>

Comment No.	Comment	Response
		BOEM anticipates that any issues with aviation routes or radar systems would be resolved through ongoing coordination with DoD, FAA, and/or NOAA.
BOEM-2023-0030-0916-0018	would potentially impair our air defense radars at Gibbsboro NJ and other defense capability by its location in a Department of Defense (DOD) exclusion zone (in red below) in conflict with a specific provision of the OCSLA to protect national security	<p>The Project area was proposed in coordination with the DoD during the lease area planning process. COP Appendix II-T2 provides a radar screening analysis to identify radar sites within line-of-sight of WTGs. Atlantic Shores would continue to coordinate with DoD through the Military Aviation and Installation Assurance Siting Clearinghouse as well as FAA and USCG as part of the mitigation measure included in Appendix G, Table G-1.</p> <p>Additional information on the Gibbsboro Air Route Surveillance Radar model-4 (ARSR-4) has been added to Appendix II-T2 of the COP and Section 3.6.7.5 of the EIS.</p>
BOEM-2023-0030-0916-0019	would interfere with marine radars airport radars at Atlantic City civilian and military radars at Gibbsboro and the Sea sonde ocean monitoring radar in Love ladies NJ	<p>The EIS addresses the adverse impacts of WTG structures on marine vessel radars in Section 3.6.7.5, of the EIS.</p> <p>Atlantic Shores is committed to continue working to further evaluate potential effects on these radar facilities in coordination with the FAA, DoD, DHS, NOAA, and NWS and identify potential mitigating measures, if required.</p> <p>As stated in Section 3.6.7.8, <i>Proposed Mitigation Measures</i>, the Lessee must coordinate with the radar operators impacted and the Surface Currents Program of the NOAA IOOS Office to assess if the Project will cause radar interference to the degree that radar performance is no longer within the specific radar systems’ operational parameters or fails to meet mission objectives.</p>
BOEM-2023-0030-0916-0045	Defense Conflicts. It does not present and explain the reasons for the DOD designation of the inner half of the lease area as an “exclusion zone”. It does not address potential conflicts of the wind turbines with Department of Defense capabilities including our military air defense radars in Gibbsboro NJ. The	<p>Refer to responses BOEM-2023-0030-0916-0018 and BOEM-2023-0030-0916-0019.</p> <p>Exclusion Zones are established by agencies to limit activities within areas under that agency’s jurisdiction. The DoD has</p>

Comment No.	Comment	Response
	DEIS defers to DOD to do a review but that is not sufficient for NEPA full disclosure purposes here.	indicated these zones to BOEM for the purpose of the Project.
BOEM-2023-0030-0916-0089	Regarding the Outer Continental Shelf Lands Act (OCSLA):The DEIS provides no information on the potential national security conflict created by placing turbines in a DOD exclusion zone or whether the turbines will interfere with our military radars in Gibbsboro NJ and how the criteria in the OCSLA to protect national security can be met	Refer to responses BOEM-2023-0030-0916-0018 and BOEM-2023-0030-0916-0045.
BOEM-2023-0030-0916-0189	It is not clear that if ADLS is used that the estimated frequency numbers also include military aircraft operations and not just civilian. Since ADLS is proposed but apparently not yet approved by the FAA how is this relevant to a decision now? Will it be a license requirement?	<p>Atlantic Shores plans to use an FAA approved Aircraft Detection Lighting System (ADLS), subject to FAA and BOEM approval. This lighting system would only activate WTG and met tower lighting when aircrafts enter a predefined airspace. A license is not required for the use of the ADLS system; however, lessees are required to use FAA-approved ADLS vendors</p> <p>In COP Appendix II-M4, ADLS Efficacy Analysis, the frequency of nighttime aviation operations in proximity to the WTA was analyzed.</p>
BOEM-2023-0030-0916-0199	Air Radar. The discussion on pages 3.6.7–3 and 3.6.7–7 of the DEIS oddly makes no mention of potential radar interference with the military radars in Gibbsboro New Jersey or the civilian radars at Atlantic City airport. These are likely radar systems to be impacted. The radars at Gibbsboro are part of the Eastern Air Command Center supporting NORAD providing early detection capability of unwanted aircraft. It would seem rather important that this be addressed. If this involves classified information there are NEPA procedures to deal with that.	Refer to response BOEM-2023-0030-0916-0019.
BOEM-2023-0030-0916-0200	Equally important the larger underwater source noise levels and the significantly greater distances required for those levels to dissipate to background raise serious issues regarding potential interference with Navy underwater acoustical surveillance systems (sonar). Previous studies (RS2)	Atlantic Shores completed the following reports related to Aviation and Radar as a part of the COP submission: Obstruction Evaluation & Airspace Analysis (OE/AA), Navigational and Radar Screening Study (RLOS), Traffic Flow

Comment No.	Comment	Response
	<p>assumed that underwater noise levels from wind turbines would attenuate to background level well before reaching the edge of the outer continental shelf and open ocean. This may no longer be the case. The DOD should be consulted to make them aware of the higher noise levels and determine and make public their position.</p>	<p>Analysis Report, Search and Rescue Risk (SAR) Assessment Workshop Summary Report.</p> <p>Refer to response BOEM-2023-0030-0916-0019.</p>
BOEM-2023-0030-0916-0201	<p>As discussed further below a previous radar interference study RS3 for the Ocean Wind project using smaller turbines indicated substantial interference with the Atlantic City radars and marginal interference with the Gibbsboro military radars. The interference with the Gibbsboro radars would be expected to be greater now from the Atlantic Shores project since it is closer to Gibbsboro and the turbines are now twice as high as what was previously considered and more closely spaced. So the DEIS should have and should now include a detailed radar interference study for the Atlantic Shores wind complex. In the previous study RS3 of radar interference by the Ocean Wind project it was shown that there was line of site radar contact from the ARSR-4 radars at Gibbsboro NJ to the tops of the eight-megawatt turbines planned at that time for that project south of Long Beach Island. The Atlantic Shores project is closer than the Ocean Wind project to the Gibbsboro site and the planned turbines for that project are greater in number much taller and more closely spaced than what was used for the Ocean Wind analyses. It would seem then that there is the strong potential for interference of ARSR-4 radars but this is not disclosed in the EIS.</p>	<p>Atlantic Shores completed the following reports related to Aviation and Radar as a part of the COP submission: Appendix II-T1: Obstruction Evaluation & Airspace Analysis (OE/AA), Appendix II-T2: Navigational and Radar Screening Study (RLOS), and Appendix II-T3: Traffic Flow Analysis Report</p> <p>Refer to response BOEM-2023-0030-0916-0018.</p>
BOEM-2023-0030-1499-0004	<p>There should be a gating item for approving this: approval from the United States Armed forces that this does not pose a problem to defending the United States.</p>	<p>Coordination with the Military Aviation and Installation Assurance Siting Clearinghouse, responsible for evaluating potential risks of new energy projects to national security and DoD missions, found that the Proposed Action would result in minor adverse impacts on military and national security uses other than USCG SAR operations.</p>

Comment No.	Comment	Response
BOEM-2023-0030-1499-0013	My read of the materials related to radar defenses is that the spinning turbines affect the quality of the radar imaging and that there are unclear mitigations for these problems.	<p>Impacts on military uses, including within the Lease Area are evaluated in Section 3.6.7.5, <i>Impacts of the Proposed Action on Other Uses (Marine Minerals, Military Use, Aviation, and Scientific Research and Surveys)</i>. Coordination with the Military Aviation and Installation Assurance Siting Clearinghouse, responsible for evaluating potential risks of new energy projects to national security and DoD missions, found that the Proposed Action would result in minor adverse impacts on military and national security uses other than USCG SAR operations.</p> <p>Please refer to Table G-1, Appendix G, <i>Mitigation and Monitoring</i>, for aviation and radar mitigation measures.</p>
BOEM-2023-0030-1516-0043	<p>Since 2010 BOEM has known the impact of the lease areas will have on the Department of Defense and national security. There has been no evidence 13 years later in BOEM's DEIS for ASOWNJ that a viable solution has been found. On November 19 2010 the third BOEM New Jersey Task force meeting was held in Trenton New Jersey to discuss potential areas of interest for renewable energy development on the OCS offshore New Jersey. The Department of Defense presented the areas of concern to the Task Force. Third Task Force Meeting Bureau of Ocean Energy Management (boem.gov) [Link: https://www.boem.gov/renewable-energy/state-activities/third-task-force-meeting]Microsoft PowerPoint - DoD offshore activities_NJ TF mtg_19NOV2010.ppt (boem.gov) [Link: https://www.boem.gov/sites/default/files/renewable-energy-program/State-Activities/DoDoffshoreactivitiesNJTFmtg.pdf] On 4/20/2011 BOEM released the Federal Register Call Area Vol. 76 pg 22130-22139.2011-9545.pdf (govinfo.gov) [Link: https://www.govinfo.gov/content/pkg/FR-2011-04-20/pdf/2011-9545.pdf] According to the information in the FR Designation of Full Blocks and Partial Blocks where "site specific conditions and stipulations may need to be</p>	<p>The information mentioned in these links that were provided by BOEM are from the early coordination and discussion for offshore wind projects. Additional coordination, surveys, and research have been conducted as projects have been proposed in the OCS.</p> <p>Ongoing coordination with agencies including the DoD, FAA, and NOAA have aided in the evolution of the Proposed Action as well as the establishment of mitigation measures.</p>

Comment No.	Comment	Response
	<p>developed to ensure that projects are compatible with DOD activities" per page 22136 of above link and marked by hand by a member of the Defend Brigantine Beach Community group on DOD map below. [See original comment for Map showing Department of Defense Draft Assessment – New Jersey Proposed RFI on page 60.] In February 2012 [Bold: BOEM] published an [Bold: Environmental Assessment (EA).] In the EA BOEM provided a statement about the impact to DOD activities but could be mitigated based on nothing but a “personal conversation” with a Mr. or Ms. Engle of the DOD. [Bold and Italics: Final Report : Commercial Wind Lease Issuance and Site Assessment Activities on the Atlantic Outer Continental Shelf Offshore New Jersey Delaware Maryland and Virginia Final Environmental Assessment January 2012]OCS EIS/EA BOEM 2012-003 [Link: https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/Mid-Atlantic-Final-EA-2012.pdf]</p>	
BOEM-2023-0030-1516-0061	<p>The DEIS fails to adequately address the project’s interference with defense-related and other radar.</p>	<p>Impacts on military radar uses within the Lease Area are evaluated in Section 3.6.7.5, <i>Impacts of the Proposed Action on Other Uses (Marine Minerals, Military Use, Aviation, and Scientific Research and Surveys)</i>. Coordination with the Military Aviation and Installation Assurance Siting Clearinghouse, responsible for evaluating potential risks of new energy projects to national security and DOD missions, found that the Proposed Action would result in minor adverse impacts on military and national security uses other than USCG SAR operations.</p> <p>The EIS addresses the adverse impacts of WTG structures on marine vessel radars in Section 3.6.6.3 and 3.6.6.5, under the “Presence of structures” IPF.</p> <p>Refer to responses BOEM-2023-0030-0916-0018 and BOEM-2023-0030-0916-0019.</p>

Comment No.	Comment	Response
BOEM-2023-0030-1520-0007	The US Dept of Defense notes a radar study that their ARSR-4 radars at Gibbsboro NJ could be interfered with by the now proposed larger more closely spaced and higher number of turbines. The National Acad. of Science report wind turbine interference on marine vessel radar will lead to unforeseen complications and degraded radar performance- thus jeopardizing overall US Homeland security.	Atlantic Shores completed the following reports related to Aviation and Radar as a part of the COP submission: Appendix II-T1: Obstruction Evaluation & Airspace Analysis (OE/AA), Appendix II-T2: Navigational and Radar Screening Study (RLOS), and Appendix II-T3: Traffic Flow Analysis Report Refer to responses BOEM-2023-0030-0916-0018 and BOEM-2023-0030-0916-0019.
BOEM-2023-0030-1566-0007	Threat to national defense: Referenced in your publication “Boem expects ongoing activities and planned non-off shore wind activities including off shore wind activities to have continuing impacts on military and national security uses aviation and air traffic offshore cables and pipelines radar systems and scientific research and surveys primarily through the presence of structures that introduce navigational complexities and vessel traffic.” The fact that the Pentagon has also sounded the alarm can’t be ignored.	Coordination with the Military Aviation and Installation Assurance Siting Clearinghouse, responsible for evaluating potential risks of new energy projects to national security and DoD missions, found that the Proposed Action would result in minor adverse impacts on military and national security uses other than USCG SAR operations.
BOEM-2023-0030-1568-0004	impact on marine vessel radar as reported by the National Academies of Sciences Engineering and Medicine creating risk to national security. https://www.nationalacademies.org/news/2022/02/offshore-wind-farms-can-interfere-with-ship-radar-and-navigation-says-new-report	The EIS addresses the adverse impacts of WTG structures on marine vessel radars in Section 3.6.6.3 and 3.6.6.5, under the “Presence of structures” IPF. WTG and OSS structures could potentially interfere with marine radars. The impacts of WTGs on marine vessel radars are situation-dependent, and interference can be mitigated through active and passive measures.
BOEM-2023-0030-1592-0002	Offshore wind in NJ presents an issue with national security. If any terrorist attack were to take place along our coast these wind turbines make us extremely vulnerable. Any attack on these turbines will create major issues with our grid and our electric supply.	Although extremely unlikely, the Project’s facilities could be targeted by terrorists. The effects of a terrorist attack would depend on the magnitude and location of the attack; given the dispersed nature of the Project offshore facilities, it is unlikely that an attack would affect all offshore structures. Terrorist attacks could cause spills/discharges or significant infrastructure damage to the WTGs, OSSs, offshore cables, onshore interconnection cables, or onshore substations and/or converter stations, as referenced in the Atlantic Shores, COP Volume II, Section 9.2.6. The response to such

Comment No.	Comment	Response
		<p>incidents is covered in the Project’s Facility Security Plan and Emergency Response Plan.</p> <p>Atlantic Shores, in coordination with USCG, would provide clear instructions regarding procedures to be followed during emergency incident scenarios, including terrorist attacks.</p>
BOEM-2023-0030-1597-0004	The rows of turbines along the coast present a huge national security issue--if there were ever a terrorist attack our electric grid will be hugely affected.	<p>Although extremely unlikely, the Project’s facilities could be targeted by terrorists. The effects of a terrorist attack would depend on the magnitude and location of the attack; given the dispersed nature of the Project offshore facilities, it is unlikely that an attack would affect all offshore structures. Terrorist attacks could cause spills/discharges or significant infrastructure damage to the WTGs, OSSs, offshore cables, onshore interconnection cables, or onshore substations and/or converter stations, as referenced in the Atlantic Shores, COP Volume II, Section 9.2.6. The response to such incidents is covered in the Project’s Facility Security Plan and Emergency Response Plan.</p> <p>Atlantic Shores, in coordination with USCG, would provide clear instructions regarding procedures to be followed during emergency incident scenarios, including terrorist attacks.</p>
BOEM-2023-0030-1624-0003	The security risks to the U.S. by sensors placed on these structures survey our military movement.	<p>BOEM is continuing to work with DoD and the Military Aviation and Installation Assurance Siting Clearinghouse to determine potential conflicts with DoD activities from the Projects Impacts on military uses, including within the Lease Area are evaluated in Section 3.6.7.5, <i>Impacts of the Proposed Action on Other Uses (Marine Minerals, Military Use, Aviation, and Scientific Research and Surveys)</i>.</p> <p>Please refer to Table G-1, Appendix G, <i>Mitigation and Monitoring</i>, for mitigation for impacts to aviation and radar.</p> <p>Atlantic Shores is aware that listening devices cannot be installed on the structures.</p>

Comment No.	Comment	Response
BOEM-2023-0030-1781-0001	<p>The DOD recently warned the Biden administration that wind turbines could impede Naval military operations. This was highlighted in an October 2022 report assembled by the U.S. Navy and Air Force. There are compatibility challenges near Navy and air training areas. There is a concern also about radar interference caused by the turbines that may effect maritime safety and Coast Guard operations and rescues. Now the Pentagon seems overly concerned about four specific leases from North Carolina to Delaware but in 2019 they warned that much of the North Atlantic was an exclusion zone according to the Navy and the Pentagon. In 2018 a DOD map identified nearly the entire east coast to be highly problematic for leasing. Every time this concern is raised BOEM's answer is that discussions with the Navy and the DOD continue. There is never any action or lease that is being denied by BOEM.</p>	<p>BOEM is continuing to work with DoD and the Military Aviation and Installation Assurance Siting Clearinghouse to determine potential conflicts with DoD activities from the Projects Impacts on military uses, including within the Lease Area are evaluated in Section 3.6.7.5, <i>Impacts of the Proposed Action on Other Uses (Marine Minerals, Military Use, Aviation, and Scientific Research and Surveys)</i>.</p> <p>Please refer to Table G-1, Appendix G, <i>Mitigation and Monitoring</i>, for mitigation for impacts to aviation and radar.</p> <p>Lease areas were developed in coordination with the DoD and Navy. During scoping for the proposed Project, several aspects were evaluated to determine the array of WTGs within the Lease Area. Navigational concerns were discussed with the USCG and Maritime stakeholders and DoD provided an area assessment highlighting areas including Special Use Airspace, no restriction areas, and wind exclusion areas.</p>
BOEM-2023-0030-1791-0001	<p>You know the height of these turbines and the numbers of them are a major Homeland Security issue and really any attack on the U.S. east coast and I am afraid that's coming sooner they than we think with all the instability in the world any attack where the offshore wind is it's going to destroy the electric grid and cause toxic chemicals coolants and lubricants to pollute and poison the ocean.</p>	<p>Although extremely unlikely, the Project's facilities could be targeted by terrorists. The effects of a terrorist attack would depend on the magnitude and location of the attack; given the dispersed nature of the Project offshore facilities, it is unlikely that an attack would affect all offshore structures. Terrorist attacks could cause spills/discharges or significant infrastructure damage to the WTGs, OSSs, offshore cables, onshore interconnection cables, or onshore substations and/or converter stations, as referenced in the Atlantic Shores, COP Volume II, Section 9.2.6. The response to such incidents is covered in the Project's Facility Security Plan and Emergency Response Plan.</p> <p>Atlantic Shores, in coordination with USCG, would provide clear instructions regarding procedures to be followed during emergency incident scenarios, including terrorist attacks.</p>

Comment No.	Comment	Response
BOEM-2023-0030-2014-0004	Pre-construction as well as the ongoing operation contemplated for the wind farm projects themselves as already testified to could have significant devastating impacts as to air and marine safety and as to the operation of numerous civilian and military radar systems. Besides the unanswered questions as to ongoing military training missions conducted off the New Jersey and Atlantic coast itself no adequate independent study has been conducted as to the severe impact which might occur to our military defense system once these permanent industrial projects are installed directly off the New Jersey coast.	<p>BOEM is continuing to work with DoD and the Military Aviation and Installation Assurance Siting Clearinghouse to determine potential conflicts with DoD activities from the Projects Impacts on military uses, including within the Lease Area are evaluated in Section 3.6.7.5, <i>Impacts of the Proposed Action on Other Uses (Marine Minerals, Military Use, Aviation, and Scientific Research and Surveys)</i>.</p> <p>Please refer to Table G-1, Appendix G: <i>Mitigation and Monitoring</i>, for mitigation for impacts to aviation and radar.</p>
BOEM-2023-0030-0213-0041	That BOEM recognize in the Supplemental DEIS the vulnerability and difficulty in providing security against terrorism and hostile acts if the country is at war. That BOEM describe the plans for security and for backup power if there is destruction to the wind turbines substations and/or cables delivering electricity to shore.	<p>BOEM is continuing to work with DoD and the Military Aviation and Installation Assurance Siting Clearinghouse to determine potential conflicts with DoD activities from the Projects Impacts on military uses, including within the Lease Area are evaluated in Section 3.6.7.5, <i>Impacts of the Proposed Action on Other Uses (Marine Minerals, Military Use, Aviation, and Scientific Research and Surveys)</i>.</p> <p>Please refer to Table G-1, Appendix G, <i>Mitigation and Monitoring</i>, for mitigation for impacts to aviation and radar.</p> <p>Atlantic Shores, in coordination with USCG, would provide clear instructions regarding procedures to be followed during emergency incident scenarios, including terrorist attacks.</p>
BOEM-2023-0030-1622-0003	Where are the studies on radar interference?	Atlantic Shores completed the following reports related to Aviation and Radar as a part of the COP submission: Appendix II-T1: Obstruction Evaluation & Airspace Analysis (OE/AA), Appendix II-T2: Navigational and Radar Screening Study (RLOS), and Appendix II-T3: Traffic Flow Analysis Report.
BOEM-2023-0030-1536-0005	Environmental / Ecological Issues By nature of their reliance on the ocean for their way of life fishermen must be good stewards of the environment. Any proposed opening of fishing grounds or increase in allowable catch requires years of intensive scientific study. This scientific work falls in part to	BOEM has committed to working with NOAA to implement the Federal Survey Mitigation Implementation Strategy program (https://repository.library.noaa.gov/view/noaa/47925). As of May 2024, implementation is pending. As discussions

Comment No.	Comment	Response
	<p>the National Marine Fisheries Service and their annual trawl survey. This survey is the foundation for fish population estimates and the basis for quota allocation and stock assessment. The impact of this site and cumulative impact of others will limit the NMFS historic survey locations resulting in impacts to the data and the industry this science supports specifically the nations commercial and recreational sectors. Cumulative impacts of these projects must be considered in this EIS and more fully analyzed. BOEM through this document and working with the developers must ensure the NMFS Survey is fully funded going forward and must account for the mitigation to amend this historic scientific study. Without this mitigation the resulting survey and supporting data will result in additional uncertainty which will directly impact fish stocks and allocations to the State's and the commercial and recreational fishing industries relying on these allocations. These natural resources are a common good and impacts on new development must address these historic uses.</p>	<p>between BOEM and NOAA on implementation of the program continue, specific details of appropriate mitigation measures will be added to the environmental analysis. Please refer to Table G-1, Appendix G: <i>Mitigation and Monitoring</i>, for mitigation in coordination with NOAA and NMFS regarding surveys.</p>
BOEM-2023-0030-1581-0003	<p>The impact of this site and cumulative impact of others will limit the NMFS historic survey locations resulting in impacts to the data and the industry this science supports specifically the nations commercial and recreational sectors.</p>	<p>BOEM has committed to working with NOAA to implement the Federal Survey Mitigation Implementation Strategy program (https://repository.library.noaa.gov/view/noaa/47925). As of May 2024, implementation is pending. As discussions between BOEM and NOAA on implementation of the program continue, specific details of appropriate mitigation measures will be added to the environmental analysis. Please refer to Table G-1, Appendix G, <i>Mitigation and Monitoring</i>, for mitigation in coordination with NOAA and NMFS regarding surveys.</p>
BOEM-2023-0030-1581-0004	<p>BOEM through this document and working with the developers must ensure the NMFS Survey is fully funded going forward and must account for the mitigation to amend this historic scientific study.</p>	<p>BOEM has committed to working with NOAA to implement the Federal Survey Mitigation Implementation Strategy program (https://repository.library.noaa.gov/view/noaa/47925). As of</p>

Comment No.	Comment	Response
		<p>May 2024, implementation is pending. As discussions between BOEM and NOAA on implementation of the program continue, specific details of appropriate mitigation measures will be added to the environmental analysis. In Section</p> <p>Please refer to Table G-1, Appendix G, <i>Mitigation and Monitoring</i>, for mitigation in coordination with NOAA and NMFS regarding surveys.</p> <p>The funding of survey work is outside of the scope for this project.</p>

N.6.20 Recreation and Tourism

Table N.6-20. Responses to Comments on Recreation and Tourism

Comment No.	Comment	Response
BOEM-2023-0030-0591-0002	In addition; this project will impact the ocean ecology real estate values landscape and views. Is there a report or information that can be viewed by the people who reside in these beach communities other than the report? What Guarantees are you giving the community if things go south?	As described in Section 3.6.8.5 <i>Impacts of Alternative B – Proposed Action on Recreation and Tourism</i> , the impacts of the Proposed Action on recreation and tourism are expected to be minor with minor beneficial impacts. Short-term impacts from construction and installation activities are expected as a result of noise, anchored vessels, and hinderances to vessel navigation as a result of the installation of the export cable and WTGs. Long-term impacts include the presence of cable scour protection and structures in the Wind Farm Area, which would impact recreational vessel navigation and visual quality. Beneficial impacts would result from the reef effect and sightseeing attraction of offshore wind energy structures. Refer also to Table 3.6.8-2, which provides impact level definitions concerning recreation and tourism.

Comment No.	Comment	Response
		<p>Please also refer to Section 3.6.9.5 <i>Impacts of Alternative B – Proposed Action on Scenic and Visual Resources</i>. This section describes changes in seascape, open ocean, and landscape conditions as a result of WTGs and which beaches are anticipated to have visual impacts as a result of the Proposed Action.</p> <p>Information on potential impacts to property values has been added to Section 3.6.3, <i>Demographics, Employment, and Economics</i>.</p>
BOEM-2023-0030-0722-0002	<p>The report further makes clear that the project will negatively impact the recreational enjoyment of our bays and inland waterways. “The recreational boater and fishermen are likely to have the greatest exposure visual change associated with the Projects. These viewers have opportunities for extended concentrated viewing of the landscape and seascape and this visual environment is an important component of their recreational experience.” p109. You will see the massive turbines all the way across the Barnegat Bay at the Rutgers field station where “viewers would have to turn away from the Projects to eliminate it from their view.” In context things are actually much worse for LBI than set forth in the Atlantic Shores report. The quotes provided above concern Phase I of the project. Phase II will straddle our beaches 9 miles from the LBI coast and be in your face no matter where you go or live on the island. Not only will you see the turbines anywhere you go in LBI but they will be visible from the Bay beaches in Manahawkin and as far north as Monmouth County. From SaveLBI survey data. - 50% of prior renters would not rent again with turbines visible. - 19% percent would not visit that beach town in this case Beach Haven - Property Value Loss \$0.2-1.0 million for ocean front and ocean view properties.</p>	<p>As described in Section 3.6.8.5 <i>Impacts of Alternative B – Proposed Action on Recreation and Tourism</i>, the impacts of the Proposed Action on recreation and tourism are expected to be minor with minor beneficial impacts. Short-term impacts from construction and installation activities are expected as a result of noise, anchored vessels, and hinderances to vessel navigation as a result of the installation of the export cable and WTGs. Long-term impacts include the presence of cable scour protection and structures in the Wind Farm Area, which would impact recreational vessel navigation and visual quality. Beneficial impacts would result from the reef effect and sightseeing attraction of offshore wind energy structures. Refer also to Table 3.6.8-2, which provides impact level definitions concerning recreation and tourism.</p> <p>Please also refer to Section 3.6.9.5 <i>Impacts of Alternative B – Proposed Action on Scenic and Visual Resources</i>. This section describes changes in seascape, open ocean, and landscape conditions as a result of WTGs and which beaches are anticipated to have visual impacts as a result of the Proposed Action.</p> <p>Please also refer to the response to comment BOEM-2023-0030-0544-0002 in Table N.6-15 regarding Demographics,</p>

Comment No.	Comment	Response
		Employment, and Economics, which includes additional detail regarding property values. Information on potential impacts to property values has been added to Section 3.6.3, <i>Demographics, Employment, and Economics</i> .
BOEM-2023-0030-0826-0012	18-The Jersey Shore is home to over \$700 billion in coastal properties and the tourism industry generates almost half a million jobs nearly ten percent of New Jersey’s entire workforce. New Jersey’s commercial fishing industry generates over \$7.9 billion annually supporting over 50000 jobs. I found this on Cory Bookers Website. How much loss to these industries will we expect if OFW prevails in our Atlantic Ocean?19- Has any studies been done for OSW Farms of this magnitude on an industrialization of the ocean and how that will damage ecosystems and wildlife?20- What are the long term effects on the fishing and tourism industries?	As described in Section 3.6.8.5, <i>Impacts of Alternative B – Proposed Action on Recreation and Tourism</i> , impacts of the Proposed Action are anticipated to be minor to minor beneficial. Cumulative impacts of the Proposed Action in combination with ongoing and planned activities are expected to be moderate adverse with minor beneficial impacts. Consistent with the impact rating guidance included within Table 3.6.8-2, the main factors informing this impact rating are the expected extent of visual impacts associated with the presence of structures and lighting; impacts on fishing and other recreational activity from noise, vessel traffic, and cable emplacement during construction; and beneficial impacts on fishing from the reef effect. Please also refer to the response to comment BOEM-2023-0030-0826-0012 in Table N.6-13 regarding Commercial Fisheries and For-Hire Recreational Fishing.
BOEM-2023-0030-0916-0042	Socio-Economic Impacts to Nearby Shore Communities it presents a misleading presentation of minor impact to communities farther from the turbines but no assessment of lost tourism jobs rentals on the communities within visible range of the turbines which of course is the issue. It does not include any up-to- date socio-economic impact analyses of the impact of visible turbines and rotating blades on shore rentals tourism or property values and resultant tax bases for local services. Relying on past BOEM sponsored public survey studies that impact is significant.	The EIS cited studies involving WTGs with 579-foot (176.5 meter) hub heights visible out to 32.4 miles (52.1 kilometers). Atlantic Shores WTGs would be taller and would be visible at greater distances. Greater eye-level heights would increase the visible distance in both cases. Both the WTGs considered in the studies and those proposed for Atlantic Shores would have WTG hubs, nacelles, navigation lights, and rotor blades visible to viewers on the nearest beaches. The visibility of the Atlantic Shores WTGs would be variable, depending on meteorological, moonlight, and sunlight conditions. Depending on such conditions, there would be periods of high, moderate, low, and no visibility of the WTGs from land and/or water.

Comment No.	Comment	Response
		<p>Please refer to Section 3.6.9.5, <i>Impacts of Alternative B – Proposed Action on Scenic and Visual Resources</i> and Appendix H, <i>Seascape, Landscape, and Visual Impact Assessment</i>, for further discussion of the impacts of the Proposed Action on visual resources.</p> <p>Please also refer to the response to comment BOEM-2023-0030-0544-0002 in Table N.6-15 regarding Demographics, Employment, and Economics, which includes additional detail regarding property values.</p>
BOEM-2023-0030-0916-0171	<p>Under Demographics and the impact of the proposed action on page 3.6.3–20 the DEIS merely states that views of wind turbine generators could have impacts on business serving the recreation and tourism industry but it does not present what those impacts are. It then goes on to trivialize and misrepresent the visual impact of the wind turbines on the shore tourism industry. In fact, as explained below that impact just from the visible impact would be extremely damaging.</p>	<p>As described in Section 3.6.8.5, <i>Impacts of Alternative B – Proposed Action on Recreation and Tourism</i>, the impacts of the Proposed Action on recreation and tourism are expected to be minor with minor beneficial impacts. Short-term impacts from construction and installation activities are expected as a result of noise, anchored vessels, and hinderances to vessel navigation as a result of the installation of the export cable and WTGs. Long-term impacts include the presence of cable scour protection and structures in the Wind Farm Area, which would impact recreational vessel navigation and visual quality. Beneficial impacts would result from the reef effect and sightseeing attraction of offshore wind energy structures. Refer also to Table 3.6.8-2, which provides impact level definitions concerning recreation and tourism.</p> <p>Please also refer to Section 3.6.9.5, <i>Impacts of Alternative B – Proposed Action on Scenic and Visual Resources</i>. This section describes changes in seascape, open ocean, and landscape conditions as a result of WTGs and which beaches are anticipated to have visual impacts as a result of the Proposed Action.</p>
BOEM-2023-0030-0916-0190	<p>The BOEM University of Delaware Study. In March 2018 the University of Delaware published a report titled Atlantic Offshore Wind Energy Development - Values and Implications</p>	<p>The EIS cited studies involving WTGs with 579-foot (176.5 meter) hub heights visible out to 32.4 miles (52.1 kilometers). Atlantic Shores WTGs would be taller and would be visible at</p>

Comment No.	Comment	Response
	<p>for Recreation and Tourism that was sponsored by the BOEM. It assessed the impact on shore visits from visible turbines at various distances.</p> <p>That study was for smaller turbines but the DEIS makes no attempt to adjust the results to the larger turbines being proposed here. Therefore, it's scoring of the impact as minor has no basis in fact and is completely arbitrary. Adjusting that study and others for the larger turbines as discussed below results in a completely different picture.</p>	<p>greater distances. Greater eye-level heights would increase the visible distance in both cases. Both the WTGs considered in the studies and those proposed for Atlantic Shores would have WTG hubs, nacelles, navigation lights, and rotor blades visible to viewers on the nearest beaches. The visibility of the Atlantic Shores WTGs would be variable, depending on meteorological, moonlight, and sunlight conditions. Depending on such conditions, there would be periods of high, moderate, low, and no visibility of the WTGs from land and/or water.</p> <p>Please refer to Section 3.6.9.5, <i>Impacts of Alternative B – Proposed Action on Scenic and Visual Resources</i> and Appendix H, <i>Seascape, Landscape, and Visual Impact Assessment</i>, for further discussion of the impacts of the Proposed Action on visual resources.</p>
BOEM-2023-0030-1488-0004	<p>Cumulative Shore Experience: Combined effect of visible and rotating turbines audible noise reduced breeze and higher air temperature on the shore experience and economy not addressed in EIS</p>	<p>Wind turbines extract kinetic energy from the atmosphere and thus can reduce wind speeds downwind of the turbine. Wind turbines increase vertical mixing in the atmosphere and thus can increase (or decrease) air temperatures and humidity downwind depending on local meteorological conditions. However, these effects dissipate with distance downwind. Because of the distance of the Project from land (approximately 16 miles from the center of the WTG array), substantial effects on wind speed, temperature and humidity are unlikely to occur over land.</p> <p>Text has been added to Section 3.6.5.5, <i>Impacts of Alternative B – Proposed Action on Land Use and Coastal Infrastructure</i>, in the EIS stating, that “[a]t a distance of 1,000 feet (305 meters), the sound pressure is on the order of 50 dBA, a level lower than normal conversation (NYSERDA 2013). In this case, operational noise from the offshore WTGs would not be audible onshore.”</p>

Comment No.	Comment	Response
BOEM-2023-0030-1499-0007	The visual impact studies cited of comparison OSW installations and impact on tourist trade are flawed. The cited examples were built differently not necessarily facing the prime ocean front areas not as close and not as tall. The comparisons and conclusions are disingenuous.	<p>The EIS cited studies involving WTGs with 579-foot (176.5 meter) hub heights visible out to 32.4 miles (52.1 kilometers). Atlantic Shores WTGs would be taller and would be visible at greater distances. Greater eye-level heights would increase the visible distance in both cases. Both the WTGs considered in the studies and those proposed for Atlantic Shores would have WTG hubs, nacelles, navigation lights, and rotor blades visible to viewers on the nearest beaches. The visibility of the Atlantic Shores WTGs would be variable, depending on meteorological, moonlight, and sunlight conditions. Depending on such conditions, there would be periods of high, moderate, low, and no visibility of the WTGs from land and/or water.</p> <p>Please refer to Section 3.6.9.5, <i>Impacts of Alternative B – Proposed Action on Scenic and Visual Resources</i> and Appendix H, <i>Seascape, Landscape, and Visual Impact Assessment</i>, for further discussion of the impacts of the Proposed Action on visual resources.</p>
BOEM-2023-0030-1501-0012	Other coastal/shoreline conditions will include reduced wind breezes about 26% wave and higher temperature and humidity at the shore are expected based on a BOEM study for NY. There is no associated study for NJ. The cumulative NJ shore experience will be altered and polluted by the combined visual effects of rotating turbine blades as well as the nighttime unsynchronized LED red blinking lights.	<p>Wind turbines extract kinetic energy from the atmosphere and thus can reduce wind speeds downwind of the turbine. Wind turbines increase vertical mixing in the atmosphere and thus can increase (or decrease) air temperatures and humidity downwind depending on local meteorological conditions. However, these effects dissipate with distance downwind. Because of the distance of the Project from land (approximately 16 miles from the center of the WTG array), substantial effects on wind speed, temperature and humidity are unlikely to occur over land.</p> <p>As described in Section 3.6.8.5, <i>Impacts of Alternative B – Proposed Action on Recreation and Tourism</i>, the impacts of the Proposed Action on recreation and tourism are expected to be minor with minor beneficial impacts. Short-term impacts from construction and installation activities are</p>

Comment No.	Comment	Response
		<p>expected as a result of noise, anchored vessels, and hinderances to vessel navigation as a result of the installation of the export cable and WTGs. Long-term impacts include the presence of cable scour protection and structures in the Wind Farm Area, which would impact recreational vessel navigation and visual quality. Beneficial impacts would result from the reef effect and sightseeing attraction of offshore wind energy structures. Refer also to Table 3.6.8-2, which provides impact level definitions concerning recreation and tourism.</p> <p>Please refer to Section 3.6.9.5, <i>Impacts of Alternative B – Proposed Action on Scenic and Visual Resources</i>. This section describes changes in seascape, open ocean, and landscape conditions as a result of WTGs and which beaches are anticipated to have visual impacts as a result of the Proposed Action.</p>
BOEM-2023-0030-1516-0033	<p>The ASOWNJ COP and BOEM DEIS for ASOWNJ ignore the projects impact to casino tourism. The beaches and ocean view are an attraction and provide a competitive advantage for Atlantic City casinos. Atlantic City is known as a waterfront destination city for casino tourists as a result. Atlantic City remains the 2nd largest casino industry behind Las Vegas. ASOWNJ project and other planned offshore wind projects will have a major adverse impact on the view from the casino ocean front rooms restaurants beach bars and other ocean front activities which will be dominated by a large and highly visible array of wind turbine generators. The state of the “bricks and mortar” casino industry in Atlantic City is fragile. First the onslaught of online gaming has cannibalized the bricks and mortar casino tourists in Atlantic City. Second there are 14 licensed casinos in Pennsylvania. Several are in scenic areas such as ski resorts. Others are adjacent to large urban and suburban areas such as Philadelphia. A new 510000 square foot casino with 200 hotel rooms was built next to the sports stadiums in Philadelphia. Pennsylvania</p>	<p>Please refer to Section 3.6.9.5, <i>Impacts of Alternative B – Proposed Action on Scenic and Visual Resources</i>. This section characterizes the Proposed Action’s impact on viewer experience for selected KOP, Ocean Casino Resort – Sky Garden, as major when ADLS is activated and minor when not activated at nighttime. This section additionally notes that the number of WTGs that would be visible from Ocean Casino Resort – Sky Garden is substantially fewer than the 2,416 WTGs considered under the planned activities scenario in combination with the Proposed Action. However, the presence of structures associated with offshore wind development in combination with the Proposed Action would have major viewer experience impacts, which are further detailed in Appendix H, <i>Seascape, Landscape, and Visual Impact Assessment</i>.</p> <p>As described in Section 3.6.8.5, <i>Impacts of Alternative B – Proposed Action on Recreation and Tourism</i>, the impacts of the Proposed Action on recreation and tourism are expected</p>

Comment No.	Comment	Response
	<p>casinos offer the same entertainment and fine dining as Atlantic City casinos. Lastly the NY State casino market is expanding which will bring more competition to the industry. Local industry experts proposed a solution to invest in Atlantic City's ocean front experience. The ASOWNJ project is in direct conflict with this solution. Atlantic City investments a must as New York casinos loom gaming panel says (pressofatlanticcity.com). [Link: https://pressofatlanticcity.com/news/local/atlantic-city-investments-a-must-as-new-york-casinos-loom-gaming-panel-says/article_d1c38416-e37a-11ed-b3ad-9f04e162775b.html]</p>	<p>to be minor with minor beneficial impacts. Short-term impacts from construction and installation activities are expected as a result of noise, anchored vessels, and hinderances to vessel navigation as a result of the installation of the export cable and WTGs. Long-term impacts include the presence of cable scour protection and structures in the Wind Farm Area, which would impact recreational vessel navigation and visual quality. Beneficial impacts would result from the reef effect and sightseeing attraction of offshore wind energy structures. Refer also to Table 3.6.8-2, which provides impact level definitions concerning recreation and tourism.</p>
BOEM-2023-0030-1516-0034	<p>Casino contraction in 2014-16 resulted in a reduction of casino revenues from \$5.2 billion to \$2.6 billion. This had a significant impact on the local economies. As a result of this contraction Atlantic City was on the verge of bankruptcy and taken over by the State in 2016. The takeover was renewed by the Governor in 2021. The Atlantic County government debt rose from \$132 million to \$203 million and the equalized value of property fell from \$56 billion to \$35 billion. Atlantic County tax rate is now double the Cape May County rate. The residents now have the burden of filling the gap in taxes caused by the casino contraction. In 2016 the Casino Property Tax Stabilization Act replaced casino property taxes payments in lieu of taxes (PILOT). Currently Casinos are involved in a lawsuit to get the online gaming and sports betting revenues excluded from the PILOT program therefore taxes only applying to bricks and mortar gambling revenues. The final decision will increase the importance of closely examining the impact ASOWNJ projects will have on gambling tourism bricks and mortar operations in Atlantic City.</p>	<p>Please refer to Section 3.6.9.5, <i>Impacts of Alternative B – Proposed Action on Scenic and Visual Resources</i>. This section characterizes the Proposed Action's impact on viewer experience for selected KOP Ocean Casino Resort – Sky Garden as Major when ADLS is activated and Minor when not activated at nighttime. This section additionally notes that the number of WTGs that would be visible from Ocean Casino Resort – Sky Garden is substantially fewer than the 2,416 WTGs considered under the planned activities scenario in combination with the Proposed Action. However, the presence of structures associated with offshore wind development in combination with the proposed action would have major viewer experience impacts, which are further detailed in Appendix H, <i>Seascape, Landscape, and Visual Impact Assessment</i>.</p> <p>As described in Section 3.6.8.5, <i>Impacts of Alternative B – Proposed Action on Recreation and Tourism</i>, the impacts of the Proposed Action on recreation and tourism are expected to be minor with minor beneficial impacts. Short-term impacts from construction and installation activities are expected as a result of noise, anchored vessels, and hinderances to vessel navigation as a result of the installation of the export cable and WTGs. Long-term impacts include the</p>

Comment No.	Comment	Response
		<p>presence of cable scour protection and structures in the Wind Farm Area, which would impact recreational vessel navigation and visual quality. Beneficial impacts would result from the reef effect and sightseeing attraction of offshore wind energy structures. Refer also to Table 3.6.8-2, which provides impact level definitions concerning recreation and tourism.</p>
BOEM-2023-0030-1516-0035	<p>ASOWNJ DEIS and COP does not adequately support with scientific evidence that the wind turbines starting 9.7 miles from the beach and the cumulative impact of other planned offshore wind projects will not adversely impact tourism because of reduced wind speed waves and higher local air temperatures and increased noise as follows: [Bold: Reduced Wind Speed at the Shore] Small turbines 7% reduction 6 miles downwind of wind complex. Large turbines 26% reduction 9 miles downwind (same distance from shore to turbines here and fewer wind turbines [Bold: Wave Height Decreases with Wind Speed] Local Air Temperature Increase will be 1.1 degrees 28 miles downwind of moderate size turbines. [Bold: Airborne Wind Turbine Noise to Persons] Noise propagates more effectively over water than land annoying at the beach and causing sleep disruption.</p> <p>Continual Turbine Operation Measurement Study:1 operating turbine = 118 dBs/Vesta-236 15-megawatt turbine Specifications AND 7 turbines = 126.3 dB Noise loss over 9 miles = 73 dB Net noise = 53.3 dB Night time noise level is 50 dB3 dB difference doubles the noise intensity to the receiver Construction Pile Driving137 dB 10.7 dB higher than the 7-turbine array used above for operational noise example. Noise loss over 9 miles = 73 dB which results in a noise level at the shore of 64 dB close to the daytime standard of 65 dB or equal to the noise of a vacuum cleaner</p>	<p>Wind turbines extract kinetic energy from the atmosphere and thus can reduce wind speeds downwind of the turbine. Wind turbines increase vertical mixing in the atmosphere and thus can increase (or decrease) air temperatures and humidity downwind depending on local meteorological conditions. However, these effects dissipate with distance downwind. Because of the distance of the Project from land (approximately 16 miles from the center of the WTG array), substantial effects on wind speed, temperature and humidity are unlikely to occur over land.</p> <p>Text has been added to Section 3.6.5.5, <i>Impacts of Alternative B – Proposed Action on Land Use and Coastal Infrastructure</i>, in the EIS stating, that “[a]t a distance of 1,000 feet (305 meters), the sound pressure is on the order of 50 dBA, a level lower than normal conversation (NYSERDA 2013). In this case, operational noise from the offshore WTGs would not be audible onshore.”</p>

Comment No.	Comment	Response
BOEM-2023-0030-1516-0036	<p>Since the BOEM was negligent in preparing calculations for the impact to the Tourism Industry we used scientific studies and surveys along with the data in the New Jersey Division of Tourism 2022 Economic Impact Study for the basis of our calculations. The details of studies and calculations used to back up our conclusions are presented after the summary bullet points in the Footnotes.</p> <p>Rental Demand Loss: 50% of prior renters would not rent again with turbines visible regardless of rent discount. Including Atlantic City Atlantic County annual rental income loss could be \$17.2 M (10%) to \$68.9 M (30%). Excluding Atlantic City, Atlantic County annual revenue loss could be \$4.5M (10%) - \$17.9M (40%). Lost rental income NPV over 20 years could be \$65M - \$250M.V1 V2</p> <p>Tourism Revenue Job Losses and Tax Losses: V3 V4 V5 V6 16.5% - 24% would not visit Atlantic County beach town which could be a loss of:8700-12700 jobs or 175000 -255000 job years over the project life\$1.3 – \$1.9B in annual revenue or NPV of \$17.4 B - \$25.5 B over the project life\$142 - \$206 million government tax loss revenue over the project life</p> <p>Wind Turbines will not be a Significant Tourist Attraction based on survey participants not willing to pay more for rental property with a view of wind turbines. V1</p> <p>Casino Contraction: Bricks and mortar operating losses for casinos may cause further contraction in AC and tourism losses and tax impacts will be escalated further.</p> <p>Large Energy Cost Increase for Fragile Seasonal Tourism Businesses V8</p> <p>Recreational Fishing Revenue= \$19M/ YR to the NJ economy. How will this be impacted during years of construction and operation? V7</p> <p>The future of the Annual Farley Marina Jimmy Johnson Fishing Tournament Annual Atlantic City Air Show and other Beach Concerts and other Beach Centric Entertainment Events Bars and Restaurants is uncertain. The airshow alone</p>	<p>A description of the economic impact of tourism is included in both Section 3.6.8, <i>Recreation and Tourism</i>, and Section 3.6.3, <i>Demographics, Employment, and Economics</i>.</p> <p>The EIS cited studies involving WTGs with 579-foot (176.5 meter) hub heights visible out to 32.4 miles (52.1 kilometers). Atlantic Shores WTGs would be taller and would be visible at greater distances. Greater eye-level heights would increase the visible distance in both cases. Both the WTGs considered in the studies and those proposed for Atlantic Shores would have WTG hubs, nacelles, navigation lights, and rotor blades visible to viewers on the nearest beaches. The visibility of the Atlantic Shores WTGs would be variable, depending on meteorological, moonlight, and sunlight conditions. Depending on such conditions, there would be periods of high, moderate, low, and no visibility of the WTGs from land and/or water.</p> <p>Please refer to Section 3.6.9.5, <i>Impacts of Alternative B – Proposed Action on Scenic and Visual Resources</i> and Appendix H, <i>Seascape, Landscape, and Visual Impact Assessment</i>, for further discussion of the impacts of the Proposed Action on visual resources.</p>

Comment No.	Comment	Response
	brings 100000 tourists to Atlantic City and \$50 million to the economy.V9	
BOEM-2023-0030-1516-0040	<p>Underlined: 2. [Bold: Atlantic Offshore Wind Energy Development: Values and Implications for Recreation and Tourism]] [Bold: Parsons & Firestone University of Delaware for BOEM March 2018] 5662.pdf (boem.gov) [Link: https://epis.boem.gov/final%20reports/5662.pdf]</p> <p>The wind turbines shown in the survey were only 579 feet tall compared to the actual size that will be used in future projects which is 851 — 1046 feet tall.</p> <p>35% of survey respondents were not beachgoers. Survey respondents who said the view would be worse were asked: “How certain they were?” Their responses were adjusted downward for any uncertainty. Survey respondents who said the view would be better were NOT asked any follow-up questions.</p> <p>The study showed nighttime views to respondents but did not report the results. Other studies (https://cenrep.ncsu.edu/cenrep/wp-content/uploads/2016/03/WP-2017-017.pdf) have shown nighttime visualizations and the opposition increased dramatically compared to daytime views.</p> <p>The University of Delaware Study says property values would fall but no details were provided.</p> <p>In March 2021 one of the two study’s authors, George R. Parsons, stated publicly that the Study was no longer useful because of the increased height of the planned turbines. Ttps://delawaretoday.com/life-style/skipjack-windfarm/ Energy Updates Caesar Rodney</p> <p>[Bold and Underlined: 3. Analysis of the Effects of the Block Island Wind Farm on Rhode Island Recreation and Tourism Activities] [Bold: (BOEM Smythe Et. Al. University of Rhode Island Dec 2018)]</p> <p>5 Wind Turbines Total Height 659 Ft. 3.8 miles from shore Vs. 200 Wind Turbines Total Height, 1049 starting 8.7 miles from NJ shore.</p>	<p>The EIS cited studies involving WTGs with 579-foot (176.5 meter) hub heights visible out to 32.4 miles (52.1 kilometers). Atlantic Shores WTGs would be taller and would be visible at greater distances. Greater eye-level heights would increase the visible distance in both cases. Both the WTGs considered in the studies and those proposed for Atlantic Shores would have WTG hubs, nacelles, navigation lights, and rotor blades visible to viewers on the nearest beaches. The visibility of the Atlantic Shores WTGs would be variable, depending on meteorological, moonlight, and sunlight conditions. Depending on such conditions, there would be periods of high, moderate, low, and no visibility of the WTGs from land and/or water.</p> <p>Please refer to Section 3.6.9.5, <i>Impacts of Alternative B – Proposed Action on Scenic and Visual Resources</i> and Appendix H, <i>Seascape, Landscape, and Visual Impact Assessment</i>, for further discussion of the impacts of the Proposed Action on visual resources.</p>

Comment No.	Comment	Response
	<p>Wind turbines area located at Southern End of Island off Rocky Coasts and Cliffs small strip of beach in area that is residential with homes on very large lots (3-4 acres). Wind turbines are located much further and less visibility from popular beaches and large harbor on the other side of the Island.</p> <p>Residential housing significantly less dense compared to Jersey Shore: Example Block Island: 1400 residences in 9.73 sq miles vs. Brigantine: 5328 SFH residences and 3353 multifamily residences in 6.5 sq miles. Block Island view shed of ocean and natural surroundings is much more expansive with only 5 turbines with a significantly smaller area of the ocean landscape.</p> <p>Atlantic County Shore towns and Block Island homeowner experiences are not the same.</p>	
BOEM-2023-0030-1516-0041	<p>[Underlined: 4.] [Bold and Underlined: The University of New Hampshire Department of Recreation Management and Policy 2020 Study]Ferguson Ph.D. Michael D. Lauren A. Ferguson Ph.D. Clayton R. Mitchell Ph.D. and Tasha L. Dooley M.S. 2020. [Underlined: Assessing Recreationists’ Perceptions of Offshore Wind Energy Development in New Hampshire: Final Report.] Department of Recreation Management and Policy The University of New Hampshire. February 5 2020. BOEM DEIS for Atlantic Shores includes this 2019 survey to argue that 77% of recreational activity participants in the New Hampshire study (N= 553) support offshore wind and 43% said it would not impact their outdoor activities. The survey method section in the report did not include any statements that the participants were shown any visual simulations of the wind turbines off the shore. Other peer reviewed studies conclude that visual simulations have a statistically significant negative impact on participants’ support for offshore wind turbines and to participants’ beach activity experience and choices. Therefore the New Hampshire study excludes a critical step in measuring support</p>	<p>As described in Section 3.6.8.5, <i>Impacts of Alternative B – Proposed Action on Recreation and Tourism</i>, the impacts of the Proposed Action on recreation and tourism are expected to be minor with minor beneficial impacts. Short-term impacts from construction and installation activities are expected as a result of noise, anchored vessels, and hinderances to vessel navigation as a result of the installation of the export cable and WTGs. Long-term impacts include the presence of cable scour protection and structures in the Wind Farm Area, which would impact recreational vessel navigation and visual quality. Beneficial impacts would result from the reef effect and sightseeing attraction of offshore wind energy structures. Refer also to Table 3.6.8-2, which provides impact level definitions concerning recreation and tourism.</p> <p>Please also refer to Section 3.6.9.5 <i>Impacts of Alternative B – Proposed Action on Scenic and Visual Resources</i>. This section describes changes in seascape, open ocean, and landscape conditions as a result of WTGs and which beaches are</p>

Comment No.	Comment	Response
	<p>for offshore wind and it invalid to the examination of impacts on tourism.</p> <p>This same survey was also published in Energy Research Social Science Journal but in the study methods section a statement was made that 50% of participants were shown the visual impact (100 turbines height of 579 ft. and 10 miles off shore) which was the visualization used in the Parsons & Ferguson Study 2018. The statement regarding the use of the visual in the methods section of this study is highly suspect and is inconsistent with the same exact survey in the 2020 study. Because of this inconsistency this study is not credible. Michael D. Ferguson Darrick Evensen Lauren A. Ferguson David Bidwell Jeremy Firestone Tasha L. Dooley Clayton R. Mitchell. [Underlined: Uncharted waters: Exploring coastal recreation impacts coping behaviors and attitudes towards offshore wind energy development in the United States Energy Research & Social Science] 75 (2021)</p>	<p>anticipated to have visual impacts as a result of the Proposed Action.</p>
BOEM-2023-0030-1516-0069	<p>[Bold and Underlined: EMF Cables through Tourist District and Atlantic City Chelsea Neighborhood and Public School Building in Atlantic City] The installation of onshore cabling including trenching horizontal direct drilling and jack and bore will result in the degradation of tourist area and underserved population in Atlantic City.</p>	<p>As described in Section 3.6.8.5 <i>Impacts of Alternative B – Proposed Action on Recreation and Tourism</i>, onshore construction would be limited to areas zoned for heavy industries that generate ongoing noise and traffic, but may result in short-term and localized traffic, noise, and light around these areas. Onshore construction activities could disrupt access to public use areas and degrade the recreational experience through establishment of restricted work zones. Planned development could result in localized, short-term disturbance to recreational activity or tourism-based businesses near construction sites. The exact extent of impacts would depend on the locations of onshore infrastructure for planned offshore wind projects; however, the No Action Alternative would generally have localized, short-term, and minor impacts.</p>
BOEM-2023-0030-1516-0102	<p>Not only do the Casinos add billions to the tourist economy but they have also supported billions of dollars in other related industries including construction and manufacturing.</p>	<p>Please refer to Section 3.6.9.5, <i>Impacts of Alternative B – Proposed Action on Scenic and Visual Resources</i>. This section characterizes the proposed actions impact on viewer</p>

Comment No.	Comment	Response
	<p>Just in the last several years Casinos have invested \$1 billion in hotel room renovations constructing new restaurants and updated amenities. If the Casino management and leadership continue to believe that the Atlantic City casino market is sustainable they will continue to invest in and expand their facilities. The construction created thousands of jobs over the years. The ASOWNJ DEIS and the COP do not provide any statistics related to the employment of construction of construction employees many of them union members related to casino renovation and construction projects. Atlantic City Casino Owners Still Spending Millions On World Class Resort (playnj.com) [Link: https://www.playnj.com/news/ac-casinos-upping-1b-investment-ante-2023/68838/#:~:text=According%20to%20a%20CANJ%20pres%20release%2C%20AC%20casinohotel%20room%20renovations%2C%20new%20restaurants%20and%20updated%20amenities.]</p>	<p>experience for selected KOP Ocean Casino Resort – Sky Garden and notes that the number of WTGs that would be visible from Ocean Casino Resort – Sky Garden is substantially fewer than the 2,416 WTGs considered under the planned activities scenario in combination with the Proposed Action. However, the presence of structures associated with offshore wind development in combination with the proposed action would have major viewer experience impacts, which are further detailed in Appendix H, <i>Seascape, Landscape, and Visual Impact Assessment</i>.</p> <p>A description of the economic impact of tourism and the impact on employment is included in both Section 3.6.8, <i>Recreation and Tourism</i>, and Section 3.6.3, <i>Demographics, Employment, and Economics</i>. Table B.4-10, “Ocean Economy employment, 2019”, in Appendix B, <i>Supplemental Information and Additional Figures and Tables</i>, details marine construction and recreation and tourism employment.</p>
BOEM-2023-0030-1516-0103	<p>BOEM ASOWNJ DEIS has no reference that there was consideration given to whether the ASOWNJ is consistent with the Atlantic City casinos’ strategic marketing and investment plans.</p>	<p>Please refer to Section 3.6.9.5, <i>Impacts of Alternative B – Proposed Action on Scenic and Visual Resources</i>. This section characterizes the Proposed Action’s impact on viewer experience for selected KOP Ocean Casino Resort – Sky Garden and notes that the number of WTGs that would be visible from Ocean Casino Resort – Sky Garden is substantially fewer than the 2,416 WTGs considered under the planned activities scenario in combination with the Proposed Action. However, the presence of structures associated with offshore wind development in combination with the proposed action would have major viewer experience impacts, which are further detailed in Appendix H, <i>Seascape, Landscape, and Visual Impact Assessment</i>.</p>
BOEM-2023-0030-1516-0104	<p>The BOEM ignores any impact the ASOWNJ visual impact will have on the casino tourism industry. The OCEAN Economy Data on table B. 4-8 excludes Casino tourism lodging and may exclude other casino industry GDP. This grossly misrepresents</p>	<p>Please refer to Section 3.6.9.5, <i>Impacts of Alternative B – Proposed Action on Scenic and Visual Resources</i>. This section characterizes the Proposed Action’s impact on viewer experience for selected KOP Ocean Casino Resort – Sky</p>

Comment No.	Comment	Response
	the true financial impact of ASOWNJ on tourism in Atlantic County.	Garden and notes that the number of WTGs that would be visible from Ocean Casino Resort – Sky Garden is substantially fewer than the 2,416 WTGs considered under the planned activities scenario in combination with the Proposed Action. However, the presence of structures associated with offshore wind development in combination with the proposed action would have major viewer experience impacts, which are further detailed in Appendix H, <i>Seascape, Landscape, and Visual Impact Assessment</i> .
BOEM-2023-0030-1516-0106	The data in the BOEM’s NOEP table excludes tourism lodging GDP from the Atlantic City casino industry and may exclude more categories related to the casino industry. ASOWNJ DEIS lacks any explanation on why the data is inconsistent with NJ State Government tourism data which has been consistently analyzed on an annual basis. The New Jersey Division of Travel and Tourism uses the analysis as the basis for all strategic decisions regarding tourism in the State.	Section 3.6.3, <i>Demographics, Employment, and Economics</i> , discusses the Project’s potential impacts on property values and the tourism economy. Section 3.6.8, <i>Recreation and Tourism</i> , discloses potential impacts to tourism and cites <i>Economic Impact of Tourism In New Jersey (2019)</i> , which includes discussion of casino revenues and new casino impacts on visitor spending.
BOEM-2023-0030-1516-0107	The Tourism Economic Impact Studies are listed on the website starting with the 2003 year. The Oxford Economics Company has prepared the report for the NJ Division of Travel since 2012. There is a reasonable expectation that during a rigorous review of the cumulative impact of the 500-850 visible wind turbines off the coast of New Jersey the BOEM would cross check and verify its tourism data with multiple sources including the State’s data.	Section 3.6.3, <i>Demographics, Employment, and Economics</i> , discusses the Project’s potential impacts on property values and the tourism economy. Section 3.6.8, <i>Recreation and Tourism</i> , discloses potential impacts to tourism and cites <i>Economic Impact of Tourism In New Jersey (2019)</i> , which includes discussion of casino revenues and new casino impacts on visitor spending.
BOEM-2023-0030-1516-0108	The employment in the casinos is more than double the entire number listed as jobs related to the ocean economy. Excluding the casino industry which is located on the beaches of Atlantic City uses the half-baked logic that casino industry tourism is not related to nor has any impact to the ocean economy in any way. The presentation of the economic data in the ASOWNJ COP and DEIS is based on the ill-considered logic that if the casino industry was not located in Atlantic City there would be no other tourism related economy to replace it hence BOEM tables eliminate any jobs/GDP related	Section 3.6.3, <i>Demographics, Employment, and Economics</i> , discusses the Project’s potential impacts on property values and the tourism economy. Section 3.6.8, <i>Recreation and Tourism</i> , discloses potential impacts to tourism and cites <i>Economic Impact of Tourism In New Jersey (2019)</i> , which includes discussion of casino revenues and new casino impacts on visitor spending.

Comment No.	Comment	Response
	<p>to the industry. An analysis of the seasonal room occupancy and room rates and revenues at the casinos would have dispelled BOEM’s assumptions. The lack of meaningful GDP and employment data in the ASOWNJ DEIS and COP distorts the true exposure for the tourist industry and economy. This is especially egregious since this data is used to make policy decisions and offshore wind permitting decisions.</p>	
BOEM-2023-0030-1518-0015	<p>Throughout our nation’s history the coast has been a magnet drawing people at first primarily for commerce and now for tourism and recreation as well. The combination of sun ocean and sand is a unique environment that has drawn over 40 percent of the U.S. population to make their homes and tens of millions more to vacation [Footnote 10: https://coast.noaa.gov/states/fast-facts/economics-and-demographics.html#:~:text=40%25&text=Coastal%20counties%20of%20the%20U.S.land%20mass%20(excluding%20Alaska).]. The Jersey Shore is known for its ecological importance attracting both residential and commercial development and boosting the economy of South Jersey and not incidentally providing millions of revenues to the U.S. Treasury from taxes of earnings and profits. Long Beach Township and its communities have a deep connection to their oceanic heritage. The area’s natural beauty seafood and fertile land have made it a highly desirable place to live and visit. People from faraway places come to Long Beach Township to enjoy the stunning ocean views and experience a sense of peace and serenity. These views are treasured by the public and protected by New Jersey’s Public Trust Doctrine which ensures that coastal resources can be admired without unreasonable obstructions [Footnote 11: PUBLIC ACCESS IN NEW JERSEY: The Public Trust Doctrine and Practical Steps to Enhance Public Access https://www.state.nj.us/dep/cmp/access/public_access_hanbook.pdf]. Nevertheless, BOEM has ignored the consequences of placing industrial-size electrical power plants composed of 200 towers with heights the size of the</p>	<p>A description of the economic impact of tourism is included in both Section 3.6.8, <i>Recreation and Tourism</i>, and Section 3.6.3, <i>Demographics, Employment, and Economics</i>. Please also refer to Section 3.6.9.5, <i>Impacts of Alternative B – Proposed Action on Scenic and Visual Resources</i> and Appendix H, <i>Seascape, Landscape, and Visual Impact Assessment</i>, for further discussion of the impacts of the Proposed Action on visual resources.</p> <p>The EIS cited studies involving WTGs with 579-foot (176.5 meter) hub heights visible out to 32.4 miles (52.1 kilometers). Atlantic Shores WTGs would be taller and would be visible at greater distances. Greater eye-level heights would increase the visible distance in both cases. Both the WTGs considered in the studies and those proposed for Atlantic Shores would have WTG hubs, nacelles, navigation lights, and rotor blades visible to viewers on the nearest beaches. The visibility of the Atlantic Shores WTGs would be variable, depending on meteorological, moonlight, and sunlight conditions. Depending on such conditions, there would be periods of high, moderate, low, and no visibility of the WTGs from land and/or water.</p> <p>Please refer to Section 3.6.9.5, <i>Impacts of Alternative B – Proposed Action on Scenic and Visual Resources</i> and Appendix H, <i>Seascape, Landscape, and Visual Impact Assessment</i>, for further discussion of the impacts of the Proposed Action on visual resources.</p>

Comment No.	Comment	Response
	Eiffel Tower and blades whose span of more than 900 feet and are almost as wide as the wind turbine is tall all within sight of the coast.	
BOEM-2023-0030-1518-0017	For offshore wind projects BOEM is proposing for New England BOEM is commissioning studies of baseline tourism and recreation to prospectively consider the impacts on “recreation employment small business property values [and] heritage tourism” from offshore wind development [Footnote 12: BOEM funding opportunity M23AS000359; posted June 16 2023]. BOEM showed no such foresight in the case of the proposed Atlantic Shores project. Instead, it relied on two studies of tourism impacts based on turbines roughly half the size (574 feet) of the turbines proposed for Atlantic Shores South and then proceeded to use those same studies as justification for their acceptable size (Atlantic Shores South turbines are 1047 feet) [Footnote 13: Parsons G.R. & Firestone J. (2018). Atlantic Offshore Wind Energy Development: Values and Implications for Recreation and Tourism.]. This is a major flaw and the tourism and rental impact studies should be excluded from the DEIS.	<p>The EIS cited studies involving WTGs with 579-foot (176.5 meter) hub heights visible out to 32.4 miles (52.1 kilometers). Atlantic Shores WTGs would be taller and would be visible at greater distances. Greater eye-level heights would increase the visible distance in both cases. Both the WTGs considered in the studies and those proposed for Atlantic Shores would have WTG hubs, nacelles, navigation lights, and rotor blades visible to viewers on the nearest beaches. The visibility of the Atlantic Shores WTGs would be variable, depending on meteorological, moonlight, and sunlight conditions. Depending on such conditions, there would be periods of high, moderate, low, and no visibility of the WTGs from land and/or water.</p> <p>Please refer to Section 3.6.9.5, <i>Impacts of Alternative B – Proposed Action on Scenic and Visual Resources</i> and Appendix H, <i>Seascape, Landscape, and Visual Impact Assessment</i>, for further discussion of the impacts of the Proposed Action on visual resources.</p>
BOEM-2023-0030-1518-0018	BOEM also uses the second of the two studies (see footnote 14) as justification for the visual impacts despite the study concluding that “a substantial portion of the survey population would change their vacation destination if wind farms were placed within visual range of the beach.” That study also concluded that under no circumstances would respondents be willing to pay more to rent a home that had turbines in its viewshed [Footnote 14: Lutzeyer S. Phaneuf D. J. and L. O. Taylor (2017). The Amenity Costs of Offshore Windfarms: Evidence from a Choice Experiment. (CEnREP Working Paper No. 17-017). Raleigh NC: Center for Environmental and Resource Economic Policy.]. These are	As described in Section 3.6.8.5, <i>Impacts of Alternative B – Proposed Action on Recreation and Tourism</i> , 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 (Parsons and Firestone 2018; BOEM 2021), while a study in Europe found that established offshore wind facilities did not result in decreased tourist numbers, tourist experience, or tourist revenue (Smythe et al. 2018). Information on potential impacts to property values has been added to Section 3.6.3, <i>Demographics, Employment, and Economics</i> .

Comment No.	Comment	Response
	visual impacts that will have enormous on tourism jobs and property values.	
BOEM-2023-0030-1518-0050	The overwhelming reason people visit and buy properties in Long Beach Township is its beaches. The Township is concerned that the scenic and visual impacts of the Atlantic Shores South project will diminish property values rental prices and the cultural value of the Jersey Shore that will have long-lasting economic impacts.	<p>Refer to the response to comment BOEM-2023-0030-1518-0018 and Section 3.6.9.5 <i>Impacts of Alternative B – Proposed Action on Scenic and Visual Resources</i>. This section describes changes in seascape, open ocean, and landscape conditions as a result of WTGs and which beaches are anticipated to have visual impacts as a result of the Proposed Action.</p> <p>Please also see Section 3.6.2.1 – <i>Description of the Affected Environment and Future Baseline Conditions for Cultural Resources</i>, which includes discussion of marine cultural and archaeological resources.</p> <p>Information on potential impacts to property values has been added to Section 3.6.3, <i>Demographics, Employment, and Economics</i>.</p>
BOEM-2023-0030-1518-0051	<p>The developer of Ocean Wind 1 provided a Tourism Fact Sheet that cited a 15% loss in tourism based on the wind farms proximity to shore [Footnote 41: Ocean Wind 1 Tourism Fact Sheet Orsted. https://orstedcdn.azureedge.net/-/media/www/docs/corp/us/oceanwind/resources/ocwtourism062521.pdf?rev=acd1699ef7394e2a908133355d167cd3&hash=47BD00978B6354F1FB80D78D74C4F2EB]. The Ocean Wind 1 project is 15 miles at its closest point whereas the Atlantic Shores South Project will be 8.7 miles at its closest point. Researchers have concluded with a high degree of confidence that extremely visible offshore wind farms will ultimately deter visitors from returning to vacation in those locations since vacationers will simply prefer to vacation in places without industrial power plants blighting the horizon. Long Beach Township did not have a seat at the table when these projects were being planned yet Long Beach Township is being forced to accept consequences of this ill- conceived plan.</p>	<p>Please refer to Section 3.6.9.5 <i>Impacts of Alternative B – Proposed Action on Scenic and Visual Resources</i>. This section describes changes in seascape, open ocean, and landscape conditions as a result of WTGs and which beaches are anticipated to have visual impacts as a result of the Proposed Action.</p> <p>As described in Section 3.6.3.3 <i>Impacts of Alternative A – No Action on Demographic, Employment, and Economics</i>, research on wind farms in the United Kingdom and Europe indicate that there is potential for wind farms to be beneficial to tourism economies through wind-based tourism, such as boat tours of wind facilities (ICF 2012). Studies in the U.S. of the BIWF have found beneficial impacts on tourism and recreation economies after the construction of the wind farm. A survey of tourists found no negative impact on trips taken to BIWF after construction and found that, via stated preference, tourists would pay more for tourism and recreation experiences with views of wind turbines (Trandafir</p>

Comment No.	Comment	Response
		<p>et al. 2020). A study found that after installation of the BIWF, catch of black sea bass and Atlantic cod increased as these species are attracted to the turbine structures, while there was no statistical difference in catch for most other fish species (Wilbur et al. 2022).</p>
BOEM-2023-0030-1518-0052	<p>As a tourism-based economy the introduction of offshore wind farms has the potential to bring about significant disruptions to Long Beach Township’s workforce and culture. This poses a challenge to generational small family businesses which may struggle as a result of tourism declines and may even be compelled to shut down and liquidate their existing assets. Consequently, there will be a void in the availability of activities and services that have been traditionally provided to both residents and tourists. This absence of essential services could lead to a decline in rental and property values as well as a diminished demand resulting in the gradual erosion of the vibrant spirit and workforce that characterize the Jersey Shore.</p>	<p>As described in Section 3.6.8.5 <i>Impacts of Alternative B – Proposed Action on Recreation and Tourism</i>, the impacts of the Proposed Action on recreation and tourism are expected to be minor with minor beneficial impacts. Short-term impacts from construction and installation activities are expected as a result of noise, anchored vessels, and hinderances to vessel navigation as a result of the installation of the export cable and WTGs. Long-term impacts include the presence of cable scour protection and structures in the Wind Farm Area, which would impact recreational vessel navigation and visual quality. Beneficial impacts would result from the reef effect and sightseeing attraction of offshore wind energy structures. Refer also to Table 3.6.8-2, which provides impact level definitions concerning recreation and tourism.</p> <p>Please also refer to Section 3.6.9.5 <i>Impacts of Alternative B – Proposed Action on Scenic and Visual Resources</i>. This section describes changes in seascape, open ocean, and landscape conditions as a result of WTGs and which beaches are anticipated to have visual impacts as a result of the Proposed Action.</p> <p>Information on potential impacts to property values has been added to Section 3.6.3, <i>Demographics, Employment, and Economics</i>.</p>
BOEM-2023-0030-1523-0002	<p>Cape May County has a keen interest in supporting energy projects that minimize impacts to the local climate and sensitive ecosystems. At the same time the County seeks to protect its historic and cultural character its tourism economy</p>	<p>Refer to the response to comment BOEM-2023-0030-0916-0190 and Section 3.6.9.5 <i>Impacts of Alternative B – Proposed Action on Scenic and Visual Resources</i>. This section describes changes in seascape, open ocean, and landscape conditions</p>

Comment No.	Comment	Response
	<p>and its uninterrupted ocean views for generations to come and finds that offshore wind like the Atlantic Shores South project pose significant dangers to the local environment economy and local culture.</p>	<p>as a result of WTGs and which beaches are anticipated to have visual impacts as a result of the Proposed Action. Please also see Section 3.6.2.1 – <i>Description of the Affected Environment and Future Baseline Conditions for Cultural Resources</i>, which includes discussion of marine cultural and archaeological resources. Information on potential impacts to property values has been added to Section 3.6.3, <i>Demographics, Employment, and Economics</i>.</p>
BOEM-2023-0030-1523-0040	<p>To potentially put hundreds of tourism and fishing-related workers out of jobs for such minimal job creation is a violation of N.J.A.C. 7:7-15.4 which states that coastal energy facility construction and operation shall not directly or indirectly result in net loss of employment in the State for any single year... Coastal energy facility construction and operation resulting in the loss of 200 or more person-years of employment in jobs in New Jersey directly or indirectly related to the State’s coastal tourism industry in any single year is prohibited.</p> <p>With an economy based almost entirely on tourism and commercial fishing the County is unable to sustain drastic changes to its workforce and culture as a result of offshore wind farms. Small family businesses that have been operating for generations will face hardship and may be forced to close and sell existing assets creating a vacuum for activities and services that have been routinely provided for residents and tourists for generations. Without these services rental and home values will begin to decline in value and demand as the spirit and workforce of the Jersey Shore is lost.</p>	<p>As provided in Section 3.6.3.5, the Proposed Action is expected to have long-term, minor beneficial impacts on employment and economic activity in the geographic analysis area, based upon anticipated short-term and modest long term job creation, expenditures on local businesses, generation of tax revenues, and provision of grant funds. Atlantic Shores estimates that the Proposed Action would support the following employment in New Jersey in direct, indirect, and induced full-time equivalent (FTE) job-years: an estimated 13,360 direct FTE job-years during development and construction, 19,925 direct FTE job-years during operations and decommissioning, and 17,640 indirect and 22,165 induced FTE job-years during all phases. A detailed discussion on potential economic impacts is included in Section 3.6.3, <i>Demographics, Employment, and Economics</i>.</p>
BOEM-2023-0030-1523-0043	<p>Cape May County’s tourism industry demonstrated remarkable growth and resilience in 2022 with total direct tourism expenditures reaching an impressive \$7.4 billion representing an 11.9% increase or \$787 million more than the previous year. The County ranked second in tourism expenditures statewide with Atlantic County taking the top</p>	<p>Please refer to the response to comment BOEM-2023-0030-1523-0040.</p>

Comment No.	Comment	Response
	<p>spot. Notably Cape May County fully recovered from the pandemic in 2021 and surpassed its 2019 levels by \$499 million. The County outperformed other counties in key sectors like food and beverage retail and recreation. Tourism generated \$642.3 million in state and local taxes equivalent to \$1.75 million per day. The industry also supported over 39430 direct jobs and accounted for 60.7% of the County's total employment. Visitor numbers also showed significant growth with visitation reaching 11.38 million including 4.21-million-day visitors and 7.17 million overnight visitors. The occupancy tax also saw a notable increase generating \$19.4 million marking a 19.05% increase compared to 2021 and a 48.22% increase compared to 2019. Based on the numbers above and Orsted's citation of a 15% decline in tourism in its own Tourism Fact Sheet for Ocean Wind 1 the County could face losses of up to \$1.11 billion annually in total visitor spending effectively erasing 6 years of direct tourism growth. The County's current tourism data suggests a 15% decline in tourism would result in the loss of 1.7 million annual visitors and consequently a loss in nearly 6000 tourism-supported jobs. These projections are based solely off of one project rather than the cumulative impacts once all projects are constructed.</p>	
BOEM-2023-0030-1523-0044	<p>or offshore wind projects BOEM is proposing for New England BOEM is commissioning studies of baseline tourism and recreation to prospectively consider the impacts on "recreation employment small business property values [and] heritage tourism" from offshore wind development.⁴⁸ BOEM showed no such foresight in the case of the proposed Atlantic Shores project. Instead, it relied on two studies of tourism impacts based on turbines roughly half the size (574 feet) of the turbines proposed for Atlantic Shores South and then proceeded to use those same studies as justification for their acceptable size (Atlantic Shores South turbines are 1047 feet).⁴⁹ This is a major flaw and the tourism and rental impact studies should be excluded from the DEIS. BOEM also</p>	<p>Please refer to the response to comment BOEM-2023-0030-0916-0190.</p>

Comment No.	Comment	Response
	<p>uses the second of the two studies (see footnote 14) as justification for the visual impacts despite the study concluding that “a substantial portion of the survey population would change their vacation destination if wind farms were placed within visual range of the beach.” That study also concluded that under no circumstances would respondents be willing to pay more to rent a home that had turbines in its viewshed.⁵⁰ These are visual impacts that will have enormous on tourism jobs and property values.</p>	
BOEM-2023-0030-1542-0002	<p>HUMAN USE IMPACTS Offshore wind energy projects constructed through BOEM’s leasing process may cause negative impacts to a broad range of ocean and coastal recreation uses. BOEM must continue to analyze and monitor potential impacts to these activities as well as resulting socioeconomic impacts. Such activities include but are not limited to beach going swimming surfing sailing pleasure boating diving bird watching whale watching and other wildlife viewing. Scenic enjoyment of the marine environment is a valued aspect of many of these activities as well as a recognized recreational use itself.</p>	<p>As described in Section 3.6.8.5, <i>Impacts of Alternative B – Proposed Action on Recreation and Tourism</i>, the impacts of the Proposed Action on recreation and tourism are expected to be minor with minor beneficial impacts. Short-term impacts from construction and installation activities are expected as a result of noise, anchored vessels, and hinderances to vessel navigation as a result of the installation of the export cable and WTGs. Long-term impacts include the presence of cable scour protection and structures in the Wind Farm Area, which would impact recreational vessel navigation and visual quality. Beneficial impacts would result from the reef effect and sightseeing attraction of offshore wind energy structures. Measures to minimize potential impacts to recreation and tourism are listed in Appendix G, <i>Mitigation and Monitoring</i>, many including monitoring activities during the O&M phase.</p>
BOEM-2023-0030-1542-0004	<p>Ocean recreation and tourism is the largest and most economically significant ocean use sector in the United States. Tourism and the recreation it relies on adds about \$4.8 billion in GDP to the New Jersey economy every year. [Footnote 4: National Ocean Economics Program. Ocean Economy Data. Available at: www.oceaneconomics.org/index.html]. Surfrider’s recreation study showed that millions of New Jersey beach goers spend an average of \$74 per person per coastal visit. [Footnote 5: Surfrider Foundation. Mid-Atlantic Coastal And Ocean</p>	<p>As described in Section 3.6.8.5, <i>Impacts of Alternative B – Proposed Action on Recreation and Tourism</i>, the impacts of the Proposed Action on recreation and tourism are expected to be minor with minor beneficial impacts. Short-term impacts from construction and installation activities are expected as a result of noise, anchored vessels, and hinderances to vessel navigation as a result of the installation of the export cable and WTGs. Long-term impacts include the presence of cable scour protection and structures in the Wind Farm Area, which would impact recreational vessel</p>

Comment No.	Comment	Response
	<p>Recreation Study. 2013. Available at:s3-us-west-2.amazonaws.com/surfridercdn.surfrider.org/images/uploads/publications/MidAtlanticCoastalandOceanRecreationStudyReport.pdf]. These activities are also critical to a sense of place culture and quality-of-life in many coastal communities. Accordingly, decisions regarding the potential siting of offshore wind energy development must avoid or minimize impacts to recreational uses and associated values. Furthermore BOEM should examine the potential for impacts to short-period long-period and wind driven waves from the Project. Modeling of impacts to waves at European offshore wind projects found that waves were insignificantly affected but similar analyses for the Project would determine whether there are expected impacts to wave height shape peel angle frequency pattern speed and quality. [Footnote 6: Navitus Bay Development. Navitus Bay Wind Park Environmental Statement: Non-Technical Summary(Report No. 6.3). 2014. Available at:tethys.pnnl.gov/sites/default/files/publications/Navitus-Bay-Wind-ES.pdf; Footnote 7: Rampion Offshore Wind Farm. Environmental Statement. December 2012. Available at:www.rampionoffshore.com/environmental-statement/; Footnote 8: Alari and Raudsepp. Simulation of Wave Damping Near Coast due to Offshore Wind Farms. Journal of Coastal Research 28(1) 143-148. January 2012. Available at: doi.org/10.2112/JCOASTRES-D-10-00054.1; Footnote 9: Scroby Sands Offshore Wind Farm: Coastal Processes Monitoring. July 2006. Available at:tethys.pnnl.gov/sites/default/files/publications/Scroby_Sands_Coastal_Processes.pdf]. Beyond recreational effects such changes could impact biota as well.</p>	<p>navigation and visual quality. Beneficial impacts would result from the reef effect and sightseeing attraction of offshore wind energy structures. Refer also to Table 3.6.8-2, which provides impact level definitions concerning recreation and tourism.</p> <p>Wind turbines extract kinetic energy from the atmosphere and thus can reduce wind speeds and increase air turbulence downwind of the turbine. These changes can affect waves, currents, and surface upwelling. Existing research predicts that most changes in waves, currents, and surface upwelling will occur within the wind turbine area or within natural variations. However, the affected area can extend farther downwind for large wind farms and depending on local meteorology. Potential changes to local sediment, nutrient, or phytoplankton regimes as a result of these hydrodynamic effects have not been studied extensively (Clark et al. 2014).</p>
BOEM-2023-0030-1555-0003	<p>I am very concerned about the visual and noise impacts on residents and the tourism industry on LBI and NJ’s coast. The size and scale of the proposed turbines as displayed in the visual simulators will undoubtedly have a negative impact on tourism home values and property taxes.</p>	<p>As described in Section 3.6.8.5 <i>Impacts of Alternative B – Proposed Action on Recreation and Tourism</i>, the impacts of the Proposed Action on recreation and tourism are expected to be minor with minor beneficial impacts. Short-term impacts from construction and installation activities are</p>

Comment No.	Comment	Response
		<p>expected as a result of noise, anchored vessels, and hinderances to vessel navigation as a result of the installation of the export cable and WTGs. Long-term impacts include the presence of cable scour protection and structures in the Wind Farm Area, which would impact recreational vessel navigation and visual quality. Beneficial impacts would result from the reef effect and sightseeing attraction of offshore wind energy structures. Refer also to Table 3.6.8-2, which provides impact level definitions concerning recreation and tourism.</p> <p>Please also refer to Section 3.6.9.5 <i>Impacts of Alternative B – Proposed Action on Scenic and Visual Resources</i>. This section describes changes in seascape, open ocean, and landscape conditions as a result of WTGs and which beaches are anticipated to have visual impacts as a result of the Proposed Action.</p> <p>Text has been added to Section 3.6.5.5, <i>Impacts of Alternative B – Proposed Action on Land Use and Coastal Infrastructure</i>, in the EIS stating, that “[a]t a distance of 1,000 feet (305 meters), the sound pressure is on the order of 50 dBA, a level lower than normal conversation (NYSERDA 2013). In this case, operational noise from the offshore WTGs would not be audible onshore.”</p>
BOEM-2023-0030-1557-0004	<p>Impact on Atlantic County Tourism Economy. Several Surveys (including BOEM’s) of public reaction to visible turbines. Rental Demand Loss: 50% of prior renters would not rent again with turbines visible regardless of rent discount. Including Atlantic City Atlantic County annual rental income loss could be \$17.2 M (10%) to \$68.9 M (30%). Excluding Atlantic City Atlantic County annual revenue loss could be \$4.5M (10%) - \$17.9M (40%). Lost rental income NPV over 20 years could be \$65M - \$250M.V1 V2Tourism Revenue Job Losses and Tax Losses: V3 V4 V5 V616.5 % - 24% would not visit Atlantic County beach town which could be a loss</p>	<p>Section 3.6.8, <i>Recreation and Tourism</i>, discusses impacts on tourism. Information on potential impacts to property values has been added to Section 3.6.3, <i>Demographics, Employment, and Economics</i>. This section assesses the Project’s potential impacts to demographics, employment, and economics from the presence of structures. Overall, the presence of offshore wind structures would have continuous, long-term moderate beneficial and negligible adverse impacts on demographics, employment, and economics.</p>

Comment No.	Comment	Response
	<p>of: 8700-12700 jobs or 175000 -255000 job years over the project life \$1.3 – \$1.9B in annual revenue or NPV of \$17.4 B - \$25.5 B over the project life \$142 - \$206 million government tax loss revenue over the project life</p> <p>Wind Turbines will not be a Significant Tourist Attraction based on survey participants not willing to pay more for rental property with a view of wind turbines. V1Casino Retrenchment: Bricks and mortar operating losses for casinos may cause further retrenchment in AC and tourism losses and tax impacts will be escalated further.</p> <p>Large Energy Cost Increase for Fragile Seasonal Tourism Businesses V8Recreational Fishing Revenue= \$19M/ YR to the NJ economy. How will this be impacted during years of construction and operation? V7Impact to Annual Farley Marina Jimmy Johnson Fishing Tournament Annual Atlantic City Air Show and other Beach Concerts and other Beach Centric Entertainment Events Bars and Restaurants is unknown.</p> <p>References: Visible and Shore Community Impact of Stationary Turbines and Calculation of Economic ImpactV1. North Carolina State University the Amenity Costs of Offshore Wind Farms- Evidence from a Choice Experiment Lutzeyer et. Al. August 2017. https://cenrep.ncsu.edu/cenrep/wp-content/uploads/2016/03/WP-2017-017.pdfThis study included night time views which increased the visual disamenities and avoidance of rental properties with views of the wind turbines. Participants were divided into categories: 55% never wanted a view from a rental property no matter how much rent was discounted 23% would tolerate some view along with various discounts and 21% would rent with a view all the time. No participants would pay more rent to see the wind turbines. This may impact Jersey Shore significantly if increased electric costs based on offshore wind rates will increase rental rates. Lastly the study notes that choices will depend on whether vacationers have an alternative location for their vacation and this factor will impact the results. Along</p>	<p>Potential displacement of ratepayers due to an increased cost of energy is speculative (not reasonably foreseeable) and therefore not assessed in the EIS.</p>

Comment No.	Comment	Response
	<p>the eastern seaboard vacationers have a significantly large number of options for vacation locations within driving distance that will not have 1040 ft high wind turbines starting 9 miles off the beach along with 722 turbines in ocean viewshed from the beach.</p>	
BOEM-2023-0030-1557-0005	<p>V2. Based on Atlantic County Rental Income The model lists a wide range of income losses because of unknown rental market supply and demand elasticity factors. For example, other tourists may be willing to rent properties at discounted rental rates. The mix of renters who would not return in combination with new renters who may rent properties at various discounts are examined by Lutzeyer et. Al. in North Carolina State University Study (V1). The table below has two calculations: one with Atlantic City and one excluding Atlantic City. The percentage of vacation versus full time resident renters is known for Brigantine. Based on Brigantine City Records in 2022 804 properties were listed as “summer” (vacation) rentals. It is not known what portion of the monthly rental income is attributed to these properties in Brigantine.[See original comment for table on vacation rental income losses in Atlantic County]</p>	<p>The 2017 Lutzeyer study found that when placed more than 8 mi (7 nm; 13 km) from shore, there is a minimal effect on vacation rental values associated with offshore wind farms (Lutzeyer et al. 2017).</p>
BOEM-2023-0030-1557-0007	<p>V3. Global Insight Inc. an Assessment of the Potential Costs and Benefits of Offshore Wind Turbines prepared for the State of New Jersey September. 2008 https://www.state.nj.us/bpu/pdf/announcements/njoswt.pdfInformation in the report for Atlantic County was based on wind turbines height of 250 Ft. above sea level (compared to 1040 Ft. above sea level for Atlantic Shores Project) 3 and 6 miles off the coast of Atlantic City. Assumption is that the turbines will not be seen from other shore towns outside of Atlantic County. For wind turbines located 3 miles Offshore 16.5 % of Atlantic County Visitors are more likely not to visit. Actual wind turbines are 4.2 times the height of those used in survey therefore through simple extrapolation the equivalent distance is 12.5 miles from shore</p>	<p>The EIS cited studies involving WTGs with 579-foot (176.5 meter) hub heights visible out to 32.4 miles (52.1 kilometers). Atlantic Shores WTGs would be taller and would be visible at greater distances. Greater eye-level heights would increase the visible distance in both cases. Both the WTGs considered in the studies and those proposed for Atlantic Shores would have WTG hubs, nacelles, navigation lights, and rotor blades visible to viewers on the nearest beaches. The visibility of the Atlantic Shores WTGs would be variable, depending on meteorological, moonlight, and sunlight conditions. Depending on such conditions, there would be periods of high, moderate, low, and no visibility of the WTGs from land and/or water.</p>

Comment No.	Comment	Response
	<p>which is 3.5 miles greater distance than actual project. Based on the comparative height and distance results of visitor reductions are conservative and should be higher.</p>	<p>Please refer to Section 3.6.9.5, <i>Impacts of Alternative B – Proposed Action on Scenic and Visual Resources</i> and Appendix H, <i>Seascape, Landscape, and Visual Impact Assessment</i>, for further discussion of the impacts of the Proposed Action on visual resources.</p>
BOEM-2023-0030-1557-0009	<p>V4. University of Delaware Atlantic Offshore Wind Energy Development: Values and Implications for Recreation and Tourism sponsored by the Bureau of Ocean Energy Management (BOEM) Parsons & Firestone March 2018(using the data for smaller closer turbines with the same line of sight as those proposed for Brigantine) https://epis.boem.gov/final%20reports/5662.pdf Survey used visual impact pictures of 100 turbines each with a height of 547 ft. The Atlantic Shores turbine height is 1040 ft. or 1.9 times the height of turbines used in the study. Adjusting the distance through simple extrapolation equivalent distance of 5 miles would be 9.5 miles given the difference in turbine size. Atlantic Shores turbine distance is 9 miles. In addition, there will be 750-850 turbines in the view of the Atlantic County beaches (cumulative impact) thus results in this study are conservative estimates. According to the survey results there is a 24% trip loss at 5 mile (equivalent 9.5 miles for 1040 height turbine) distance. At 5 miles positive response is negligible.</p>	<p>The EIS cited studies involving WTGs with 579-foot (176.5 meter) hub heights visible out to 32.4 miles (52.1 kilometers). Atlantic Shores WTGs would be taller and would be visible at greater distances. Greater eye-level heights would increase the visible distance in both cases. Both the WTGs considered in the studies and those proposed for Atlantic Shores would have WTG hubs, nacelles, navigation lights, and rotor blades visible to viewers on the nearest beaches. The visibility of the Atlantic Shores WTGs would be variable, depending on meteorological, moonlight, and sunlight conditions. Depending on such conditions, there would be periods of high, moderate, low, and no visibility of the WTGs from land and/or water.</p> <p>Please refer to Section 3.6.9.5, <i>Impacts of Alternative B – Proposed Action on Scenic and Visual Resources</i> and Appendix H, <i>Seascape, Landscape, and Visual Impact Assessment</i>, for further discussion of the impacts of the Proposed Action on visual resources.</p>
BOEM-2023-0030-1557-0017	<p>Government Agency Studies on Tourism The University of New Hampshire Department of Recreation Management and Policy 2020 Study Ferguson Ph.D. Michael D. Lauren A. Ferguson Ph.D. Clayton R. Mitchell Ph.D. and Tasha L. Dooley M.S. 2020. Assessing Recreationists’ Perceptions of Offshore Wind Energy Development in New Hampshire: Final Report. Department of Recreation Management and Policy The University of New Hampshire. February 5 2020 [Text is crossed out in original comment]BOEM DEIS for Atlantic Shores includes this 2019 survey to argue that 77% of recreational activity participants in the New Hampshire study</p>	<p>As described in Section 3.6.8.5, <i>Impacts of Alternative B – Proposed Action on Recreation and Tourism</i>, the impacts of the Proposed Action on recreation and tourism are expected to be minor with minor beneficial impacts. Short-term impacts from construction and installation activities are expected as a result of noise, anchored vessels, and hinderances to vessel navigation as a result of the installation of the export cable and WTGs. Long-term impacts include the presence of cable scour protection and structures in the Wind Farm Area, which would impact recreational vessel navigation and visual quality. Beneficial impacts would result</p>

Comment No.	Comment	Response
	<p>(N= 553) support offshore wind and 43% said it would not impact their outdoor activities. According to the report the survey methods did not include a statement that the participants were shown any visual simulations of the wind turbines off the shore. Other studies conclude that visual simulations have a significant impact on participants' support for offshore wind turbines and to participants' beach activity experience. Therefore the New Hampshire study excludes an essential part of measuring support for offshore wind. This survey was also published in Energy Research Social Science but in the study a statement was made that 50% of participants were shown the visual impact (100 turbines height of 579 ft. and 10 miles off shore) which was the visualization used in the Parsons & Ferguson Study 2018. The addition of the visual is highly questionable. Michael D. Ferguson Darrick Evensen Lauren A. Ferguson David Bidwell Jeremy Firestone Tasha L. Dooley Clayton R. Mitchell. Uncharted waters: Exploring coastal recreation impacts coping behaviors and attitudes towards offshore wind energy development in the United States Energy Research & Social Science 75 (2021)</p>	<p>from the reef effect and sightseeing attraction of offshore wind energy structures. Refer also to Table 3.6.8-2, which provides impact level definitions concerning recreation and tourism.</p> <p>Please refer to Section 3.6.9.5 <i>Impacts of Alternative B – Proposed Action on Scenic and Visual Resources</i>. This section describes changes in seascape, open ocean, and landscape conditions as a result of WTGs and which beaches are anticipated to have visual impacts as a result of the Proposed Action.</p>
BOEM-2023-0030-1564-0001	<p>While all our markets will be affected by the proposed windfarm this EIS addresses LBI will be most impacted. When we learned of this project we did some research and found two studies on how visible windfarms could affect a traveler's willingness to rent with turbines present in the ocean view. Both studies (The University of Delaware 2018 and NC State 2017) concluded that as much as 55% of the families who previously vacationed at The Shore would not come again if the Turbines were visible from shore. This piqued our interest and we decided to send our own survey to a random group of our vacationers who have used our website www.VRLBI.com to find rentals on LBI in recent years. So In February 2022 we created our own survey using the 2018 University of Delaware survey as a template (see attached) but sending it to our group of participants who we knew vacationed on LBI</p>	<p>As described in Section 3.6.8.5, <i>Impacts of Alternative B – Proposed Action on Recreation and Tourism</i>, 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 (Parsons and Firestone 2018; BOEM 2021), while a study in Europe found that established offshore wind facilities did not result in decreased tourist numbers, tourist experience, or tourist revenue (Smythe et al. 2018).</p>

Comment No.	Comment	Response
	<p>over the previous five years. At that time we were not aware of The Atlantic Shores Visualization Appendix so we used the same image that was used by The University of Delaware. A copy of our survey is attached and so is a summary of the results we found. Please keep in mind our survey was performed in February 2022 when there was not as much awareness for this project as there is today. It is also our belief that if we performed the same survey today using the BOEM produced visualization video of the turbines from Beach Haven we would have more damaging survey results. The results of our February 2022 survey speak for itself. Like the two University surveys almost HALF of our survey respondents said they would vacation in another area or choose an entirely different type of vacation all together (see attached survey results). This impact on rentals and its overall impact on the NJ Shore Economy needs to be studied further. With up to a 50% reduction in vacationers not only will our rental market take a devastating hit so will our real estate values and overall shore economy that depends so heavily on Tourism. So respectfully please consider the economic impact this project will have on our Shore Tourism. According to the annual economic impact of tourism in NJ report by Oxford Economics The Jersey shore contributes about HALF of the overall tourism dollars in the state of NJ. HALF! That equates to over 22 Billion with a B in 2019. It is also estimated that over 500000 jobs are sustained by tourism. So if the experts at NC are correct and 55% of renters might not come back that is an economic impact of over 12 Billion dollars ANNUALLY and a job loss of almost 300000 jobs to NJ Not to mention approximately 1.4 Billion loss of tax revenue for the State. That is a BIG impact! It's just common sense that a visible farm of wind turbines will diminish and ruin our unobstructed view of the eastern horizon. The beach and ocean view is the "attraction" of the Jersey Shore. It's why people come and why they will spend their hard earned dollars to rent houses near the beach each summer. If we</p>	

Comment No.	Comment	Response
	litter the horizon with these turbines vacationers will seek other shore towns where they can enjoy that unobstructed ocean view which would have devastating effect on our rental market and our shore tourism economy.	
BOEM-2023-0030-1564-0003	Conclusion: This survey concludes that LBI could lose up to 50% of the families who annual rent vacation homes on LBI! This would be devastating to the local vacation rental market. With less vacationers visiting our island the local restaurants shops and businesses would also suffer. The annual economic impact would be devastating to the Long Beach Island region.	As described in Section 3.6.8.5 <i>Impacts of Alternative B – Proposed Action on Recreation and Tourism</i> , the impacts of the Proposed Action on recreation and tourism are expected to be minor with minor beneficial impacts. Short-term impacts from construction and installation activities are expected as a result of noise, anchored vessels, and hinderances to vessel navigation as a result of the installation of the export cable and WTGs. Long-term impacts include the presence of cable scour protection and structures in the Wind Farm Area, which would impact recreational vessel navigation and visual quality. Beneficial impacts would result from the reef effect and sightseeing attraction of offshore wind energy structures. Refer also to Table 3.6.8-2, which provides impact level definitions concerning recreation and tourism.
BOEM-2023-0030-1588-0002	Someone at BOEM needs to also account for the loss of tourism revenue that will occur in the state of NJ—which is expected to be 15-20%. In addition to the loss of tourism revenue there will also be a lowering of property values that will correlate with the decrease in tourism revenue...	As described in Section 3.6.8.5 <i>Impacts of Alternative B – Proposed Action on Recreation and Tourism</i> , the impacts of the Proposed Action on recreation and tourism are expected to be minor with minor beneficial impacts. Information on the Project’s potential impacts on property values has been added to Section 3.6.3, <i>Demographics, Employment, and Economics</i> .
BOEM-2023-0030-1677-0001	What are the potential financial impacts on property values and tourism?	Section 3.6.3, <i>Demographics, Employment, and Economics</i> , discusses the Project’s potential impacts on property values and the tourism economy. Section 3.6.8, <i>Recreation and Tourism</i> , discloses potential impacts to tourism.
BOEM-2023-0030-1815-0001	All of the ocean area of the draft DEIS including the two export cable routes is considered active diving territory and a number of wrecks in the area are visited by sport divers.	No hazard to divers is expected from the export or interarray cables. Any EMF generated by the cables will be minimized by armoring installed around the cable and the burial depth of 5 to 6.6 ft (1.5 to 2 m) below the seafloor.

Comment No.	Comment	Response
		<p>As described in Section 3.6.8.5, <i>Impacts of Alternative B – Proposed Action on Recreation and Tourism</i>, the impacts of the Proposed Action on recreation and tourism are expected to be minor with minor beneficial impacts. Short-term impacts from construction and installation activities are expected as a result of noise, anchored vessels, and hinderances to vessel navigation as a result of the installation of the export cable and WTGs. Long-term impacts include the presence of cable scour protection and structures in the Wind Farm Area, which would impact recreational vessel navigation and visual quality. Beneficial impacts would result from the reef effect and sightseeing attraction of offshore wind energy structures. Refer also to Table 3.6.8-2, which provides impact level definitions concerning recreation and tourism.</p> <p>Please also see Section 3.6.2.1 – <i>Description of the Affected Environment and Future Baseline Conditions for Cultural Resources</i>, which includes discussion of marine cultural and archaeological resources, and known and potential shipwrecks.</p>
BOEM-2023-0030-1815-0019	Sport divers are also fishermen (spearfishing) and the NJCD&C is concerned with the impact of this industrialization of the ocean on fish and how it impacts recreational and commercial fisheries.	<p>Impacts to fishing are discussed in Section 3.6.1, <i>Commercial Fisheries and For-Hire Recreational Fishing</i>; impacts to tourism are discussed in Section 3.6.8, <i>Recreation and Tourism</i>.</p> <p>As discussed in Section 3.6.3, the Project would not be expected to disrupt community cohesion, and loss of revenues from fisheries is expected to be minimal. There may be positive impacts on fisheries that result from presence of structures.</p>
BOEM-2023-0030-1815-0023	The NJ Council of Divers and Clubs is concerned for the safety of that unique marine mammal that wears a SCUBA tank on	Please see the response to comment BOEM-2023-0030-1815-0001.

Comment No.	Comment	Response
	his or her back and is asking BOEM if this survey activity could endanger sport divers.	
BOEM-2023-0030-1815-0030	Finally, a recent informal meeting between NJCD&C and a representative of Atlantic Shores seemed to suggest that electrical leakage from wind turbines is not likely. Another safety issue that came up regarded survey activity by vessels doing survey work for wind farm development. In 2015 we were warned by Lamont Labs (Columbia University) that divers should stay at least 3.2 miles from survey vessels pulling powerful sonar arrays. Apparently hemorrhaging could occur if sufficiently close to a dive boat.	<p>Geophysical surveying involves the use of active sonar techniques, where sound is emitted by a source vessel. Receivers listen for the return signal and use this information to determine the locations of object(s) on the seafloor or near subsurface.</p> <p>BOEM’s <u>Guidelines for Providing Geophysical, Geotechnical, and Geohazard Information Pursuant to 30 CFR Part 585</u> recommend use of systems with operational ranges of 200 to 600 kHz frequency range for site characterization to be towed above the seafloor at a distance that is 10 to 20% of the range of the instrument. These high frequency sources are outside the hearing range of humans, but some other sources such as sparkers and boomers may be audible within a relatively close range of the source. Because sound attenuates rapidly in water, and because the duration of the signals produced by active acoustic sources are so short, the likelihood of causing auditory effects to human divers is quite low. The Lamont Labs reference likely refers to Navy sonars or deep-penetration seismic surveys, which are far more powerful than the sources used in site assessment for offshore wind.</p> <p>Please also see the response to comment BOEM-2023-0030-1815-0001. Please also refer to Section 3.5.2.5, <i>Impacts of Alternative B – Proposed Action on Benthic Resources</i> for additional discussion on electric and magnetic fields and cable heat.</p>

N.6.21 Scenic and Visual Resources

Table N.6-21. Responses to Comments on Scenic and Visual Resources

Comment No.	Comment	Response
BOEM-2023-0030-0553-0001	but I am strongly opposed to the current location. I was shocked when I reviewed your report and saw the visual impact this project will have on the multitude of people literally tens of thousands of people daily that regularly spend their precious vacations in this area. I recommend you reevaluate the location and extend the distance from the shore to reduce or eliminate the visual impact to our beautiful coastline. I recently witnessed the wind turbiines off the Virginia Beach coast. They were only visible during sunrise when the sun reflected off the blades for a few minutes otherwise they could not be seen. However for this project several hundred will be clearly visible 24 hours each day - they will become our new landscape. I enjoy my time with family and friends sitting close to the surf and I fish the surf regularly in the spring and fall. As a result I personally spend many hours gazing out at the ocean letting my mind wander and feeling totally relaxed. Gazing at the horizon on Brigantine Beach is one of the few places I actually feel totally relaxed. I truly believe my view of the horizon will be significantly impacted in a negative way if this project proceeds at this location.	<p>The scope of the EIS, per BOEM’s regulations, is to analyze the COP Atlantic Shores Offshore Wind, LLC submitted for Lease Area OCS-A 0499. The Lease Area, at its closest point, is 8.7 miles from the New Jersey shoreline. The Lease Area is fixed per the 2012 BOEM EA and FONSI for commercial wind lease issuance and site assessment activities on the Atlantic OCS offshore New Jersey, Delaware, Maryland, and Virginia (see EIS Chapter 1, <i>Introduction</i>). BOEM acknowledges this planning occurred prior to technological and engineering advances that have enabled large size wind turbines. The alternatives analysis can only consider alternatives that are both technically and economically feasible. This is addressed in EIS Chapter 2, <i>Alternatives</i>. Please refer to Table 2-1 for Alternatives considered for analysis.</p> <p>Please refer to Appendix H, <i>Seascape, Landscape, and Visual Impact Assessment</i>, Table H-11 summarizes the WTA distance effects, field of views, noticeable elements, visual contrasts, scale of changes, and prominence on key observation points (KOPs) for the proposed action. KOPs along the southern portion of Long Beach Island are considered dominant/major noticeability. The visibility of the WTGs would be variable, depending on current meteorological, moonlight, and sunlight conditions. In views seaward, there would be periods of high, moderate, low, and no visibility.</p>
BOEM-2023-0030-0553-0003	Please consider this concern because the current location is extremely visible and will severely diminish our serene view of the ocean and our wonderful environment	Please refer to response to comment BOEM-2023-0030-0553-0001.
BOEM-2023-0030-0722-0001	One has to look no further than Atlantic Shores’ own Construction & Operations Plan to learn the truth. Buried deep at the end of the 4000-page document in the appendices are indisputable admissions that Mr. Veldhoven’s	Please refer to response to comment BOEM-2023-0030-0553-0001.

Comment No.	Comment	Response
	<p>company plans to industrialize the Jersey Shore and change our way of life forever. The 357 turbines will each be the height of the Chrysler Building (3 times the height of the turbines you see when entering Atlantic City) and visible for up to 40 miles. Appendix p126. The stated effect on Beach Haven as an example. According to the report the wind turbines will dominate the view and “decrease the scenic quality...in the “Beach Haven historic district” in particular. p127. As set forth on page 132 of the Atlantic Shores Visual Assessment Appendix you will see 200 turbines day and night from the pavilion on Pearl Street in Beach Haven (DIRECTLY IN FRONT OF MY HOME) after Phase I is completed. “Residences along the shoreline [in Beach Haven] have a consistent view of the ocean that is industrialized by the addition of the turbine rows</p>	<p>The implementation of an Aircraft Detection Lighting System (ADLS) as a mitigation measure would limit activation of aircraft obstruction lights (AOL) to those times when nighttime aircraft are present. It is estimated that lights would be activated for approximately 10.9 hours over a 1-year period. This is less than 1% of normal operating time without ADLS. Months with one hour or greater of AOL activation include January, February, March, July, and November (COP, Appendix II-T1, Atlantic Shores, 2023).</p>
BOEM-2023-0030-0755-0004	<p>After speaking to the visual effects kiosk BOEM representatives described the scenarios as presented in panorama which stretches the images horizontally. This effect represents the images as shorter than they will actually appear in line of sight. When confronted with this optical illusion they admitted the true life image would be much worse then represented in the photos. The New Jersey Shore is a destination for vacationers around the world. Having these 1000 1000 ft high towers will not be inviting and marine mammals washing on shore will be a huge deterrent for tourists. They will go elsewhere and the state will lose a billion dollar industry. Small business owners will suffer the most.</p>	<p>Two sets of image presentation boards were displayed at the public meeting, plus a large screen monitor with a looped progression of all the simulations produced for the Project and cumulative effects simulations.</p> <p>The first set of presentation image boards was a representative example of simulations of the Proposed Action. The second set was a representative example of the cumulative effects visual simulation presentation boards. The two sets of image presentation boards illustrated two different types of views with different objectives. The first objective was to accurately illustrate the size and scale the Project’s offshore wind turbines would appear to a viewer observing at the photo location. These images were a 50 mm equivalent crop of the panoramic view to illustrate the vertical size and scale of the wind turbines, but did not display the entire horizontal field of view.</p> <p>The second set’s objective was to illustrate the entire panoramic horizontal field of view that would be seen under the full-buildout scenario in the cumulative effects</p>

Comment No.	Comment	Response
		<p>simulations, which was a wide-angle view causing the wind turbines to appear smaller in comparison to the 1st set of image presentation boards. These two sets needed to be viewed together in order to understand the vertical scale and horizontal scale of impact.</p> <p>The looped photo simulation progressive series allowed members of the public to view all the simulations from locations of most concern to attendees.</p> <p>In addition, the BOEM subject matter professionals had a separate computer at the station to allow attendees to spend time studying any of the project or cumulative effects simulations of choice instead of being restricted to the several second viewing time in the progressive loop.</p> <p>All of the photo simulations are available on the BOEM website. (www.boem.gov/renewable-energy/state-activities/atlantic-shores-south, Visual Simulations tab).</p>
BOEM-2023-0030-0826-0002	1-What do the turbine farms view renderings look like from Longport NJ?	Please refer to the simulation for KOP MC02 for Lucy the Elephant. This KOP is in Margate City which is slightly closer to the proposed Project and may better represent potential views from Longport, NJ.
BOEM-2023-0030-0859-0003	Offshore wind farms built within view of the coastline (up to 26 miles offshore depending on viewing conditions) may be unpopular among local residents and may affect tourism and property values.3 Large-Scale Offshore Wind Power in the United States - Executive Summary (2010) National Renewable Energy Laboratory	<p>Please refer to response to comment BOEM-2023-0030-0544-0002 in Table N.6-15, which includes detail regarding property values. Information on potential impacts to property values has been added to Section 3.6.3, <i>Demographics, Employment, and Economics</i>.</p> <p>As described in Section 3.6.8.5, <i>Impacts of Alternative B – Proposed Action on Recreation and Tourism</i>, impacts of the Proposed Action are anticipated to be minor to minor beneficial. Cumulative impacts of the Proposed Action in combination with ongoing and planned activities are expected to be moderate adverse with minor beneficial</p>

Comment No.	Comment	Response
		<p>impacts. Consistent with the impact rating guidance included within Table 3.6.8-2, the main factors informing this impact rating are the expected extent of visual impacts associated with the presence of structures and lighting; impacts on fishing and other recreational activity from noise, vessel traffic, and cable emplacement during construction; and beneficial impacts on fishing from the reef effect.</p>
BOEM-2023-0030-0916-0005	<p>would therefore be the most visible modern wind complex in the world conflicting with NJ Coastal Zone Management Act (CZMA) rules regarding visual resource protection and National Historic Preservation Act (NHPA) requirements regarding adverse impacts to Historic properties: projects in Europe are placed more than 40 miles out elsewhere in the U.S. at least 15 miles. Image; [BOEM Visual Simulations of the Proposed Action from Centre Street Beach Haven New Jersey view to the east - Distance to Project 13.5 miles] Note: turbines clearly visible even in overcast conditions</p>	<p>Consultations and authorizations required under the Coastal Zone Management Act (CZMA) are provided in Appendix A, <i>Required Environmental Permits and Consultations</i>, Section 2.2.1. Although the Project’s Lease Area does not fall within a Geographic Location Description for purposes of 16 USC 1456(c)(3)(A) and the implementing regulations at 15 CFR Part 930 Subparts D and E, Atlantic Shores intends to voluntarily submit a federal consistency certification. The state’s concurrence is required before BOEM may approve or approve with conditions the Atlantic Shores COP per 30 CFR 585.628(f) and 15 CFR 930.130(1). Section 3.6.9, Table 3.6.9-1 Applicable Laws, Ordinances, and Regulations was updated to include the Federal CZMA and the New Jersey Department of Environmental Protection Coastal Management Program and related scenic objectives.</p> <p>Please refer to response to comments BOEM-2023-0030-1466-0002 in Table N.6-14 for additional information on BOEM’s fulfillment of its NHPA requirements.</p> <p>The visibility of the WTGs would be variable, depending on current meteorological, moonlight, and sunlight conditions. In views seaward, there would be periods of high, moderate, low, and no visibility.</p>
BOEM-2023-0030-0916-0006	<p>would by the Department of Interior’s own scoring system for visual impact rank as a six (6) the worst a “dominant” visual impact on the viewer meaning that the viewer’s eyes and brain cannot avoid it</p>	<p>Please refer to Appendix H, <i>Seascape, Landscape, and Visual Impact Assessment</i>, Table H-11 summarizes the WTA distance effects, field of views, noticeable elements, visual contrasts, scale of changes, and prominence on KOPs for the proposed</p>

Comment No.	Comment	Response
		<p>action. KOPs along the southern portion of Long Beach Island are considered dominant/major noticeability. The visibility of the WTGs would be variable, depending on current meteorological, moonlight, and sunlight conditions. In views seaward, there would be periods of high, moderate, low, and no visibility.</p>
BOEM-2023-0030-0916-0007	<p>would by virtue of that dominant unavoidable visible effect force the viewer not only to look at a stationary object but rotating blades as well for extended periods for which the physiological effects of which on the viewer which have not been assessed at all</p>	<p>Though not referred to as “physiological effects,” EIS Section 3.6.9, <i>Scenic and Visual Resources</i>, and Appendix H, <i>Seascape, Landscape, and Visual Impact Assessment</i>, do discuss the impacts of the Proposed Action in terms of viewer experience.</p> <p>Turbine blade motion can significantly attract viewer attention and increase wind farm noticeability. A paragraph has been added to Appendix H to address this concern. There are Project specific video-based simulations from six different locations depicting blade motion with various atmospheric and daytime conditions available on the BOEM website (www.boem.gov/renewable-energy/state-activities/atlantic-shores-south, Visual Simulations tab). Note that the resolution of video simulations is more limited than that available with high-resolution photo simulations.</p>
BOEM-2023-0030-0916-0052	<p>Visible Turbine Effect. The DEIS does not present representative visible turbine renditions which done correctly would distress shore goers. Current renditions for observation points closer to the turbines are done either: (1) pre- sunrise so a silhouette effect can’t be seen e.g. from Beach Haven (2) just after sunrise so the sun is in the viewer’s eyes distracting from and hindering the turbine view e.g. from Holgate or (3) under hazy and overcast conditions e.g. for Brigantine and Atlantic City. Renditions for closer communities were not done for clear days in the afternoon when the sun would reflect off the turbines into the viewers eyes and create a more prominent and realistic view. The</p>	<p>Based on scoping comments, additional simulations were prepared to address the concerns of time of day and weather conditions. The Beach Haven area (KOP-BHB01, BHB02, BHB 03 and LBT04) have simulations representing morning, noon, and late afternoon/evening during fair conditions. These simulations are available on the BOEM website (www.boem.gov/renewable-energy/state-activities/atlantic-shores-south, Visual Simulations tab).</p>

Comment No.	Comment	Response
	DEIS is unresponsive to repeated written and verbal meeting requests from Save LBI to produce such renditions.	
BOEM-2023-0030-0916-0053	The DEIS presentation does not consider the effect on the viewer from blade rotation. It presents misleading “visibility” distances and low frequencies of clear visible days based on meteorological and viewed object data from an inland location that is far different from a shore view of hundreds of 1000 foot-high turbines.	<p>EIS Section 3.6.9, <i>Scenic and Visual Resources</i>, and Appendix H, <i>Seascape, Landscape, and Visual Impact Assessment</i>, do discuss the impacts of the Proposed Action in terms of viewer experience. Turbine blade motion may attract viewer attention and increase wind farm noticeability. A paragraph has been added to Appendix H to address this concern. There are project specific video-based simulations from six different locations depicting blade motion with various atmospheric and daytime conditions available on the BOEM website. (www.boem.gov/renewable-energy/state-activities/atlantic-shores-south, Visual Simulations tab). Note that the resolution of video simulations is more limited than that available with high-resolution photo simulations.</p> <p>The visibility of the WTGs would be variable, depending on current meteorological, moonlight, and sunlight conditions. In views seaward, there would be periods of high, moderate, low, and no visibility.</p>
BOEM-2023-0030-0916-0172	The DEIS displays a series of visible renditions with detailed technical discussion in a manner that obscures and attempts to minimize the true ‘dominant’ Ranking 6 visible effect of the turbines on a viewer. As shown below it picks observation points and lighting conditions that obscure the view and cites irrelevant and misleading studies.	Representative Key Observation Points (KOPs) were selected based on the viewshed analysis and field reviewed to ensure visibility of the Project area. Additional KOPs were selected through the public scoping process. KOPs were selected based on and to document sensitive resources, scenic overlooks, recreation and residential areas, highly valued views, and representative views. They were also selected based on accessibility to viewers, number of viewers, viewing direction, distance (i.e., short-, medium-, and long-distance views), viewing experience, view type, and their potential for simultaneous views of other wind farms. Please also note that KOPs and simulations are tools among several used to analyze sensitive resources and represent the spectrum of impacted Character Areas and viewer experience throughout

Comment No.	Comment	Response
		the geographic study area and are not the entire basis of the analysis.
BOEM-2023-0030-0916-0173	Regarding Atlantic Shores some such renditions are shown on their website in video format. Several frames are shown from vantage points up and down the coast far away from the project where one would not expect to see the turbines. One frame shown for several seconds is against a dark gray background that looks something like a solar eclipse. One frame that appears to be a reasonable rendition passes by so fast that you cannot even freeze it to get a good look.	<p>As with all visualization methods (e.g., photosimulations), video simulations are a tool for the public, visual impact assessment professionals, and decisionmakers to understand and assess the nature and magnitude of potential Project impacts. Video simulations provide a basis for judging the increased impacts that may result from blade movement, variation in sun angles, and changes in atmospheric conditions at different periods of the day and night. Photo realistic still simulations and video simulations are available on the BOEM website (www.boem.gov/renewable-energy/state-activities/atlantic-shores-south, Visual Simulations tab).</p> <p>Video simulations were created for KOP-BHB03 Beach Haven Borough, Holyoke Avenue (12.97 miles from the nearest WTG) and depict fair sky conditions for morning, noon, and evening conditions. Video simulations for KOP-BHB01 Beach Haven Historic District (13.5 miles from the nearest WTG) depict clear, overcast, and low contrast conditions during the summer. These videos shared on the YouTube platform can be expanded to full screen view, paused, and replayed. Please note that the resolution of video simulations is more limited than that available with high-resolution photo simulations.</p>
BOEM-2023-0030-0916-0174	These concerns have been raised to the BOEM multiple times. The COP does contain some renditions. Appendix II-M provides daytime visual renditions from beach observation points very far away from the nearest visible wind turbine e.g., Seaside Park 40 miles away and from inland sites where the view will be blocked by ground cover e.g., a manor in the Edwin P. Forsythe Reserve 32 miles away where they obviously will not be visible. Without giving the viewer that distance perspective they give the misleading impression that	<p>Photosimulations were prepared from 20 key observation points (KOPs) that incrementally range from the closest onshore location to the Project to the most distant locations along the coastline and inland within the affected viewshed to illustrate the range of the Project's visibility and visual prominence.</p> <p>The visibility of the WTGs would be variable, depending on current meteorological, moonlight, and sunlight conditions.</p>

Comment No.	Comment	Response
	<p>the turbines will not be visible from anywhere. One rendition from heavily used beaches closer to the turbines in Beach Haven NJ at 13.5 miles to the nearest turbine is done under pre-dawn poor light and overcast conditions (Exhibit K first image) and not labeled as such providing a misleading impression on the casual viewer. The renditions from the North Brigantine Natural area are better but still done under overcast conditions and the persons interested in the view from LBI and Beach Haven may never think to look at them (Exhibit K second image).</p>	<p>In views seaward, there would be periods of high, moderate, low, and no visibility.</p> <p>Based on scoping comments, additional simulations were prepared to address the concerns of time of day and weather conditions. The Beach Haven area (KOP-BHB01, BHB02, BHB03 and LBT04) have simulations representing morning, noon, and late afternoon/evening during fair conditions. These simulations are available on the BOEM website (https://www.boem.gov/renewable-energy/state-activities/atlantic-shores-south, Visual Simulations tab).</p>
BOEM-2023-0030-0916-0175	<p>The DEIS Appendix presents renditions for clear sunny conditions when the observation point is far away and/or obscured by ground cover but for closer observation points it uses pre-sunrise (Beach Haven) and overcast conditions (North Brigantine Atlantic City). But even in overcast conditions the turbines are clearly visible. There are two renditions in it for hazy conditions from North Brigantine and Atlantic City 9 to 11 miles away in Appendix II-M that are similar to what would be seen from LBI. Even for those conditions the turbines are clearly visible. So if the turbines are clearly visible in hazy conditions and would be more visible in sunny conditions what other conditions are supposed to exist that would make them not visible? Those same visuals in Appendix II-O also show the turbines clearly visible with a stated “visibility” distance of 10 miles.</p>	<p>Please see response to comment BOEM-2023-0030-0916-0174.</p>
BOEM-2023-0030-0916-0177	<p>The results of the study in Figure 8 found that “dominant” ratings of 6 were found for visuals of turbines at 7 to 10 kilometers (km) which would correspond to the twice the height Vestas-236 turbines at 14 to 20 km or 8.7 to 12.4 miles. Therefore turbines placed in the inner part of the lease area from 9 to 12.4 miles will cause a dominant visual impact 6 on the viewer which as defined above is not escapable unless one could turn away 45 degrees which is not possible</p>	<p>Please refer to Appendix H, <i>Seascape, Landscape, and Visual Impact Assessment</i>, Table H-14 summarizes the WTA distance effects on KOPs for the Proposed Action. KOPs along the southern portion of Long Beach Island are considered dominant/major noticeability. The visibility of the WTGs would be variable, depending on current meteorological, moonlight, and sunlight conditions. In views seaward, there would be periods of high, moderate, low, and no visibility.</p>

Comment No.	Comment	Response
	and still view the water at a beach setting where turbines are placed all along LBI coastline.	
BOEM-2023-0030-0916-0179	These frequency representations of visibility are included throughout Appendix II- M-1 of the COP and in Appendix H Attachment H-1 of the draft EIS claiming that the first rendition done from an observation point shows the turbines visible for rare very clear 32 mile “visibility” (5.2% of the time) and then disappearing as you go to 18 or 20 mile distance visibility which it also says is still relatively rare (15 -20% of the time) with worse visibility conditions most of the time when the turbines would not be seen at all. To support this (page 99 of the COP Appendix) it refers to a “meteorological study of 2019” with no reference for that study given. It is not clear whether that “study” is the referenced Rutgers Visibility Report (which is now appendix H to the newly revised Appendix II M1 COP) or whether the Rutgers Visibility Report also used that same “study”.	<p>The meteorological study referred to is the 2021 Rutgers School of Environmental and Biological Sciences <i>Initial Visibility Modeling Study for Offshore Wind for New Jersey’s Atlantic Shores Offshore Wind Project</i>.</p> <p>BOEM conducted an independent visual impact assessment apart from the COP VIA. While the EIS considered the Rutgers study, the impact levels are based on the most impacting scenario under clear visible conditions. If the atmospheric and visibility conditions were less than optimal when the photosimulation photos were taken, then the analysts based the impact levels on conditions of optimal visibility.</p>
BOEM-2023-0030-0916-0180	The use of that 2019 meteorological data base “study” and the Rutgers Report to represent viewing conditions at the shore is seriously flawed. It is misleading and not appropriate for use in the DEIS. First the definition of “visibility” in the Report is unknown (the authors are no longer at Rutgers and current Rutgers staff is unwilling to stand behind the Report) but apparently is based on airport visibility estimates from markers placed at limited distances from ground level receptors. It has nothing to do with humans viewing offshore wind turbines that are 1000+foot tall with very long rotating blades which provide a wide target. Those observed visibility estimates are apparently limited to 10 miles out (see page 5 of the Rutgers study) and the COP itself notes that such ground level receptors may not be representative. Second the visibility data used in the 2019 Report is from Atlantic City (AC)airport which is of course inland and from the Ocean City municipal airport which is on the bay. Most (all?) of the data is looking over land that has no relevance to visibility	<p>The impacts described in EIS Section 3.6.9, <i>Scenic and Visual Resources</i>, and Appendix H, <i>Seascape, Landscape, and Visual Impact Analysis</i>, are based on clear-day conditions – clear sky, high visibility. Atmospheric conditions are an important visibility factor. Increased water vapor and particulate matter in the air between the viewer and the project components reduces the visibility of the WTGs. In views seaward, there would be periods of high, moderate, low, and no visibility.</p> <p>The 2021 Rutgers School of Environmental and Biological Sciences <i>Initial Visibility Modeling Study for Offshore Wind for New Jersey’s Atlantic Shores Offshore Wind Project</i> provides estimates of visibility based on observed and calculated visibility looking towards the lease area from shore. The results of the study do not change the impacts but provide information to understand how WTG visibility would change over the course of a day and throughout the year.</p>

Comment No.	Comment	Response
	<p>conditions at the shore looking out to sea. Nor does the DEIS or COP clearly state how that meteorological data is then converted to visible/not visible (or “obscured”) judgments. The newly revised COP mentions the use of Forecast Systems Laboratory (FSL) predictive models with the above mentioned (but suspect) airport data to predict visibility ranges. The Rutgers study reports comparing the FSL model predictions to on land observed visibility using only one day of data (July 19 2019) – see page 5. The FSL model is used for weather forecasting and it is not clear how they apply here. Again how do they define “visibility” how far out in distance do their predictions extend and how applicable are they for massive offshore structures?</p>	
BOEM-2023-0030-0916-0181	<p>The COP also mentions an Epsilon Associates study (also new to this version of the COP) which apparently takes the 2019-year hourly Rutgers RUWRF temperature humidity and dew point data somehow applies them to the entire geographic area being considered and then calculates “visibility” over the entire geographic area being considered and over the entire year. That is apparently the source of all the visibility frequency estimates included in the DEIS and the COP. The COP does not say what modeling formulae are used nor where they came from (e.g., the Rutgers Study an FSL model Epsilon’s own model a combination). In any case there is apparently no observational support involving offshore “visibility” to confirm the modeling formulae used. This is a serious flaw in the DEIS and another reason why the visibility frequency predictions should not be used in the DEIS. Note that COP claims that the single year of 2019 data is a representative year but does not provide the data to support that claim.</p>	<p>Please see response to comment BOEM-2023-030-0916-0180.</p> <p>EIS Section 3.6.9, <i>Scenic and Visual Resources</i>, has been revised to provide additional atmospheric information from the 2021 Rutgers School of Environmental and Biological Sciences <i>Initial Visibility Modeling Study for Offshore Wind for New Jersey’s Atlantic Shores Offshore Wind Project</i>. This study used observational data from 2019 and notes that monthly data from 2015-2017 at Ocean City showed similar but slightly increased visibility. The study did not use 2018 data because of significant data gaps.</p>
BOEM-2023-0030-0916-0182	<p>In addition, the DEIS does not discuss the turbine exclusion zone that was provided by BOEM for New York State of 17.3 miles [Reference: The Bureau of Ocean Energy Management, BOEM, Turbine Exclusion Zone for New York State Based on</p>	<p>New Jersey does not have a turbine exclusion zone. The Lease Area OCS-A 0499, for which this Project is proposed, was established in 2012. Please refer to Chapters 1, <i>Introduction</i></p>

Comment No.	Comment	Response
	<p>Visible Impact, Federal Register Notice, Commercial leasing for Wind Power in the Outer Continental Shelf in the New York Area, April 18, 2018. https://www.federalregister.gov/documents/2018/04/11/2018-07445/commercial-leasing-for-wind-power-on-the-outer-continental-shelf-in-the-new-york-bight-call-for] based on visible impact and why that has not been adopted for New Jersey.</p>	<p>and 2, <i>Alternatives</i>, of the EIS for more information on the Project and Lease Area history.</p>
BOEM-2023-0030-0916-0183	<p>DEIS Page 3-6.9 – 36 includes some general comments on factors that may affect visual clarity. It concludes with a paragraph on the percentages of time the structures would be visible at different distances (e.g. at 8.7 miles over 50% of the year). Those percentages are lifted from the newly revised (May 2023) portion of the AS COP Vol II Appendix II M1. “Over 50%” is consistent but understates the Rutgers Study itself (p.8) - which quantifies that as 60% of the year for over 10 miles and 70% for over 8 miles. The paragraph then refers to Fig 3.6.9 – 7 KOPS Obscured Visibility Comparison for estimating the percentage of the time each month the various KOPS would be “obscured” during the course of the 2019 year saying those figures come from “meteorological data”. That table is also lifted from the newly revised COP. “Obscured” is not defined but evidently interpreted by BOEM as meaning “not visible”. As mentioned previously neither the DEIS nor the referenced COP clearly describes the source of that data how it was derived and how it was used to predict “visibility”. Fig 3.6.9-7 itself is unclear in that the y axis is labeled “% in 2019” and it is not totally clear whether that means % of “obscured” time over the entire month (daytime only?) as the title would suggest or % “visible” which BOEM’s numbers mentioned earlier in the paragraph would suggest? The over 50% of the time visible at 8.7 miles statement that BOEM and the COP make is not consistent with what this figure would suggest. As discussed previously Fig 3.6.9- 7 is based on unsupported data and should be removed from the</p>	<p>EIS Section 3.6.9, <i>Scenic and Visual Resources</i>, has been updated to provide additional atmospheric information from the 2021 Rutgers School of Environmental and Biological Sciences <i>Initial Visibility Modeling Study for Offshore Wind for New Jersey’s Atlantic Shores Offshore Wind Project</i>. In addition, BOEM has removed Figure 3.6.9-7 from the Final EIS.</p>

Comment No.	Comment	Response
	DEIS as should any references to specific estimates of % of time “visible” and “not visible”.	
BOEM-2023-0030-0916-0184	Also see H-19 of the DEIS which claims without support that “due to coastal meteorological conditions...visibility would be reduced 3 out of 4-5 days”. Presumably that is referring to the simulations provided but it is certainly not apparent what would constitute a “reduced visibility” day (how much in reduced visibility and for what proportion of the day). And it is not apparent how such calculations could be made since the simulations themselves are not completely “clear” and some in fact show significant visual impairment from atmospheric conditions. That comment should be removed from the DEIS or supported with defensible facts.	EIS Section 3.6.9. <i>Scenic and Visual Resources</i> . has been updated to provide additional atmospheric information from the 2021 Rutgers School of Environmental and Biological Sciences <i>Initial Visibility Modeling Study for Offshore Wind for New Jersey’s Atlantic Shores Offshore Wind Project</i> . Based on the research in this study the frequency for “very clear days” with visibilities above 20 miles throughout the New Jersey onshore and offshore environment, would occur 1 out of 4 or 5 Days (23%).
BOEM-2023-0030-0916-0185	The AS COP concludes that from the Epsilon study during the tourist season (it uses the months of May June and August - but leaves out July rather than using June July and August) “no turbines would be visible during more than 80% of the daylight hours” – which does not fit our lived experience. It also appears inconsistent with the Rutgers Study (pages 2 and 6) which reports visibility greater than 20 miles at 23% for the months of July and August. The COP further concludes that in January (their highest visibility month) “visibility is only expected to occur 50% of the daylight hours” – which is contrary to Fig 3.6.9-7 and the prior BOEM visibility comment that came from the AS COP that reports visibility as over 50% of the year.	EIS Section 3.6.9, <i>Scenic and Visual Resources</i> , has been updated to provide additional atmospheric information from the 2021 Rutgers School of Environmental and Biological Sciences <i>Initial Visibility Modeling Study for Offshore Wind for New Jersey’s Atlantic Shores Offshore Wind Project</i> .
BOEM-2023-0030-0916-0186	In fact the project Construction & Operations Report (COP) itself contradicts these misleading representations the following quotes are taken directly from it. “The “view is dominated by large array of WTGs...stacked one after the other appearing like one massive turbine with multiple blades”” Residences along the shoreline have a consistent view of the ocean that is industrialized” “Viewers would have to turn away from the projects to eliminate it from their view” and “At night the ‘navigation lights would become the	BOEM agrees and has updated Appendix H, <i>Seascape, Landscape, and Visual Impact Assessment</i> , Table H-11 with revisions to the contrast, scale of change, and prominence ratings for KOP BHB02 and BHB03 to be in alignment with other tables in Appendix H (i.e., H-14, H-15, H-18) where these KOPs are categorized dominant/major noticeability, dominant/major to moderated horizontal field of view, and strong contrast. They are also categorized as Major impact for viewer experience in Table H-27.

Comment No.	Comment	Response
	<p>focus of viewer attention and could change the character of night time skies forever “. In addition, the video here https://vimeo.com/821315215 reveals the truth buried deep within the 4,000-page construction report proving beyond any doubt that the turbines, each the height of the Eifel Tower, will be clearly visible from the majority of New Jersey’s beaches and inland bays. Watch the video visual simulations for yourself. But past documents have referred to a study done by a group within Rutgers University titled “Initial Visibility Modeling Study for Offshore Wind for New Jersey’s Atlantic Shores Offshore Wind Project.” and concludes from it that the turbines wouldn’t be visible 59 percent of daylight time. That study was done for Atlantic Shores and its corporate sponsor Electricity de France Renewables in 2020 and is not available on the web nor is it in the EIS list of references.</p>	<p>In addition, Section 3.6.9, <i>Scenic and Visual Resources</i>, has been updated to provide additional atmospheric information from the 2021 Rutgers School of Environmental and Biological Sciences <i>Initial Visibility Modeling Study for Offshore Wind for New Jersey’s Atlantic Shores Offshore Wind Project</i>. Based on the research in this study the frequency for “very clear days” with visibilities above 20 miles throughout the New Jersey onshore and offshore environment, would occur 1 out of 4 or 5 Days (23%). Visibility greater than or equal to 10 miles, looking towards the lease area from the shore, occurred 60% of daylight hours with higher visibility in late summer and fall.</p>
BOEM-2023-0030-0916-0188	<p>Night time Visibility Issues: DEIS Page 3-6.9 – 32 (and repeated elsewhere) describes the effects of project lighting. Clarification is needed on navigation lighting vs aircraft hazard warning lighting including the heights required illumination and impact of the required navigation lighting for WTGs and the OSSs and whether or not that is covered by the proposed ADLS system. As written it appears the navigation lighting will also be part of the proposed system but that is not likely as ship traffic must also be warned.</p>	<p>The proposed ADLS system is only for the Aircraft Obstruction Lighting (AOL) and not the US Coast Guard navigation lighting at mid-tower and platform. As described in the COP Volume 1, Section 3.3.12, USCG navigation lighting consists of quick flashing yellow lights intended to be visible to mariners. Atlantic Shores is required to submit to BOEM a lighting, marking, and signaling plan in accordance with federal law and regulations, and guidelines, which would include information regarding navigation lighting in accordance with USCG standards. The plan must address aviation and navigation safety, avoid harm to wildlife, and avoid interference with other uses. Per USCG requirements, the mid-tower light is 256 feet (78 meters) above sea level, the yellow tower base reaches 50 feet (15 meters) above highest astronomical tide, and the landing deck is at sea level.</p> <p>Chapter 2, Section 2.1.2.1, of the EIS noted that WTGs and OSSs would be lit and marked in accordance with USCG lighting standards.</p>

Comment No.	Comment	Response
BOEM-2023-0030-0916-0191	<p>The BOEM should conduct a survey of the human reaction to the visible turning blades before moving forward on this EIS. It should create the appropriate animations and perform a systematic survey similar to those for stationary turbines. Given the potential ruining of the shore going experience here it would be irresponsible for the BOEM not to conduct such a study of the rotating blade effect before proceeding with this extremely close to shore project.</p>	<p>EIS Section 3.6.9, <i>Scenic and Visual Resources</i>, and Appendix H, <i>Seascape, Landscape, and Visual Impact Assessment</i>, discuss the impacts to the viewer experience by the Proposed Action. Turbine blade motion may attract viewer attention and increase wind farm noticeability. A paragraph has been added to Appendix H to address this concern.</p> <p>There are project specific video-based simulations from six different locations depicting blade motion with various atmospheric and daytime conditions available on the BOEM website. (www.boem.gov/renewable-energy/state-activities/atlantic-shores-south, Visual Simulations tab). Note that the resolution of video simulations is more limited than that available with high-resolution photo simulations.</p>
BOEM-2023-0030-0916-0214	<p>The proximity of these turbines also creates the potential for reduced shore wind wave action and changes in air temperature. Along with the visible and audible impacts the DEIS should have provided an analysis of the potential impacts of the wind turbine complex on shore wind speed temperature humidity and wave action. Several prior measurement studies of such downwind impacts from smaller turbine complexes indicate the potential for reduced wind speeds and higher temperatures. An extrapolation of those results for the wind turbine sizes and atmospheric settings expected here should have been presented in the DEIS.</p>	<p>Wind turbines extract kinetic energy from the atmosphere and thus can reduce wind speeds downwind of the turbine. Wind turbines increase vertical mixing in the atmosphere and thus can increase (or decrease) air temperatures and humidity downwind depending on local meteorological conditions. However, these effects dissipate with distance downwind. Because of the distance of the Project from land (approximately 16 miles from the center of the WTG array), substantial effects on wind speed, temperature and humidity are unlikely to occur over land.</p>
BOEM-2023-0030-0916-0228	<p>Regarding the Beach Haven Historic District first the visibility assessment has been improperly segmented into two phases what we see now for projects 1 and 2 and what we do not see for project 3 which is closer to the Borough. We understand that a construction and operations plan (COP) was submitted for project 3 in April 2022 so it was quite feasible to put forth a representative project for that area in the DEIS. We understand that a separate study and report has done on a cumulative historic preservation and visual</p>	<p>Projects 1 and 2 are two wind energy facilities proposed as part of the Atlantic Shores South Project. Atlantic Shores North, referred to here as Project 3, is a separate lease, project, and COP. It is however documented and analyzed as part of the cumulative analysis of this EIS (see Section 3.639, <i>Scenic and Visual Resources</i>, Table 3.6.9-17 and Appendix H, <i>Seascape, Landscape, and Visual Impact Assessment</i>, Table H-28 through H-32). Cumulative visual simulations are provided in Attachment H-1 of Appendix H and the Cumulative Historic</p>

Comment No.	Comment	Response
	assessment review of the three projects as is being done on the Ocean Wind projects just south of the Atlantic Shores project but that should be part of the DEIS.	Resources Visual Effects Analysis is a standalone document that is available on the BOEM website. https://www.boem.gov/renewable-energy/state-activities/atlantic-shores-south , Environmental Review tab.
BOEM-2023-0030-0916-0229	Second the DEIS presents misleading visual renditions and information regarding the visible impact of this project. It presents only one rendition from Beach Haven in the southern part of the Island closer to the project 1 and 2 turbines that one done before sunrise and not labeled as such. Requests to the BOEM by us for daylight renditions were put aside.	Based on scoping comments, additional simulations were prepared to address the concerns of time of day and weather conditions. The Beach Haven area (KOP-BHB01, BHB02, BHB03 and LBT04) have simulations representing morning, noon, and late afternoon/evening during fair conditions. These simulations are available on the BOEM website (https://www.boem.gov/renewable-energy/state-activities/atlantic-shores-south , Visual Simulations tab).
BOEM-2023-0030-0916-0230	With regard to the Barnegat Lighthouse this DEIS should include a cumulative visual assessment similar to that done for the Ocean Wind project. That should include not just Atlantic Shores projects one and two but also project three in the northern part of the Lease area which is much closer to the Lighthouse. With that assessment the visible impact on viewers from the Lighthouse will be similar or even worse than that to Beach Haven. The lighthouse is also steeped in maritime tradition and depends in very large part on views of the sea for its value as a historic property. It meets the criteria associating its value with the sea and its visual setting.	Please refer to response to comment BOEM-2023-0030-0916-0230 in Table N.6-14.
BOEM-2023-0030-1466-0006	The current visual assessment is inadequate to show the actual impact of the wind turbines and associated infrastructure. For example, BOEM has considered only three observation points within the County placed miles apart with several towns in between. Because BOEM has improperly limited observation points and associated visual simulations it is impossible for anyone to figure out from these limited points how Atlantic Shores will affect all historic and cultural resources.	Please refer to response to comment BOEM-2023-0030-1466-0006 in Table N.6-14. Key Observation Points (KOPs) were selected based on the viewshed analysis and field reviewed to ensure visibility of the project area. Additional KOPs were selected through the public scoping process. KOPs were selected to represent sensitive resources, scenic overlooks, recreation and residential areas, highly valued views, and representative views. They were also selected based on accessibility to viewers, number of viewers, viewing direction, distance (i.e., short-, medium-, and long-distance views), viewing

Comment No.	Comment	Response
		<p>experience, view type, and their potential for simultaneous views of other wind farms. There are 26 KOPs for offshore Project analysis and 5 KOPs for analyzing onshore infrastructure that represent the spectrum of conditions described above. The KOPs for offshore analysis include four in Cape May County, including Gillian’s Wonderland Pier (OC04), Corson’s Inlet State Park (OC01), Cape May Lighthouse (LT02), and Townsend Inlet Bridge (SIC02). Please also note that KOPs and simulations are tools among several used to analyze sensitive resources and represent the spectrum of impacted Character Areas and viewer experience throughout the geographic study area and are not the entire basis of the analysis.</p>
BOEM-2023-0030-1466-0007	<p>BOEM must therefore amend the DEIS to assess accurately adverse impacts and to determine appropriate avoidance minimization or mitigation measures from additional vantage points. These vantage points should include all historic districts as well as all properties listed or eligible for listing in the National Register and any National Historic Landmarks. In addition vantage points for revised simulations should include additional points in Cape May County including Cape May Historic District—a National Historic Landmark—which has provided countless people with a place for solitude access to nature and an uninterrupted seascape for centuries.</p>	<p>Please refer to response to comment BOEM-2023-0030-1466-0006 above and to comments BOEM-2023-0030-1466-0006 and BOEM-2023-0030-1466-0007 in Table N.6-14.</p>
BOEM-2023-0030-1466-0011	<p>Due to the high potential for Atlantic Shores to adversely impact cultural sites historic properties the viewshed property values and tourism BOEM should conduct additional visual assessments and provide consulting parties and the public with adequate and easily accessible information that informs all parties and the public of potential impacts.</p>	<p>BOEM has provided consulting parties and the public with adequate and accessible information pertaining to the potential impacts of the Project.</p> <p>Please refer to response to comments BOEM-2023-0030-1466-0002 in Table N.6-14 for additional information on BOEM’s fulfillment of its NEPA and NHPA obligations to consult with the public and consulting parties; and BOEM-2023-0030-1466-0006 above for additional information on visual assessments.</p>

Comment No.	Comment	Response
BOEM-2023-0030-1466-0012	<p>In specifically requiring cumulative impacts analyses NEPA and NHPA recognizes the significant effect that projects can have on the surrounding landscape beyond the scope of a single development. This Project and how it is evaluated and permitted will set a precedent for upcoming projects in the area and along the entire Atlantic Coast; therefore it is essential to apply consistent criteria to this project and subsequent future sites. Due to the historic integrity of historic properties within the Project Area and Area of Potential Effect BOEM must establish and implement best practices. Based on the omissions described above the COP should be amended to reflect—and the DEIS should include—a complete assessment of all impacts including cumulative impacts to historic and cultural properties and include additional visual simulations for Cape May County’s historic properties.</p>	<p>BOEM has consistently incorporated best practices from ongoing research into assessing cumulative impacts and has included assessments of cumulative impacts in each resource section of the EIS. Section 3.6.9.5, <i>Impacts of Alternative B – Proposed Action on Visual Resources</i>, includes an analysis of the cumulative impacts on visual resources from the Proposed Action in combination with other ongoing and planned non-offshore wind and offshore wind activities, including Atlantic Shores Offshore Wind Bight, Atlantic Shores North, Bight Wind Holdings, Garden State Offshore Energy, Invenergy Wind Offshore, Ocean Wind 1, Ocean Wind 2, and Skipjack Offshore Energy.</p> <p>It is neither feasible nor required for BOEM to produce visual simulations of the Project from all historic and cultural resources to determine whether these resources would be subject to visual impacts or accurately characterize the nature of such visual impacts.</p> <p>BOEM has determined the visual assessments are sufficient to analyze potential visual impacts of the Project and are sufficient to enable an informed assessment of visual impacts found in the HRVEA, CHRVEA, VIA, EIS, and <i>Finding of Adverse Effect</i> (Appendix I). Please refer to response to comments BOEM-2023-0030-1466-0012 in Table N.6-14 for additional information on BOEM’s fulfillment of its NEPA and NHPA obligations.</p>
BOEM-2023-0030-1466-0013	<p>The DEIS’s Visual Impact Assessment is too limited in scope and does not provide enough information for consulting parties to adequately assess potential impacts. Atlantic Shores two projects are expected to have up to 200 total wind turbines supporting tower structures up to ten offshore substations one meteorological tower as well as associated support and access structures. Proposed construction is expected to cause significant adverse effects to historic properties within the Project Area and Area of Potential</p>	<p>Please refer to response to comment BOEM-2023-0030-1466-0006 and BOEM-2023-0030-1466-0007 for information on BOEM’s visual assessments conducted to provide sufficient coverage in Cape May County and along the coastline and inland areas of New Jersey.</p>

Comment No.	Comment	Response
	Effect. Although the information provided in the DEIS is helpful in determining what area may be affected consulting parties and the public cannot reasonably understand the full extent of visual impacts to all of Cape May County's historic properties. Visual assessments that are this limited in nature are not only unreasonable but also arbitrary capricious and contrary to federal law.	
BOEM-2023-0030-1499-0005	The visual impacts that you include do not do justice to the full visual impact. There is very little in the imaging that shows the relative sizes sort of like when the moon is high in the sky verses down at the horizon. From Ocean City we have a visual cue of size at a distance that is real- the Ocean Casino about 10 miles away. Here is that view with a 1000' turbine superimposed. When we show this image people are aghast. I also doubt whether the severity of the substations is well represented.	<p>Thank you for your comment and graphic illustration. Under an Interagency Agreement with the U.S. Department of Energy, BOEM requested Argonne National Laboratory (ANL) to conduct an independent evaluation of the photosimulations prepared by Atlantic Shores to verify the accuracy of the height and other proportions of the WTGs. ANL used software SketchUp Pro, Google Earth Pro (GEP), Photoshop, and Bislin's Advanced Earth Curvature Calculator online tool for the examination. ANL used the 3-D WTG model Atlantic Shores used for the photosimulations in the COP. ANL evaluated three photosimulations produced for key observation points (KOP) BC02 North Brigantine Natural Area, BHB01 Beach Haven Historic District, OC04 Gillian's Wonderland Pier. ANL performed the following three steps as a part of the analysis:</p> <p>1) Measured the proportions of the 3-D WTG model in Sketchup Pro to compare them with the WTG measurements in the COP VIA. Results: They did not agree precisely. The WTG blade tip heights agreed, while the nacelle, hub, and deck height differed by 3 to 14 feet.</p> <p>2) In Photoshop, compared the height of visible tower section up to the deck (i.e., painted yellow), as adjusted for earth curvature and refraction, to the hub height to determine if the hub heights depicted in the simulations were correct. Results: The WTG height and other proportions were correct to within a few percentage points of the theoretical value in</p>

Comment No.	Comment	Response
		<p>the simulations for BC02 and BHB01. The WTGs in OC04 were too far from shore to use in Step 2.</p> <p>3) Imported the 3-D WTG model into GEP, placed copies of the model into the correct positions within the WTG array, viewed the models in GEP from the KOP, exported the views into Photoshop, and overlaid them onto the simulations.</p> <p>Results: The WTG height and other proportions of the WTGs were very close in comparison between GEP views and the COP VIA’s photosimulations for BC02 and BHB01. For KOP OC04, the WTG model height was within 10 percent of the WTG height in the simulations.</p> <p>Conclusion: ANL determined that the simulations are accurate with respect to depicted WTG heights and other proportions based on the 3-D WTG model used by Atlantic Shores. The heights of the modeled WTG differ slightly from those stated in the COP VIA, but not to the degree that would alter the Final EIS conclusions on the levels of impact, as viewed from the KOPs.</p>
BOEM-2023-0030-1499-0006	The visual impact “polls” are outdated and based on very slanted wording to extract the most flattering results to OSW.	Without actual citing of the Draft EIS or reference to specific studies and surveys, BOEM is unclear on the "polls" mentioned in the letter.
BOEM-2023-0030-1499-0007	The visual impact studies sited of comparison OSW installations and impact on tourist trade are flawed. The cited examples were built differently not necessarily facing the prime ocean front areas not as close and not as tall. The comparisons and conclusions are disingenuous.	The Final EIS cited studies involving WTGs with 579-foot (176.5 meter) hub heights visible out to 32.4 miles (52.1 kilometers). The 2018 Parsons study mentioned in comment BOEM-2023-0030-1499-0006 above, studied visitor reactions to WTGs 574-feet (175 meters) tall. Atlantic Shores WTGs would be taller, have a greater impact at closer distances, and be visible at greater distances. Greater eye-level heights would increase the visible distance in both cases. Both the WTGs considered in the studies and those proposed for Atlantic Shores would have WTG hubs, nacelles, navigation lights, and rotor blades visible to viewers on the nearest

Comment No.	Comment	Response
		<p>beaches. The visibility of the Atlantic Shores WTGs would be variable. Depending on meteorological, moonlight, and sunlight conditions there would be periods of high, moderate, low, and no visibility of the WTGs from land and/or water. The taller Atlantic Shores WTGs would result in increased numbers of WTGs visible in the wind farm relative to the farms in the cited studies. However, such additional WTGs would be seen below the tops of the forward row of WTGs and would be somewhat obscured by those intervening in the view. From the distance of the nearest shorelines, the Atlantic Shores area would be perceived as a mass of WTGs, rather than as individual WTGs.</p> <p>For discussion and impacts on tourism, please see Section 3.6.8.5 <i>Impacts of Alternative B – Proposed Action on Recreation and Tourism</i>.</p>
BOEM-2023-0030-1516-0052	<p>The project creates a dominant visual effect on a viewer amplified by the rotating blades which may cause beach goers to turn away. The DEIS fails to address the impact of the blade rotation; stationary turbines use inappropriate visibility frequency data from an inland site.</p>	<p>EIS Section 3.6.9, <i>Scenic and Visual Resources</i>, and Appendix H, <i>Seascape, Landscape, and Visual Impact Assessment</i>, discuss the impacts of the Proposed Action to the viewer experience and states that wind turbine blade motion may attract viewer attention and increase wind farm noticeability. A paragraph has been added to Appendix H to address this concern. Project specific video-based simulations from six different locations depicting blade motion with various atmospheric and daytime conditions are available on the BOEM website. (http://www.boem.gov/renewable-energy/state-activities/atlantic-shores-south, Visual Simulations tab). Note that the resolution of video simulations is more limited than that available with high-resolution photo simulations.</p>
BOEM-2023-0030-1516-0097	<p>The visual impact of the stationary turbines is just part of the impact to the shore. The physiological impact of any prolonged view of the rotation is unclear but because of the disparity between what the brain expects to see at the seashore and the actual view it could cause visible induced vertigo or other effects. [Underlined: Offshore Wind Turbine</p>	<p>EIS Section 3.6.9, <i>Scenic and Visual Resources</i>, and Appendix H, <i>Seascape, Landscape, and Visual Impact Assessment</i>, discuss the impacts of the Proposed Action on the viewer experience.</p>

Comment No.	Comment	Response
	<p>Visibility and Visual impact Threshold Distances Robert Sullivan Argonne Labs] Nothing has been said about this by the BOEM or Wind Turbine Developers but it is a serious problem and should be considered before proceeding with any project so close with such a MAJOR visible impact.</p>	<p>In review of the cited study, no reference was found in the study addressing potential physiological effects such as vertigo. Turbine blade motion may attract viewer attention and increase wind farm noticeability. A paragraph has been added to Appendix H to address this concern. The BOEM website contains project specific video-based simulations from six different locations depicting blade motion with various atmospheric and daytime conditions (https://www.boem.gov/renewable-energy/state-activities/atlantic-shores-south, Visual Simulations tab). https://www.boem.gov/renewable-energy/state-activities/atlantic-shores-south Note that the resolution of video simulations is more limited than what is available with high-resolution photo simulations.</p>
BOEM-2023-0030-1518-0019	<p>To emphasize its lack of concern about the visual impact of the Atlantic Shores project BOEM has ignored a quantitative visual impacts analysis (VIA) done for Atlantic Shores as part of its COP [Footnote 15: See Atlantic Shores COP Appendix II-M1 for references here and below to the Visual Impacts Analysis start at page 87]. This included an assessment of the impacts of the proposed project on views for 22 different observation points seven of which are on Long Beach Island. Views from Centre Street in Beach Haven received the highest visual impact rating of any of the observation points at 5.3 and a visual threshold level of 6. The analysis labeled this visual impact as “significant.” This observation point’s visual threshold score means – “An object with strong visual contrasts that is so large that...views of it cannot be avoided except to turn one’s head more than 45 degrees from a direct view of the object. The object/phenomenon is the major focus of visual attention...[whose] visual prominence...detracts noticeably from views of other landscape/seascape elements.”</p>	<p>BOEM has revisited Appendix H, <i>Seascape, Landscape, and Visual Impact Assessment</i>, Table H-11 and revised the contrast, scale of change, and prominence ratings for KOP BHB02 and BHB03 to be in alignment with other tables in Appendix H (i.e., H-15, H-16, H-19) where these KOPs are categorized dominant/major noticeability, dominant/major to moderated horizontal field of view, and strong contrast. They are also categorized as Major impact for viewer experience in Table H-27.</p>
BOEM-2023-0030-1518-0020	<p>There are other locations on Long Beach Island that this VIA classified as having a “significant” impact from the presence</p>	<p>BOEM has revisited Appendix H, <i>Seascape, Landscape, and Visual Impact Assessment</i>, Table H-11 and revised the</p>

Comment No.	Comment	Response
	<p>of the Atlantic Shores project. Beachgoers may well find the unavoidable view to make many of these currently popular sites less desirable. Even at the Edwin B. Forsythe National Wildlife Refuge located at the southern tip of Long Beach Island in Holgate and closest land-based opportunity to view the project the visual threshold level of 5 means that the towers the be “a major focus of visual attention drawing viewer attention immediately and tending to hold that attention.” Views from this and the other locations analyzed will be only “partially retained.” BOEM expands on its determination to ignore its own facts when it says (on page 878 of the DEIS) that “Major Impacts result from: Wind farm facilities located from 0.0 mile (0.0 kilometer) to 14.4 miles (23.2 kilometers) of the KOP’s viewers and onshore facilities located between 0.1 mile (0.2 kilometer) and 0.2 mile (0.3 kilometer) of the KOP’s viewers.” That means that almost all of the Atlantic Shores Project would be classified as having “Major Impacts.”</p>	<p>contrast, scale of change, and prominence ratings for KOP BHB02 and BHB03 to be in alignment with other tables in Appendix H (i.e., H-15, H-16, H-19) where these KOPs are categorized dominant/major noticeability, dominant/major to moderated horizontal field of view, and strong contrast. They are also categorized as Major impact for viewer experience in Table H-27.</p>
BOEM-2023-0030-1518-0021	<p>the 200 massive towers will be both unavoidable and unsightly 24 hours a day to all who live vacation and do business on Long Beach Island. Cultural heritage and traditions are extremely important to the residents of Long Beach Township. The proximity of Atlantic Shores South will significantly diminish the value of ecological resources the ocean viewshed and its associated sense of place and feeling and consequently devalue the cultural heritages that have made Long Beach Township a prized location for centuries.</p>	<p>Visibility of the WTGs would be variable, depending on current meteorological, moonlight, and sunlight conditions. In views seaward from the shoreline there would be periods of high, moderate, low, and no visibility. Analysis of the 7 KOPs located on Long Beach Island indicate that those closest to the Project area (Please refer to Section 3.6.9.5 <i>Impacts of Alternative B – Proposed Action on Scenic and Visual Resources</i> and Appendix H, <i>Seascape, Landscape, and Visual Impact Assessment</i>).</p>
BOEM-2023-0030-1520-0003	<p>NJ would see a wall of industrial structures at all times with lights at night and exceed the state of NJ’s night time residential noise standards as proposed.</p>	<p>The implementation of an Aircraft Detection Lighting System (ADLS) as a mitigation measure would limit activation of aircraft obstruction lights (AOL) to those times when nighttime aircraft are present. It is estimated that lights would be activated for approximately 10.9 hours over a 1-year period. This is less than 1% of normal operating time without ADLS. Months with one hour or greater of AOL activation include January, February, March, July, and</p>

Comment No.	Comment	Response
		November. (COP, Appendix II-T1, Atlantic Shores, 2023) Visual simulation for nighttime conditions can be found on BOEMs website (www.boem.gov/renewable-energy/state-activities/atlantic-shores-south , Visual Simulations tab).
BOEM-2023-0030-1548-0002	One of my biggest concern for me is visual degradation Atlantic Shores own 4000 page Construction and Operation Plan states that the turbines will dominate the view “decrease scenic quality”.	Visibility of the WTGs will be variable, depending on current meteorological, moonlight, and sunlight conditions. In views seaward from the shoreline there will be periods of high, moderate, low, and no visibility. Please refer to Section 3.6.9.5, <i>Impacts of Alternative B – Proposed Action on Scenic and Visual Resources</i> and Appendix H, <i>Seascape, landscape, and Visual Impact Assessment</i> .
BOEM-2023-0030-1555-0003	I am very concerned about the visual and noise impacts on residents and the tourism industry on LBI and NJ’s coast. The size and scale of the proposed turbines as displayed in the visual simulators will undoubtedly have a negative impact on tourism home values and property taxes.	Please refer to Section 3.6.9.5, <i>Impacts of Alternative B – Proposed Action on Scenic and Visual Resources</i> . This section describes changes in seascape, open ocean, and landscape character areas as a result of visual impacts from WTGs and which KOPs are anticipated to have visual impacts as a result of the Proposed Action. Section 3.6.3, <i>Demographics, Employment, and Economics</i> , discusses potential impacts to demographics, economics, and employment from noise and information on potential impacts to property values has been added to Section 3.6.3.
BOEM-2023-0030-1557-0001	Rotating Blade Effect. The visual impact of the stationary turbines is just part of the impact to the shore. The physiological impact of any prolonged view of the rotation is unclear but because of the disparity between what the brain expects to see at the seashore and the actual view it could cause visible induced vertigo or other effects. Offshore Wind Turbine Visibility and Visual impact Threshold Distances Robert Sullivan Argonne Labs Nothing has been said about this by the BOEM or Wind Turbine Developers but it is a serious problem and should be considered before proceeding with any project so close with such a MAJOR visible impact.[See original comment for figures and photos of turbine dimensions and photosimulations]	In review of the cited study, no reference was found in the study addressing potential physiological effects such as vertigo. Turbine blade motion may attract viewer attention and increase wind farm noticeability. A paragraph has been added to Appendix H, <i>Seascape, landscape, and Visual Impact Assessment</i> , to address this concern. There are project specific video-based simulations from six different locations depicting blade motion with various atmospheric and daytime conditions available on the BOEM website. (www.boem.gov/renewable-energy/state-activities/atlantic-shores-south , Visual Simulations tab). Note that the resolution of video simulations is more limited than that available with high-resolution photo simulations.

Comment No.	Comment	Response
BOEM-2023-0030-1557-0014	<p>The Industrialization of the Ocean off of Historic Atlantic City Boardwalk The famous AC Boardwalk is a national historic treasure built in 1870 with decades of international recognition. The visual aesthetic of the view from the Boardwalk will be destroyed by the wind energy power plant consisting of 876 1000 foot high wind turbine generators constructed in the ocean starting 8.7 miles off the coast.</p>	<p>The proposed Atlantic Shores South Project includes up to 200 turbines. The cumulative wind turbine area’s incremental magnitude of change by year of construction is presented in Section 3.6.9, <i>Scenic and Visual Resources</i>, Table 3.6.9-17 and confirms theoretical visibility of up to 833 WTGs from AC04 Ocean Casino Resort – Sky Garden. Fewer WTGs would be visible from non-elevated viewpoints including BC04 and OC04 to the north and south respectively. The visibility of the WTGs would be variable, depending on current meteorological, moonlight, and sunlight conditions. In views seaward, there would be periods of high, moderate, low, and no visibility.</p>
BOEM-2023-0030-1597-0002	<p>In addition there has not been enough community awareness made of the impact of these projects. People have no idea how the views will be affected from the various historic sites along the NJ shore. People have no idea how tall these turbines will be how many of them they will be able to see and how they will change the seascape of the Jersey shore forever.</p>	<p>Section ES.3, <i>Public Involvement</i>, of the EIS provides an overview of the public engagement process and activities to date. The publication of the Draft EIS initiated a 45-day public comment period, which commenced with publication of the Notice of Availability (NOA) of the Draft EIS in the Federal Register on May 19, 2023. Outreach included publication of the NOA in the Federal Register, BOEM press releases and social media announcements, notification letters to state congressional members, email notifications to tribal nations, cooperating agencies, and consulting parties, and publication of legal notices in local newspapers to advertise the public comment period and solicit input on the Draft EIS from the public, elected officials, and federal, tribal, state, and local agencies. The legal notice was published in The Press of Atlantic City, Star-Ledger, Asbury Park Press, Cape May Herald, Philadelphia Inquirer, South New Jersey Times, and the Daily Journal.</p> <p>Additionally, BOEM conducted both in-person and virtual meetings to inform interested attendees of the Draft EIS and proposed project and to provide the opportunity for the public to provide oral testimony. Two in-person meetings were held in Manahawkin, NJ and Atlantic City, NJ on June 21 and June 22, 2023, respectively. Two virtual meetings were</p>

Comment No.	Comment	Response
		held on June 26 and 28, 2023. The potential visual impacts of the Project was presented and discussed at each of the four public meetings. The maximum height of the wind turbines analyzed in the EIS is approximately 1,047 feet (319 meters) above mean sea level, as described initially in Section 2.1.2.1.
BOEM-2023-0030-1738-0001	I had a second item that I did raise and put in a chat at the last meeting which is all of your visualizations are taken from at or near ground level where there are literally hundreds of condominium and apartment buildings on the shore that are quite higher than that and we have a very different view. I have not seen a visualization of that. I'd like to see that.	<p>There are a number of elevated views represented in the KOP simulations which can be found on BOEM's website (www.boem.gov/renewable-energy/state-activities/atlantic-shores-south, Visual Simulations tab).</p> <p>Views from the top of dunes including SPB01 and BHB01 are taken at 16 and 17 feet mean sea level (MSL) and are similar to a second story building. Similarly, SBB01, BHB02, GT01, MCO2, and SIC02 are between 24 and 52 feet MSL. BLB02 and LT02, the Barnegat and Cape May lighthouses respectively, represent views at 155-150 feet MSP and ACO4, the Ocean Casino Resort Sky Garden is at 117 feet MSL. Although the distances of each simulation from the Lease Area varies, these simulations provide elevated views that approximate multi-story seaside locations. The camera elevation for each simulation is provided on the simulation's first page under "photograph information, camera height."</p>
BOEM-2023-0030-1753-0001	I am deeply concerned over the visual impact of what is going to happen and that it is just going to change the character of the shore and I have lived on the shore it's been 13 years living in oceanfront property and the view is one of the nicest parts of living on the shore.	The visual impact analysis methodology includes analysis of Seascape Character Areas (i.e., the shore). Seascape includes natural and built environments along the shoreline and specifically undeveloped beaches. The EIS Section 3.6.9, <i>Scenic and Visual Resources</i> , and Appendix H, <i>Seascape, Landscape, and Visual Impact Assessment</i> , describe analysis methodology and impact conclusions. Table 3.6.9-5 describes the sensitivity of most Seascape Character Areas as being highly sensitive to change. Appendix H confirms a high contrast and noticeability between most Seascape Character Areas and the proposed project. The visual impact analysis indicates that the Proposed Action (Appendix H Table H-24,

Comment No.	Comment	Response
		H-25, and H-27) would have a major impact on the viewer experience and Seascape character areas.
BOEM-2023-0030-1758-0004	about the windmills how visible will they be from the beach	Views from beach areas vary depending on the distance from the proposed project. The calculated visibility from each KOP based on turbine height, horizontal field of view, distance from shore, and earth curvature is provided in Appendix H, <i>Seascape, Landscape, and Visual Impact Assessment</i> , Table H-11. Visual simulations for each KOP are located at the BOEM website (www.boem.gov/renewable-energy/state-activities/atlantic-shores-south , Visual Simulations tab).
BOEM-2023-0030-1821-0014	Much of the Viewshed impact concerns result from nighttime impacts of the lighting. Atlantic Shores South has voluntarily committed to use of Aircraft Detection Lighting Systems (ADLS) which based on a Visual Impact Assessment Technical Report completed for the nearby Atlantic Shores project would likely reduce lighting system activation. [3.6.8-13] The Network recommends that BOEM consider requiring use of ADLS on other offshore wind projects throughout the vicinity.	As noted, the implementation of an Aircraft Detection Lighting System (ADLS) as a mitigation measure would limit activation of aircraft obstruction lights (AOL) to those times when nighttime aircraft are present. It is estimated that lights would be activated for approximately 10.9 hours over a 1-year period. This is less than 1% of normal operating time without ADLS. Some lessees are voluntarily including ADLS as mitigation for nighttime visual impacts. Alternatively, BOEM is recommending this as a nighttime lighting mitigation measure.

N.6.22 Project Design Envelope

Table N.6-22. Responses to Comments on Project Design Envelope

Comment No.	Comment	Response
BOEM-2023-0030-0003-0001	Ecological design elements should be incorporated into the offshore wind infrastructure specifically for scour and cable protection where benthic habitat could be maximized. Using nature-based design elements significantly increases species settlement richness and abundance. Nature-based design elements allow the structure to actively provide carbon	Atlantic Shores considers numerous factors in the selection of technology and suppliers for its Projects, including technical suitability and maturity, safety, environmental, and community considerations, installation, operations, and maintenance considerations, economic and supply chain factors, and supplier qualifications.

Comment No.	Comment	Response
	sequestration decrease the magnitude and frequency of maintenance leading to increased structural lifespan.	At this time, Atlantic Shores is still in the process of evaluating available technology and suppliers for use on its Projects and is not able to share further information at this time.
BOEM-2023-0030-0003-0003	all concrete materials should solely be fabricated from ecological concrete including all cable and scour protection in order to minimize negligible impacts and create marine habitat opportunities. Furthermore the species that settle and grow on the ecological concrete mattress and cable protection would create a living layer providing bioprotection which hardens the structure.	<p>Atlantic Shores considers numerous factors in the selection of technology and suppliers for the Project, including technical suitability and maturity, safety, environmental, and community considerations, installation, operations, and maintenance considerations, economic and supply chain factors, and supplier qualifications.</p> <p>At this time, Atlantic Shores is still in the process of evaluating available technology and suppliers for use on the Project and is not able to share further information at this time.</p>
BOEM-2023-0030-0003-0004	In a recent technical report The Nature Conservancy (TNC) recommended nature-based designs for cable protection and scour protection. Ecological concrete technology is also featured in the Wind Energy Monitoring & Mitigation Technologies Tool developed by the International Energy Agency Wind Task 34 (WREN) the Pacific Northwest National Laboratory and the National Renewable Energy Laboratory. https://www.nature.org/content/dam/tnc/nature/en/documents/TurbineReefs_Nature-BasedDesignsforOffshoreWind_FinalReport_Nov2021.pdf https://tethys.pnnl.gov/wind-energy-monitoring-mitigation-technologies-tool?wind_hierarchy=All&wind_industry=All&wind_phase=All&wind_stressor=All&wind_receptor=All&field_development_status_target_id=All&wind_status=All&search=econcrete	<p>Atlantic Shores considers numerous factors in the selection of technology and suppliers for the Project, including technical suitability and maturity, safety, environmental, and community considerations, installation, operations, and maintenance considerations, economic and supply chain factors, and supplier qualifications.</p> <p>At this time, Atlantic Shores is still in the process of evaluating available technology and suppliers for use on the Project and is not able to share further information at this time.</p>
BOEM-2023-0030-0051-0001	why is this project situated less than 9 miles from land and arguably the closest globally? Is this simply due to costs ? I look at other wind farms globally and the vast majority are more than 20 plus miles off shore.	Atlantic Shores has been granted the right to submit a COP for a project located within the geographic area identified as Lease Area OCS-A 0499. Thus, the scope of the EIS, per BOEM's regulations, is to analyze the COP Atlantic Shores submitted for Lease Area OCS-A 0499.

Comment No.	Comment	Response
BOEM-2023-0030-0213-0008	<p>Further the rush to implement installation and operation of untested huge wind turbines which have not been employed anywhere in the world let alone the U.S. is a dangerous and risky initiative. We don't know how these massive turbines will perform or how they will withstand hurricanes and intensive northeasters. Their physical integrity is currently being questioned as even the largest turbine manufacturers in the world including GE and Siemens admit that they are being rushed into use. Not having adequate time to ensure integrity before manufacture and installation will lead to failures. This issue should not be dismissed solely to meet President Biden's plan to achieve 30 GW of offshore wind by 2030. This is BOEM's stated objective. But is it not BOEM's charter to provide for responsible environmentally acceptable use of the outer continental shelf? BOEM might consider that the State of Maine in July 2021 adopted legislation banning offshore wind projects in State waters preserving State waters for recreation and fishing. It is not clear to me whether this is a permanent action but it does impose a 10-year moratorium to allow Maine to pursue research that can help establish the best way for Maine to move forward. By prohibiting action in State waters it appears to shut off all projects by denying them access to connect to the electric grid in Maine. Keep in mind that Maine is committed to renewable energy and less dependence on fossil fuels just not offshore wind as a means to do that. Shouldn't we be learning from this example.</p>	<p>The State of Maine is implementing an offshore wind development strategy, Maine Governor Janet T. Mills signed legislation on July 27, 2023 to advance offshore wind in Maine by procuring up to 3,000 MW of offshore wind energy by 2040 and allowing for development of critical port infrastructure. See: State of Maine 2023.</p> <p>Press Release: <i>Governor Mills Signs Bill to Create Jobs, Advance Clean Energy and Fight Climate Change Through Responsible Offshore Wind</i>, July 27, 2023 (https://www.maine.gov/governor/mills/news/governor-mills-signs-bill-create-jobs-advance-clean-energy-and-fight-climate-change-through).</p> <p>The EIS describes how WTGs are designed to sufficiently withstand severe storm events and describes actions that would be taken in the event of a spill or release (Section 2.3, <i>Non-Routine Activities and Low-Probability Events</i>). Atlantic Shores has committed to adhering to IEC 61400, which requires the designs of WTGs include a specification for a 500-year hurricane event in line with the requirements in IEC 61400-3-1 Annex I Wind energy generation systems – Part 3-1: Design requirements for fixed offshore wind turbines: Recommendations for alignment of safety levels in tropical cyclone regions.</p> <p>The WTGs will be designed in accordance with IEC 61400 which includes specific load cases corresponding to typical hurricanes for the project area. When wind speeds exceed the operational threshold, the turbines will automatically enter into a safe mode in which the blades are pitched and the nacelle is rotated to minimize wind loading on the turbine. The WTGs are equipped with batteries and other features to ensure that the function of critical equipment is maintained during severe weather such as a hurricane, even if connection to the grid is lost.</p>

Comment No.	Comment	Response
BOEM-2023-0030-0330-0002	It is my understanding that a new lease area would not be considered within 15 miles of the shore due to visual impact of the larger turbines available today. Would BOEM cap the size of the turbines in Atlantic shores and Ocean Wind to those available/typical in 2016 when these leases were awarded? Would BOEM consider pushing those lease areas further offshore?	Atlantic Shores has been granted the right to submit a COP for a project located within the geographic area identified as Lease Area OCS-A 0499. Thus, the scope of the EIS, per BOEM’s regulations, is to analyze the COP Atlantic Shores submitted for Lease Area OCS-A 0499. Alternative D – No Surface Occupancy at Select Locations to Reduce Visual Impacts analyzes the potential impacts of restricting the maximum hub height to 522 feet (159 meters) above mean sea level (AMSL) and maximum blade tip height to 932 feet (284 meters) AMSL for the WTGs in Project 1. The height restrictions have been incorporated into the Preferred Alternative in the Final EIS.
BOEM-2023-0030-0482-0001	Further studies must be done to determine if these farms will survive hurricanes or become unnatural rubble littering our ocean floor and landscape as a tribute to a failed business transaction at the expensive of ocean life and NJ taxpayers.	<p>The EIS describes how WTGs are designed to sufficiently withstand severe storm events and describes actions that would be taken in the event of a spill or release (Section 2.3, <i>Non-Routine Activities and Low-Probability Events</i>). Atlantic Shores has committed to adhering to IEC 61400, which requires the designs of WTGs and OSSs include a specification for a 500-year hurricane event in line with the requirements in IEC 61400-3-1 Annex I <i>Wind energy generation systems – Part 3-1: Design requirements for fixed offshore wind turbines: Recommendations for alignment of safety levels in tropical cyclone regions</i>.</p> <p>The WTGs will be designed in accordance with IEC 61400 which includes specific load cases corresponding to typical hurricanes for the project area. When wind speeds exceed the operational threshold, the turbines will automatically enter into a safe mode in which the blades are pitched and the nacelle is rotated to minimize wind loading on the turbine. The WTGs are equipped with batteries and other features to ensure that the function of critical equipment is maintained during severe weather such as a hurricane, even if connection to the grid is lost.</p>

Comment No.	Comment	Response
BOEM-2023-0030-0485-0001	<p>BOEM [Bold: CANNOT] allow wind turbine [Bold: “prototypes”) to be used for the Atlantic Shores offshore wind Project 1 and Project 2. Vestas 15 MW wind turbines will be used for the Atlantic Shores offshore wind (OSW) projects. There are serious concerns: 1. Why is a Vestas 15 MW [Bold: prototype] being selected for these OSW projects? On [Bold: 3 April 2023] Vestas announced that the V236-15.0 MW [Bold: prototype] “reached its full 15 megawatt (MW) power rating [Bold: for the very first time.]” The 15 MW wind turbine only “produced its first electricity in [Bold: December 2022] a mere six months ago. In Denmark in nice weather conditions. 2. There is NO publicly available and verifiable testing information on how the extremely tall wind turbine will perform under [Bold: hurricane conditions in the Atlantic Ocean].It is currently the tallest wind turbine at 919 feet with 379-foot blades. 3. Why is BOEM even naively considering the OSW proposal for using a prototype wind turbine design for Atlantic Shores? Where are the BOEM technical staff and engineers who should know better: a prototype wind turbine that had its first test run only 6 months ago in December 2022 and 2 months ago in April 2023 got its first power rating up to 15 MW - in Denmark under blue skies - and has never been tested in adverse offshore wind conditions in the Atlantic Ocean has no business being part of a real world United States OSW project.</p>	<p>The Vestas turbines specified by Atlantic Shores for Project 1 are designed to withstand a 500-year hurricane event per IEC Standard IEC 61400-3-1 1 Annex I Wind energy generation systems – Part 3-1: Design requirements for fixed offshore wind turbines: Recommendations for alignment of safety levels in tropical cyclone regions. Atlantic Shores has not selected a turbine supplier for Project 2; and the specific model and size of the turbines for Project 1 are subject to change. However, all WTGs would be certified per IEC standards, as described above.</p> <p>Offshore WTGs installed and in operation in Europe and Asia have been exposed to severe weather conditions similar to U.S. hurricane conditions. Vestas turbines of similar design to the Vestas 236 turbines specified for Project 1 are installed and operating in Europe in the North Atlantic, North Sea, and Baltic Sea (Vestas 2023a). The Vestas turbines installed in these waters have been exposed to severe weather conditions including extratropical cyclones and winter storms for which wind speeds have exceeded 100 MPH. Offshore wind turbines are also installed and operating in Taiwan, China, Vietnam, and other countries in Southeast Asia that are exposed to tropical cyclones and other severe weather condition events.</p> <p>Vestas, identified as the WTG supplier for Project 1, has installed more than 157 GW of wind power capacity, including more than 8 GW of offshore capacity, and has provided (as of 2022) 360 9-MW capacity WTGs to offshore and onshore locations. The 9-MW offshore WTG platform was first introduced by Vestas in 2014 and has subsequently seen over 5 GW of capacity installed. The Vestas 236 15-MW capacity WTG has been designed based on Vestas’ existing technology platforms and experience in developing and providing WTGs to offshore and onshore wind turbine installations (Vestas 2023b).</p>

Comment No.	Comment	Response
BOEM-2023-0030-0826-0015	23-What is the backup power source if there is no wind or malfunctioning turbines? Will there be an interruption of electric service to residents? 24-Have the wind turbines ever been tested in Hurricane conditions like the East Coast endures?	<p>The selection of power facilities that would be dispatched to provide energy in the absence of wind power would be determined by the relevant Independent System Operator. There are no backup or energy storage facilities proposed in the COP. However, the wind turbines would not be a sole source of electricity to the electrical grid; other sources of electric generation including renewables and fossil fuel electricity generation are connected to the electrical grid and would continue to supply electricity in the event that the wind turbines are shut down for any reason. Shutdown of the wind turbines should not result in interruption of electrical service to residents.</p> <p>Wind turbines are engineered, designed, fabricated, installed, maintained, and inspected to ensure their structural integrity for the life of the structure. These structures are built with a safety factor providing a conservative design to mitigate against any stresses, loads, or fatigue. The WTGs come with safety functions and control systems in-built to enhance their structural reliability. Critical parameters such as wind speed and wind direction changes, WTG vibrations, etc. are continuously monitored to keep the WTG either in an idle or an operational mode and to maintain the blade pitch and/or the turbine yaw within the designed limits.</p> <p>The WTGs will be designed in accordance with IEC 61400 which includes specific load cases corresponding to typical hurricanes for the Project area. When wind speeds exceed the operational threshold, the turbines will automatically enter into a safe mode in which the blades are pitched and the nacelle is rotated to minimize wind loading on the turbine. The WTGs are equipped with batteries and other features to ensure that the function of critical equipment is maintained during severe weather such as a hurricane, even if connection to the grid is lost.</p>

Comment No.	Comment	Response
BOEM-2023-0030-0916-0004	would eventually place 357-the full project- densely spaced (0.6-1.0 mile) large wind turbines (up to 1046 feet or three football fields high) just 9 miles off a natural barrier Island and beach the closest of any other modern project in the world	Atlantic Shores has been granted the right to submit a COP for a project located within the geographic area identified as Lease Area OCS-A 0499. Thus, the scope of the EIS, per BOEM’s regulations, is to analyze the COP Atlantic Shores submitted for Lease Area OCS-A 0499.
BOEM-2023-0030-0916-0021	pose an unknown and potentially high risk of turbine structural failure in the presence of storm and hurricane conditions not experienced in Europe	See response to comment BOEM-2023-0030-0482-0001.
BOEM-2023-0030-0916-0044	The NJ State cost-benefit analysis. it presents no data from that analysis which it has implicitly relied upon to use the State agreed-on power level (and the applicant’s proposed next project) as the only power level from the lease area in the DEIS eliminating consideration of any alternative power levels. The basis for that foreclosure of reasonable alternative turbine numbers must be disclosed.	<p>The scope of the EIS, per BOEM’s regulations, is to analyze the COP Atlantic Shores Offshore Wind, LLC submitted for Lease Area OCS-A 0499. The process by which BPU awarded the OREC is not within the scope of the EIS.</p> <p>BOEM is not relying on the New Jersey State power purchase agreement to limit alternatives. BOEM is reviewing the proposal that was submitted in the COP. Alternatives that do not meet the purpose and need are equivalent to the No Action Alternative (Alternative A).</p> <p>The alternatives are developed to address issues raised during scoping. BOEM’s action is to determine whether to approve, approve with modifications, or disapprove Atlantic Shores’ COP.</p> <p>Section 3.6.3, <i>Demographics, Employment, and Economics</i>, of the EIS discusses the economic impact on geographic analysis areas associated with the Proposed Action. The costs and benefits of the Atlantic Shores South Project are discussed throughout the EIS. However, BOEM has determined that a quantitative cost benefit analysis is not feasible given the available information. In addition, a quantitative cost benefit analysis is not necessary for BOEM to make an informed decision.</p>

Comment No.	Comment	Response
BOEM-2023-0030-0916-0059	The DEIS does not fully disclose transmission network plans that are being considered to potentially bring power from the project and the Hudson South area to shore.	<p>The Atlantic Shores Project includes two proposed export cable corridors (ECCs), the Atlantic ECC (Atlantic County landfall) and the Monmouth ECC (Monmouth County landfall), as described in Section 2.1.2, <i>Alternative B – Proposed Action</i>, of the EIS. Other wind turbine project that may occur in the OCS offshore New Jersey and elsewhere in the OCS Atlantic are described in EIS Appendix D, <i>Ongoing and Planned Activities Scenario</i>. Table D.A2-1 in Attachment D2 of Appendix D lists all offshore wind development activities that BOEM considers reasonably foreseeable by lease areas and projects. Lease areas and projects from Massachusetts to South Carolina are listed in Attachment D2.</p> <p>The Hudson South WEA includes OCS–A 0538, 0539, 0541, and 0542, located offshore of Monmouth and Ocean Counties. BOEM issues leases to Lessees for surface occupancy of BOEM-designated lease areas, but does not specify to Lessees the locations of offshore ECCs, onshore substations, or other aspects of the transmission networks. Lessees for the Hudson South WEA lease areas would propose the locations of transmission network components for each lease area as part of their COP submittals to BOEM. BOEM would review the environmental impacts of Lessee-proposed transmission networks as part of the NEPA review process for the Proposed Action. BOEM can only identify the locations of ECCs after they are proposed by Lessees. Interconnections of proposed projects in the Hudson South WEA lease areas to the onshore electrical grid would be subject to review and approval by the BPU and/or the New York State Public Service Commission.</p>
BOEM-2023-0030-0916-0060	The DEIS shows two power transmission cable routes to shore one to Atlantic City and one to Sea Girt New Jersey. However there are clearly other plans for additional cable routes and turbine locations that are not being disclosed. The applications to the NMFS for vessel survey approvals state	The Atlantic Shores Project includes two proposed ECCs, the Atlantic ECC (Atlantic County landfall) and the Monmouth ECC (Monmouth County landfall). Other wind turbine projects that may occur in the OCS offshore New Jersey and elsewhere in the OCS Atlantic are described in EIS Appendix D, <i>Ongoing and Planned Activities Scenario</i> . Table D.A2-1 in

Comment No.	Comment	Response
	that the purposes are to find new export cable routes and wind turbine sites.	Attachment D2 of Appendix D lists all offshore wind development activities that BOEM considers reasonably foreseeable by lease areas and projects. Lease areas and projects from Massachusetts to South Carolina are listed in Attachment D2.
BOEM-2023-0030-0916-0062	Compounding the need for such disclosure and comment are internal New York documents T1 which show that much of the power from Hudson South could be going to New York. This would mean that New York would get the power from the more desirable Hudson South area which is much closer to New Jersey and bear no shore impacts whatsoever while New Jersey would be forced to get its power from the close-in unsuitable area and bear all the negative impacts of that. This would represent clearly disparate treatment of two states by a federal agency compounding the different treatment already being afforded to New York by the BOEM providing NY with a turbine exclusion zone from shore but not New Jersey.	<p>The Hudson South WEA includes OCS–A 0538, 0539, 0541, and 0542, located offshore of Monmouth and Ocean Counties. BOEM issues leases to Lessees for surface occupancy of BOEM-designated lease areas, but does not specify to Lessees the locations of offshore export cable corridors (ECCs), onshore substations, or other aspects of the transmission networks. Lessees for the Hudson South WEA lease areas would propose the locations of transmission network components for each lease area as part of their COP submittals to BOEM. BOEM would review the environmental impacts of Lessee-proposed transmission networks as part of the NEPA review process for the Proposed Action.</p> <p>As noted in Appendix D, <i>Ongoing and Planned Activities Scenarios</i>, the lease areas within the Hudson South WEA are in the planning stages; no COPs have been submitted to BOEM and no power purchase agreements (PPAs) have been established for these lease areas. BOEM can only identify the locations of ECCs and other aspects of the transmission network after they are proposed by Lessees. Interconnections of proposed projects in the Hudson South WEA lease areas to the onshore electrical grid would be subject to review and approval by the BPU and/or New York State Public Service Commission.</p>
BOEM-2023-0030-0916-0063	At a minimum these transmission plans must be disclosed coincidentally with this proposal to allow for public scrutiny of them.	The Atlantic Shores Project includes two proposed ECCs, the Atlantic ECC (Atlantic County landfall) and the Monmouth ECC (Monmouth County landfall). Other wind turbine projects that may occur in the OCS offshore New Jersey and elsewhere in the OCS Atlantic are described in EIS Appendix D, <i>Ongoing and Planned Activities Scenario</i> . Table D.A2-1 in

Comment No.	Comment	Response
		Attachment D2 of Appendix D lists all offshore wind development activities that BOEM considers reasonably foreseeable by lease areas and projects. Lease areas and projects from Massachusetts to South Carolina are listed in Attachment D2.
BOEM-2023-0030-0916-0105	The DEIS needs to explain the NJ wind energy area came into being and whether it took into account the impacts to marine mammals being reviewed now. This provides perspective on why in order for this project to proceed the BOEM and NMFS at this late stage now have to reach the rather arbitrary conclusion that hundreds of large noisy wind turbines in or adjacent to the migration path of a critically endangered whale will only have a negligible impact on it as required by the MMPA.	The New Jersey wind energy areas were established by BOEM through a development process that initiated in 2011 (BOEM 2023). On Feb. 3, 2012, BOEM published in the Federal Register a Notice of Availability of an Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) for commercial wind lease issuance and site assessment activities on the Atlantic OCS offshore New Jersey, Delaware, Maryland, and Virginia (BOEM 2012). Consultations ran concurrently with preparation of the EA and included consultations under the Endangered Species Act, Magnuson-Stevens Fishery Conservation and Management Act, Section 106 of the National Historic Preservation Act, and the Coastal Zone Management Act. On July 11, 2012, BOEM issued a "Finding of No Historic Properties Affected for the Issuance of Commercial Leases within the New Jersey Wind Energy Area." The January 2012 Environmental Assessment and July 2012 Finding of No Significant Impact addressed potential impacts on marine mammals and potential impacts on other biological resources including finfish and benthic resources. The potential impacts of the Proposed Action on the North Atlantic right whale and other marine mammals are explained in detail in Section 3.5.6, <i>Marine Mammals</i> , of the EIS.
BOEM-2023-0030-0916-0107	The DEIS does not even disclose the power size and drive type of the turbines expected to be used and its relation to the expected noise source levels. The Atlantic Shores Construction and Operations Plan (COP) does not specify the power manufacturer or drive type of the turbine proposed to be used or the foundation type. But the New Jersey Board of Public utilities (BPU) approval of 1510 megawatts (mw) for	The PDE described in the COP and analyzed in the EIS includes a range of wind turbine dimensions and does not specify a turbine capacity. Atlantic Shores has not indicated a preferred foundation design as of the date of publication of the Final EIS. The PDE indicates that the WTG foundation could be a monopile

Comment No.	Comment	Response
	<p>Project 1 was based on the use of Vesta-236 13.6 mw turbines and monopile foundations (BG1). We assume that Atlantic Shores is adhering to the conditions of the State’s approval so our comments here are based on the use of those turbines and foundations. The COP also says that turbines up to 20 mw in power may be used making the illustrative noise impacts shown below far worse and their omission in the DEIS even more egregious.</p>	<p>foundation design or piled jacket, suction bucket, or gravity-based foundation design. The EIS includes impact analyses for each of these foundation designs as part of the analysis of Alternative F – Foundation Structures.</p> <p>Due to supply chain limitations, suction bucket and gravity foundations for WTG foundations are not anticipated to be commercially viable for the Project in the anticipated construction timeframe due to lack of fabrication capability and capacity in the region. As such, Atlantic Shores has refined the foundation PDE in its May 2023 Construction and Operations Plan. Atlantic Shores intends to use monopiles for the WTG foundations in Project 1. In December 2022, Atlantic Shores entered into a Pre-Commitment and Capacity Reservation Agreement (PCCRA) with EEW American Offshore Structures Inc. (EEW-AOS) to serve as the local manufacturing company for the proposed monopiles for Project 1. For Project 2, no such agreement has yet been reached and either monopile or piled jacket foundations could be used for the WTG foundations.</p> <p>Atlantic Shores continues to explore the use of additional foundation types, including suction bucket and gravity foundations, for OSS and met tower foundations. Final selection of a foundation technology for these components remains subject to project-specific technical feasibility, economic considerations, and supply chain limitations.</p>
BOEM-2023-0030-0916-0221	<p>The DEIS should first disclose what legally binding instrument will require the company to decommission or more precisely remove the structures. If the lease has or is expiring then that is not it. There are no specific decommissioning requirements spelled out in the construction and operation plan or the New Jersey BPU power purchase approval. Those requirements should also address early decommissioning- for a turbine that fails and cannot be repaired.</p>	<p>Atlantic Shores has submitted a conceptual decommissioning plan as part of the COP. Specific procedures to be applied to project decommissioning would be determined during BOEM’s environmental review of the decommissioning plan. General procedures for decommissioning are described in Section 2.1.2.3, <i>Conceptual Decommissioning</i>.</p> <p>Before decommissioning can occur, Atlantic Shores must submit a decommissioning application and receive approval</p>

Comment No.	Comment	Response
		<p>from BSEE. The decommissioning application must be submitted to BSEE at least two years before the expiration of the lease pursuant to § 285.905. The required contents of the decommissioning application can be found in § 285.906.</p> <p>BSEE will compare the decommissioning application with the conceptual decommissioning plan in Atlantic Shores’s approved COP to determine if additional environmental and technical reviews are needed. The NEPA review of the Decommissioning Plan will examine the impacts of various decommissioning scenarios, including EFH and ESA consultations. Upon completion of the technical and environmental reviews, BSEE may approve, approve with conditions, or disapprove Atlantic Shores’s decommissioning application. If BSEE disapproves the decommissioning application, Atlantic Shores would be required to resubmit the decommissioning application to address the concerns identified by BOEM.</p> <p>Following approval of the decommissioning application, Atlantic Shores would be required to submit a decommissioning notice under § 285.908 at least 60 days before commencing decommissioning activities. The decommissioning notice is distinct from the decommissioning application and may only be submitted following approval of Atlantic Shores’s decommissioning application. The contents requirements for a decommissioning notice can be found in § 285.908.</p> <p>Atlantic Shores would be required to remove all facilities to a depth of 15 feet below the mudline, unless otherwise authorized by BSEE. Within 60 days after facility removal, Atlantic Shores would be required to verify to BSEE that they have cleared the site.</p>

Comment No.	Comment	Response
		<p>Within 60 days of removing a facility, Atlantic Shores would be required to submit a written report to BSEE. If BSEE finds that Atlantic Shores failed to comply with its approved decommissioning plan or notice, Atlantic Shores would remain liable for any costs associated with the failure and BSEE may take enforcement action under § 285.400.</p> <p>The EIS examines the maximum impacts of the PDE, which includes full removal of Project components at decommissioning, which are expected to be the same as or similar to impacts during Project construction.</p> <p>Section 5.1, <i>Monitoring and Control Systems</i>, of Atlantic Shores' COP Volume I, and Section 9.2.5, <i>Significant Infrastructure Failure</i>, of Atlantic Shores' COP Volume II discusses Atlantic Shores intent to proactively address potential equipment failures and the potential equipment to be used during unscheduled maintenance activities.</p>
BOEM-2023-0030-0916-0222	<p>Second at a minimum "decommissioning" must be defined. There must be a condition of project approval that for these wind turbines "decommissioning" means dismantling removal and disposal of the blades the nacelle and the tower entirely and for foundation removal to a minimum pre-specified depth below the seabed. Corresponding overarching requirements should be specified for the cables and substations as well. Third while the exact number of turbines to be decommissioned may have to await the DEIS should for a single turbine present the technical feasibility of doing it and then assuming it can be done the environmental impacts of the various technical options that can be employed e.g. for cutting the foundation by diamond wire or water jetting.</p>	<p>See response to comment BOEM-2023-0030-0916-0221 regarding requirements for Project decommissioning.</p>
BOEM-2023-0030-0916-0223	<p>In addition if these structures can be dismantled removed and disposed of decommissioning expenses are estimated to be significant (one study for an 1,100 mw offshore wind</p>	<p>See response to comment BOEM-2023-0030-0916-0221 in regard to decommissioning.</p>

Comment No.	Comment	Response
	<p>project shows \$590 million or \$19.5 percent of the total project cost) and the scope of the effort is major (each of around 357 structures will be 850 feet above the surface and each monopile base is said to be 40 feet in diameter and weigh up to 5 million lbs.). Decommissioning is an important part of any credible economic and environmental impact assessment for a project of this magnitude. A dedicated escrow fund must be set up from annual revenues to assure that the funding is available for it.</p>	<p>BOEM does not require lessees to set aside funds for decommissioning during the operations phase of the lease. However, BOEM requires lessees to provide financial assurance for each stage (lease issuance, SAP, COP, installation) of a commercial lease pursuant to the regulations at § 585.516. Decommissioning-specific financial assurance is covered in § 585.516(a)(4) and is required to be in place before a lessee is allowed to install any facilities approved in the COP. Financial assurance may include bonds, third party guarantees or other financial instruments to cover the cost of decommissioning the entire project following the termination of operations. BOEM may allow a lessee to use evidence of financial strength and reliability in lieu of some or all of the decommissioning financial assurance pursuant to § 585.527. The decommissioning cost estimate is determined by BOEM on a case-by case basis and covers the cost for BOEM to directly contract the decommissioning work should the lessee become insolvent. The amount of decommissioning and supplemental financial assurance must be no less than the amount required for the lessee to meet all lease obligations. BOEM may call for the forfeiture of a lessee’s financial assurance in the event of failure to meet its decommissioning obligations.</p>
BOEM-2023-0030-0916-0233	<p>The DEIS contains no commitment to or statement of what construction standards the turbines will be built and installed to nor any assessment of whether turbines built to those standards will structurally withstand the extreme wind and hurricane/storm conditions off the New Jersey Coast. It does not specify the turbines to be used nor their International Electromechanical Commission (IEC) ratings. This is essential to know and understand because prior construction in Europe was not built to the same hurricane conditions here.</p>	<p>See response to comment BOEM-2023-0030-0482-0001.</p>
BOEM-2023-0030-0916-0234	<p>The lease area has experienced a number of high wind and hurricane conditions since 1900. Those include the Great Atlantic Hurricane of 1944 where wind speed gusts reached</p>	<p>See response to comment BOEM-2023-0030-0482-0001.</p>

Comment No.	Comment	Response
	<p>200 km/hr. hurricane Donna in 1960 where wind speeds reached 170 km/hr. and hurricane Gloria in 1985 where wind speeds reached 230 km/hr. The frequency and severity of those events is expected to increase as a result of climate change. The DEIS should have presented a full site-specific risk and consequence analysis of these extreme weather events in terms of damage to all of the turbine components including the blades the nacelle the tower and the foundation. It should have explained how damaged components will be removed and replaced. The IEC ratings of each of the turbines to be used should be presented along with technical support for that rating.</p>	
<p>BOEM-2023-0030-0916-0235</p>	<p>Therefore the DEIS should have included an analysis of failure modes their frequency repair methods and time needed and the expected environmental impacts of doing those repairs. The company must have this information and it should be disclosed. The overall loss of operating time on the wind complex should be stated. In addition it should say what will be done with a turbine that cannot be repaired. Will it remain there for the duration of the lease or will it be decommissioned early?</p>	<p>Wind turbines including blades are designed and certified to 30 years lifetime as per IEC 61400 series. The design considers normal and extreme conditions that are expected on the site as per applicable standards (including but not limited to icing, rain, hurricanes, lightning). The design and manufacturing of the WTG components are certified as per IECRE OD-501:2018 and verified per BOEM requirements.</p> <p>Wind turbines are engineered, designed, fabricated, installed, maintained, and inspected to ensure their structural integrity for the life of the structure. These structures are built with a safety factor providing a conservative design to mitigate against any stresses, loads, or fatigue. The WTGs come with safety functions and control systems in-built to enhance their structural reliability. Critical operational parameters such as wind speed and wind direction changes and WTG vibrations are continuously monitored to keep the WTG either in an idle mode or an operational mode and to maintain the blade pitch and/or the turbine yaw within the designed limits.</p> <p>Data regarding the reliability of blades is considered commercially sensitive information by turbine suppliers and cannot be shared publicly. However, both turbine suppliers</p>

Comment No.	Comment	Response
		<p>and developers are collaborating to maintain high availability levels especially critical in the offshore environment.</p> <p>Particular attention is given to turbine blades during storage, transport and installation. Any damage incurred is repaired according to approved procedures and in compliance with industry standards.</p> <p>During operation and maintenance, numerous measures are implemented to protect and monitor blade integrity including:</p> <ul style="list-style-type: none"> • Scheduled maintenance programs are defined at the design phase for all subcomponents, including periodic internal and external inspections of the blades. Any blade damages will be evaluated for severity and will trigger the appropriate remedy to ensure safe and reliable operation, including heightened monitoring, repair or replacement as appropriate. • Lightning Protection System to safely conduct lightning current down the structure, including sensors that monitor and record every lightning strike. <p>Advanced leading-edge technology protecting the blade from mechanical erosion and degradation.</p>
BOEM-2023-0030-0916-0236	<p>The failure rates for smaller turbines 2 to 4-megawatt show M1 in Figure 11 that 50 percent of those turbines undergo a major repair or replacement each year. That could involve a substantial downtime to diagnose the problem secure parts and make the repair which could significantly affect the capacity factor and the power production. The nature of the repair could also be important in terms of environmental impact in terms of additional vessel traffic and failures involving oil leakage so the nature and environmental impact of such repairs needs to be presented. Such an analysis should be presented for both the turbines and the</p>	<p>Please see response to comment BOEM-2023-0030-0916-0235.</p> <p>Offshore export cables can fail due to defects incurred during the design, manufacturing, or installation of the cables or as a result of damage due to external forces, such as an anchor drag. Cables are designed, manufactured, and installed in accordance with relevant industry standards. Quality assurance steps are implemented at all stages to minimize the risk of defects or damage, including design reviews,</p>

Comment No.	Comment	Response
	<p>transmission cables. It is our understanding that the project will use new very high voltage lines not previously tested under actual conditions. A failure of an export cable could have a dramatic impact on annual power production. The DEIS should present the expected failure modes and explain how the problem will be isolated and repaired along with the expected downtime.</p>	<p>inspection and testing during manufacturing and installation, and strict adherence to approved procedures.</p> <p>Atlantic Shores conducted a Cable Burial Risk Assessment on each of its export cable routes (COP Appendix II-A5) to ensure that the risk of damage to the offshore export cables was understood and appropriately mitigated. To protect against damage after installation such as anchor drags, the cables would be buried to a target depth of 5 to 6.6 ft (1.5 - 2.0 m). Cable protection would be used in areas where sufficient burial depth cannot be achieved.</p> <p>Additionally, Atlantic Shores would employ a monitoring system on its export cables that will be able to provide advance warning of any potential cable failures due to insulation degradation, physical damage, or other causes. Further details can be found in COP Volume I, Section 5.1.</p> <p>After a fault was detected, the fault would be isolated and diagnostics would be performed to precisely locate the position of the fault. The damaged section of the export cable would then be recovered to a vessel, the damaged section of cable would be removed, and a new section of cable would be spliced in to replace the damaged section. Finally, the cable would be returned to the seabed and buried.</p> <p>The failure rates of subsea cables are dependent on many factors and are difficult to generalize. Detailed information on failure rates is typically considered proprietary.</p>
BOEM-2023-0030-0916-0239	<p>The Atlantic Shores DEIS does not address this very significant issue (although it does acknowledge in the context of potential biological injury that “very few studies have examined the effects of substrate vibration from pile driving yet many have acknowledged that is a field of urgently needed research” 3.5.2-22). Nor has there been a programmatic analysis done of the multiple projects planned</p>	<p>Research continues to examine the potential effects of pile driving on marine species. Studies to date indicate that various fish and aquatic invertebrate species exhibit short-term behavior changes when exposed to pile-driving activity, but then are likely to return to their normal behavior shortly after the exposure ends.</p>

Comment No.	Comment	Response
	<p>off the northeast Atlantic coast to evaluate the combined potential impact on the unstable ocean floor from these massive industrial developments.</p>	<p>Regarding the Atlantic coast seafloor, each lessee must assess the seafloor of the project area for potential hazards. Regulations at 30 CFR § 585.626(a)(1),(a)(2) require lessees to collect data offshore and assess the presence and potential effects of shallow hazards and seismic activity on the proposed facility. Regulations at 30 CFR § 585.626(a)(6) require analysis of the potential for “instability of slopes, settlements and displacements and sediment reactions to the facility foundations” which would cover any sediment disturbance from pile driving. BOEM’s technical experts review the data and analysis submitted in a lessee’s COP to ensure proposed infrastructure is technically feasible given the site-specific seafloor conditions. BOEM has not seen any concerns about this issue from COPs submitted to date. Mobile seafloor sediments are a recognized hazard that is studied prior to project construction and mitigated by using scour protection. Furthermore, regulations (30 CFR §§ 282.820-824) require BSEE to conduct scheduled and unscheduled inspection of offshore facilities to verify compliance with safety and environmental laws and regulations.</p>
BOEM-2023-0030-0916-0240	<p>The DEIS should provide an assessment of the risk and potential outcomes. It should show consultation with the DOD and preventive measures. It should include consultation with the BPU and electric utilities and show how back up power will be provided. While the EIS process need not spell out the details of the security plan it should include consultation with law enforcement to ensure an effective response plan is put in place by the operator if an incident occurs. A comment along those lines should be included in the DEIS to assure the public that appropriate precautions have been taken and a specific judgment made by BOEM on the acceptability of the risk and the impact on system reliability. Such plans are routinely required of nuclear</p>	<p>Agency consultations are summarized in Appendix A, <i>Required Environmental Permits and Consultations</i>.</p> <p>BOEM coordinates with the Military Aviation and Installation Assurance Siting Clearinghouse (Clearinghouse) for a review of the COP. The Clearinghouse coordinates within the Department of Defense (DoD) and provides feedback to BOEM upon completing their review of the COP. Lessees are encouraged to use the Clearinghouse’s informal consultation process as they design their project, prior to submitting the COP to BOEM.</p> <p>BPU is serving as a cooperating agency for the EIS pursuant to 40 CFR § 1501.8 because BPU has the authority under New</p>

Comment No.	Comment	Response
	<p>projects with specific threat levels assessed addressed and tested.</p>	<p>Jersey's Offshore Wind Economic Development Act to approve an application from an entity seeking to construct an offshore wind project as a Qualified Offshore Wind Project, as authorized by New Jersey Statutes 48:3-87.1, Application to construct offshore wind project. BPU has authority for issuance of an Approval of Petition from an electric distribution company for interconnection of the Atlantic Shores project to the electrical grid.</p> <p>Project 1 and Project 2 would supply electric power to the grid and BPU would address system reliability and electric power demand through the interconnection agreement approval process. In the event that Project 1 and/or Project 2 are temporarily off line, electric power would be provided to the grid by other electric generating sources, which may include other renewable or non-renewable sources. Grid operators are required to maintain reserve electric generation capacity to account for planned or unplanned outages of individual electric generators within the electrical grid system such that electricity supply can be maintained in the event of a generator outage.</p> <p>USCG is serving as a cooperating agency pursuant to 40 CFR § 1501.8 because the scope of the Proposed Action and alternatives involves activities that could affect navigation and safety issues that fall under its jurisdiction by law and special expertise. As discussed in COP Volume I, Section 5, <i>Operations and Maintenance</i>, the WTG SCADA system provides the capability to shut down equipment for maintenance or at the request of grid operators, regulators, or search and rescue (SAR) (e.g., shut down of WTGs upon the U.S. Coast Guard's [USCG's] request). USCG would also be involved in implementation of the Project's Oil Spill Response Plan (OSRP) in the event of a spill incident.</p>

Comment No.	Comment	Response
BOEM-2023-0030-0916-0251	<p>Failure to Specify Key Parameters in the Proposal. Neither the DEIS or the COP state the power manufacturer drive type or foundation type of the turbines to be used. But the New Jersey BPU approval of 1,510 mw for Project 1 was based on the use of Vesta-236 13.6 mw turbines and monopile foundations (BG1). We assume that Atlantic Shores will adhere to the conditions of the State’s approval so these parameters should be specified in the proposal not buried in an opaque project design envelope approach as discussed below.</p>	<p>The New Jersey Board of Public Utilities (BPU) approval of 1,510 MW for Project 1 was based on the use of Vestas-236 13.6 MW turbines and monopile foundations. Atlantic Shores has indicated in their comment letter on the Draft EIS, that the Vesta turbine is the design basis turbine for Project 1, but has not specified a foundation design for the Project 2 WTGs.</p> <p>Atlantic Shores has not indicated a preferred turbine design or turbine capacity for Project 2. As described in Chapter 2, <i>Alternatives</i>, the nameplate capacity of Project 2 has not yet been determined, but Atlantic Shores has a goal of 1,327 MW electric generating capacity for Project 2. This 1,327 MW goal aligns with the interconnection service agreement Atlantic Shores intends to execute for both Atlantic Shores projects with the RTO, PJM. Atlantic Shores may specify a turbine design from Vestas or from another WTG supplier that is larger than 15 MW capacity for Project 2. The WTGs would extend to a maximum height of up to 1,046.6 feet (319.0 meters) above mean sea level; the maximum height restriction does not directly correspond to a maximum WTG generating capacity. In the event that Atlantic Shores specifies a WTG design that exceeds the project design envelope for the WTGs in the EIS, BOEM would prepare a supplemental EIS to assess potential environmental impacts.</p> <p>Atlantic Shores has not indicated a preferred foundation design as of the date of publication of the Final EIS. The PDE indicates that the WTG foundation could be a monopile foundation design or piled jacket, suction bucket, or gravity-based foundation design. The EIS includes impact analyses for each of these foundation designs as part of Alternative F – Foundation Structures.</p> <p>Chapter 2, <i>Alternatives</i>, Table 2-5, <i>Resource effects by foundation type</i>, summarizes resource effects by foundation</p>

Comment No.	Comment	Response
		type for monopile and piled jacket foundations; mono-bucket, suction bucket jacket, and suction bucket tetrahedron foundations; and gravity-based structure and gravity-pad tetrahedron foundations.
BOEM-2023-0030-1038-0007	In keeping with our efforts to provide facilities to address the needs of commercial fishing and offshore wind we note that in identifying potential port facilities that could support construction or O&M for the project Atlantic Shores failed to recognize New Bedford's second terminal dedicated to offshore wind. The New Bedford Foss Marine Terminal is a private venture that will add another base of operations and terminal logistics facility to support offshore wind projects off Massachusetts and the northeastern coast. The 30-acre site will undergo redevelopment this year and will provide storage and laydown yards for equipment and materials berth facilities for tug and barge operations and host crew transfer vessel (CTV) and service operation vessel (SOV) support services. It will create new office space for project teams and a marine coordination center for technicians involved in offshore wind projects. We encourage BOEM and Atlantic Shores to extensively review both this site as well as the New Bedford Marine Commerce Terminal collectively for a location for construction assembly and fabrication as well as future O&M activities. Both sites are well positioned geographically and provide extensive shoreside support.	Decisions on which ports to use for Project O&M activities is a commercial decision on the part of Atlantic Shores, as reflected in the COP for the Project. BOEM would review the environmental impacts of the Lessee-proposed ports as part of the NEPA review process for the Proposed Action. However, BOEM's action is to determine whether to approve, approve with modifications, or disapprove Atlantic Shores' COP disapprove Atlantic Shores' COP.
BOEM-2023-0030-1223-0003	In addition, we recommend removal of an additional wind turbine generator location to avoid negative impacts to the Atlantic City Reef.	Mitigation measures to mitigate potential impacts of the Proposed Action are included in Appendix G, <i>Mitigation and Monitoring</i> . NMFS has proposed a mitigation measure for Atlantic Shores to remove a single turbine approximately 150–200 feet (45.8–61 meters) from the observed Fish Haven (Atlantic City Artificial Reef Site).
BOEM-2023-0030-1223-0004	We support the use of fewer larger substations versus a larger number of smaller substations to reduce the number of foundations needed and therefore reduce the impacted area.	Atlantic Shores has not made a final decision concerning the number and size of OSSs that would be used for Project 1 or Project 2 or on the type of foundation that would be used for the OSSs for Project 1 or Project 2. The use of small OSSs,

Comment No.	Comment	Response
		<p>medium OSSs, and large OSSs are all included in the PDE and the potential impacts of use of small OSSs, medium OSSs, and large OSSs are all assessed in the EIS.</p> <p>Resource impacts for the OSS foundations are described in Chapter 2 Table 2-5. <i>Resource effects by foundation type</i>. Resource impacts, e.g., seabed disturbance, would depend both on the number and size of the OSS and the type of foundation used for the OSS.</p> <p>BOEM acknowledges the commenter’s support of the use of large offshore Substations.</p>
BOEM-2023-0030-1223-0007	The project design envelope (PDE) is very broad which poses challenges for evaluation of preferred alternatives and impacts analysis. This envelope should be refined prior to publication of the FEIS to focus on likely turbine sizes / sizes foundation types and substation sizes.	BOEM allows lessees to implement a project design envelope (PDE) approach in accordance with BOEM guidance. This PDE concept allows Atlantic Shores to define and bracket proposed Project characteristics for environmental review and permitting while maintaining a reasonable degree of flexibility for selection and purchase of Project components such as WTGs, foundations, submarine cables, and OSSs. BOEM provided Atlantic Shores with the option to submit a COP using the PDE approach—providing sufficiently detailed information within a reasonable range of parameters to analyze a “maximum-case scenario” within those parameters for each affected environmental resource. The maximum case scenario defines the maximum impact for each resource.
BOEM-2023-0030-1223-0017	The PDE and the range of alternatives consider multiple foundation types, cable types, turbine sizes, placement positions for both wind turbine generators and offshore substations, etc. Assessing some of these design choices as separate alternatives (e.g., Alternatives F1-F3) is useful for clearly comparing the relevant tradeoffs. However, the wide PDE results in uncertainty in the actual impacts of the project. We recommend the FEIS consider a narrower design envelope than the DEIS based on developments that will likely occur between now and finalization of the FEIS (e.g., phasing out of smaller turbine sizes decisions regarding	BOEM allows lessees to implement a project design envelope (PDE) approach in accordance with BOEM guidance. This PDE concept allows Atlantic Shores to define and bracket proposed Project characteristics for environmental review and permitting while maintaining a reasonable degree of flexibility for selection and purchase of Project components such as WTGs, foundations, submarine cables, and OSSs. BOEM provided Atlantic Shores with the option to submit a COP using the PDE approach—providing sufficiently detailed information within a reasonable range of parameters to analyze a “maximum-case scenario” within those parameters

Comment No.	Comment	Response
	<p>foundation types and the number and design of offshore substations). In addition to making the project difficult to conceptualize for the public, wide PDEs also pose challenges for federal agency consultations, since it is hard to provide targeted conservation recommendations when a wide range of approaches might be taken to developing the area. The FEIS would benefit from additional details about the offshore project design. The DEIS does not indicate the MW capacity of the turbines that might be used although the maximum physical dimensions provided on Table ES-1 of rotor diameters up to 280 m (page ES-7) corresponds to a massive 18+ MW turbine. [Footnote 3: GE's Haliade-X 12 MW has a 220 m rotor diameter, and the Chinese turbine MySE 16 MW has a 242 m rotor diameter.] Without knowing turbine capacities, it is impossible to know how many positions would be realistically occupied (more specific than the PDE of up to 200 positions), how much cabling will be required and how much habitat loss and conversion would be associated with the project as currently procured or up to the 2837 MW capacity.</p>	<p>for each affected environmental resource. The maximum case scenario defines the maximum impact for each resource.</p> <p>The Preferred Alternative would occur within the range of design parameters outlined in the Atlantic Shores South Construction and Operations Plan (COP), which includes measures that the Applicant, Atlantic Shores, has voluntarily committed to implement to avoid or reduce impacts that would result from the Project. The Preferred Alternative identifies a smaller number of WTGs (195) than that considered in the COP (200) and incorporates other design changes as described in Section 2.1.7 of the Final EIS.</p>
BOEM-2023-0030-1223-0020	<p>The FEIS should be clear about the interarray cable layout that would result from various offshore substation configurations. An indicative cable layout is provided in Figure 4.5-6 of the COP Volume 1 but this accounts for only 3 offshore substations and this does not reflect the range of substation configurations analyzed in the DEIS. Changes to the interarray layout will influence the amount of cabling required and alternative connection configurations between turbines could reduce or increase impacts depending on seabed conditions at different parts of the project area.</p>	<p>The Project grid layout is described in EIS Chapter 2, <i>Alternatives</i>.</p> <p>The lengths (miles) and areas of disturbance (acres) for the Atlantic Shores interarray cables and transmission cables are included in Appendix D, <i>Ongoing and Planned Activities Scenario</i> in Table D.A2-1) and in Table D.A2-2 The Proposed Action would include up to 10 small OSSs, 5 medium OSSs, or 4 large OSSs. The size and location of the OSSs and the layout of the associated interarray cables would be detailed in the Facility Design Report and/or Fabrication Installation Report prior to the start of construction.</p>
BOEM-2023-0030-1223-0022	<p>The DEIS also notes that under all alternatives, the offshore substations would be located along the same east-northeast to west-southwest rows as the wind turbine generators but</p>	<p>BOEM has considered this comment and applying the grid layout to all permanent structures in the offshore Project</p>

Comment No.	Comment	Response
	<p>would be intermediate to two turbine positions resulting in less than 0.6 nautical mile spacing in these cases and obstructing the north to south transit corridors along those two rows of turbines (one row for Project 1 and one for Project 2). The locations considered for the permanent met tower are outside the grid layout in both directions and therefore would obstruct transit in both directions. These offshore substation and met tower grid obstructions are very problematic especially considering the already tight spacing of this project. The grid layout should apply to all permanent structures within the project area not just the wind turbines.</p>	<p>area is included as part of the Preferred Alternative, defined in Section 2.1.7 of the Final EIS.</p>
BOEM-2023-0030-1223-0027	<p>We recommend careful consideration of the environmental impact tradeoffs of using HVDC or HVAC cables. For example, HVDC technology can reduce the number of cables and the width of cable corridors but requires offshore converter stations. We are encouraged to note that Atlantic Shores South intends to use closed loop cooling technologies on offshore converter stations which will avoid entrainment impacts.</p>	<p>Atlantic Shores has indicated to BOEM that Atlantic Shores is exploring the use of closed-loop cooling technologies for offshore HVDC converter stations. If HVDC technology is selected, it is anticipated that a closed-loop cooling system would be utilized, pending technical suitability and commercial availability of the technology. Atlantic Shores has not reached a final decision as to whether HVAC or HVDC systems would be used for the Atlantic Shores South Project.</p>
BOEM-2023-0030-1223-0028	<p>We also recommend careful consideration of the environmental impacts and tradeoffs regarding the different choices for foundation types. We generally prefer design choices that result in the smallest spatial extent of impacts to marine habitats. However as described in the DEIS some foundation types with larger footprints would have lesser sound impacts during construction which is an important consideration for some marine species. We recommend working closely with NOAA Fisheries to determine how to best balance these tradeoffs.</p>	<p>BOEM has considered the information provided in the comment in the selection of the Preferred Alternative.</p>
BOEM-2023-0030-1339-0012	<p>The Proposed Action includes a layout orientation that accommodates the predominant vessel traffic patterns in the lease area. We support this measure but maintain that adequate spacing must be considered given the differing orientation of the abutting lease – Ocean Wind 1.</p>	<p>Chapter 2 includes descriptions of the Proposed Action and Alternatives. Under Alternative E, modifications would be made to the wind turbine array layout to create a 0.81-nautical-mile (1,500-meter) to 1.08-nautical-mile (2,000-meter) setback range between WTGs in the Atlantic Shores South Lease Area (OCS-A 0499) and WTGs in the Ocean Wind</p>

Comment No.	Comment	Response
		<p>1 Lease Area (OCS-A 0498) to reduce impacts on existing ocean uses, such as commercial and recreational fishing and marine (surface and aerial) navigation. Under Alternative E, there would be no surface occupancy along the southern boundary of the Atlantic Shores South Lease Area through the exclusion or micrositing of up to 4 to 5 WTG positions to allow for a 0.81-nautical-mile (1,500-meter) to 1.08-nautical-mile (2,000-meter) separation between WTGs in the Atlantic Shores South Lease Area and WTGs in the Ocean Wind 1 Lease Area. Alternative E is included as part of the Preferred Alternative, which is defined in Section 2.1.7 of the Final EIS.</p>
BOEM-2023-0030-1404-0017	<p>It's widely known that the large blades for the turbines are not recyclable and will most likely end up in a landfill after they are no longer usable. What steps is BOEM taking now to deal with the large amounts of unusable wind turbine blades that will need to be disposed of after the 25 - 30 year life expectancy of these ocean wind turbines? Who is responsible for the long term costs associated with the proper disposal of the blades?</p>	<p>Atlantic Shores has submitted a conceptual decommissioning plan as part of the COP. Specific procedures to be applied to project decommissioning would be determined during BOEM's environmental review of the decommissioning plan. General procedures for decommissioning are described in Section 2.1.2.3, <i>Conceptual Decommissioning</i>.</p> <p>Before decommissioning can occur, Atlantic Shores must submit a decommissioning application and receive approval from BSEE. The decommissioning application must be submitted to BSEE at least two years before the expiration of the lease pursuant to § 285.905. The required contents of the decommissioning application can be found in § 285.906.</p> <p>BOEM anticipates that recycling technologies and commercial recycling capacity will continue to develop in the U.S. over this timeframe. Atlantic Shores' Decommissioning Plan submittal will be subject to environmental review through the NEPA process. The NEPA review of the Decommissioning Plan will examine the impacts of various decommissioning scenarios, including impacts of recycling or other disposition of wind turbine blades.</p> <p>See response to Comment BOEM-2023-0030-0916-0223.</p>

Comment No.	Comment	Response
BOEM-2023-0030-1488-0010	Hurricane Risk. No analysis in the draft EIS of hurricane risk to turbine structures.	See response to comment BOEM-2023-0030-0482-0001.
BOEM-2023-0030-1516-0064	The DEIS contains no analysis of hurricane risk to turbine structures.	See response to comment BOEM-2023-0030-0482-0001.
BOEM-2023-0030-1516-0065	The DEIS lacks analysis of decommissioning impact even for a single turbine as illustrative nor even the technical feasibility of doing it and no binding enforceable penalty mechanism for the European companies to do it when the time comes.	See response to comment BOEM-2023-0030-0916-0221 and BOEM-2023-0030-0916-0223.
BOEM-2023-0030-1516-0121	<p>The ASOW NJ Project DEIS fails to address the information found in the Atlantic Shores COP – construction plan page 111/224 as follows:</p> <p>https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/AtlanticShoresCOPVolume%20I_Project%20Description.pdf</p> <p>The developer is installing 49-foot diameter monopiles and installing 296 foot diameter stone 8 feet deep = 1.3 acres of stone per turbine. This is catastrophic devastating change to the sandy sea floor which the Quahog surf clam and scallops rely on and live in. Per table 4.2-1 in Atlantic Shores Offshore Wind COP *The foundation structure max. foundation footprint is (1,902 sf = 0.4 acres).The permanent seabed disturbance outer diameter /size of scour protection = 269 ft (by 8.2 feet thick!!). 269 feet diameter is a 135 ft radius squared time 3.14 = 57,226 SF / 43,560 sf/acre = 1.3 acres of scour (stone) protection per monopile.</p> <p>Planned turbine installation= Atlantic Shores South 200 turbines Atlantic Shores North 150 turbines Orsted (Ocean Wind 12) 200 turbines 550 turbines x 1.3 acres of stone in just the first 3 lease areas = 715 acres of stone 8.2 feet thick.</p>	<p>The PDE identifies the foundation types that could be used for Atlantic Shores, and the EIS includes impact assessments for each foundation type including, for example, acreage of seabed disturbance by foundation type.</p> <p>Chapter 2 <i>Alternatives</i>, Table 2-5 Resource effects by foundation type, summarizes resource effects by foundation type for monopile and piled jacket foundations: mono-bucket, suction bucket jacket, and suction bucket tetrahedron foundations; and gravity-based structure and gravity-pad tetrahedron foundations, for WTG, OSS, and met tower foundations.</p> <p>Impacts on commercial and recreational fishing are included in EIS Section 3.6.1, <i>Commercial Fisheries and For-Hire Recreational Fishing</i>, including impacts related to installation of foundations and impacts related to presence of hard scour protection around the WTG foundations and transmission cables.</p>

Comment No.	Comment	Response
BOEM-2023-0030-1523-0025	<p>The developer states that transmission cables may be left in place following decommissioning which runs counter to a public statement made by Orsted which asserted that it will “restore the seabed of the site to the original conditions.” 32</p> <p>The County is concerned that the developer does not plan to leave the ocean in the same way it was found and requests that the developer be required to return the waters off of Cape May County to their original condition following the decommissioning of the project. In addition, BOEM should require the developer to hold a bond that guarantees the costs of decommissioning.</p>	<p>See response to comments BOEM-2023-0030-0916-0221 and BOEM-2023-0030-0916-0223.</p>
BOEM-2023-0030-1523-0029	<p>According to the Construction and Operations Plan (COP) provided by Atlantic Shores, across the 200 turbines and 4 large offshore substations as part of just Atlantic Shores South, there will be a total of 2,435,472 gallons of highly toxic and hazardous fluids contained within the offshore structures that are subject to accidents similar to offshore drilling platforms. Each individual turbine consists of as much as 7,881 gallons of diesel fuel, oils, insulants, and coolants. In addition, the 4 large offshore substations include a total of 859,272 gallons of similar fluids. While the safety mechanisms account for the containment of accidental leaks, they do not account for total failure, which could result from high winds from tropical storms, hurricanes, and nor’easters, or allisions with large vessels. Furthermore, as 48 or more offshore windfarms come online many of which are larger than Atlantic Shores South a simple data extrapolation shows that the total exposure of hazardous substances stored offshore within structures will grow to 43 million gallons or more.</p>	<p>Estimates of oil, diesel fuel, coolants, and lubricants contained in WTGs and OSS are presented in EIS Appendix D, <i>Ongoing and Planned Activities</i>, Table D.A2-3 for the proposed Atlantic Shores South Project and other ongoing and planned offshore wind projects. Further details are provided in EIS Section 3.4.2, <i>Water Quality</i>.</p> <p>Regarding severe weather, see response to Comment BOEM-2023-0030-0482-0001.</p>
BOEM-2023-0030-1523-0030	<p>Among the primary reasons for opposition to offshore oil drilling in the Mid-Atlantic are widespread concerns about oil spills and impacts to marine species. [Footnote 40: Grassroots Opposition to Offshore Drilling and Exploration in the Atlantic Ocean and off Florida’s Gulf Coast</p>	<p>See response to comment BOEM-2023-0030-1523-0029.</p>

Comment No.	Comment	Response
	<p>https://usa.oceana.org/climate-and-energy-grassroots-opposition-offshore-drilling-and-exploration-atlantic-ocean-and-3/. Citing the concerns about environmental impacts raised previously in the County’s comments, in addition to the enormous volumes of hazardous fluids contained within each WTG, it is puzzling that Ocean Wind project is viewed any differently than offshore oil and gas drilling especially given the uncertainty of the ability of wind farm arrays to withstand potentially catastrophic hurricane conditions. Such events could litter the County’s shoreline with fiberglass microplastic and other debris alongside hazardous fluids which will be spread far and wide by tides and currents. The DEIS cites ‘accidental releases as potentially unavoidable consequences of the project in Table 4.1-1 potential unavoidable adverse impacts of the proposed action (Atlantic Shores DEIS page 893).</p>	
BOEM-2023-0030-1536-0017	<p>The DEIS proposes connecting the project to shore via two cables along two distinct cable routes one all the way north to Sea Girt. The EIS should explain why the use of multiple cables is necessary and acknowledge that the use of two cable routes greatly increases offshore impacts including habitat disturbance and modification as well as safety concerns for fisheries that use bottom tending mobile gear and cost to consumers.</p> <p>Also the project must remove cables.</p>	<p>The need for multiple cables for the Atlantic Shores South project is described in Chapter 2, <i>Alternatives</i>, of the EIS, specifically in Table 2-6. Due to electrical capacity constraints at the target points of interconnection (POIs), Atlantic Shores determined that two POIs are needed to accommodate the expected amount of electricity that could be generated by Project 1 and Project 2 (estimated to be at least 2.8 GW). Project 1’s nameplate electric generating capacity is 1,510 MW and is associated with the existing Cardiff POI. The existing Cardiff POI ROW does not have the physical capacity to fit the cables for both Project 1 and Project 2, thus additional cable landing location(s) and ROWs would be necessary if both projects were combined into the Cardiff POI. This, in turn, would lead to added expense and delays for Project 2. As described in Chapter 2, the nameplate capacity of Project 2 has not yet been determined, but Atlantic Shores has a goal of 1,327 MW electric generating capacity for Project 2. This 1,327 MW goal aligns with the interconnection service agreement Atlantic Shores intends to execute for both Atlantic Shores projects with the RTO, PJM.</p>

Comment No.	Comment	Response
		See response to comment BOEM-2023-0030-0916-0221 regarding requirements for Project decommissioning.
BOEM-2023-0030-1547-0001	Based on Atlantic Shores' (AS) construction and operation plan (COP) NO draft environmental impact input statement (DEIS) can be finalized because Atlantic Shores does not provide any environmental information or operating parameters such cooling temperatures at the offshore substations. AS doesn't even know how many substations they will be using. They don't state where the cables will be landing or what type of cables will be used. They don't know how many megawatts will be produced at Project 2. How is green energy defined? How can it be green when so many diesel driven vessels will be used on a continuous basis. Are these diesel emissions included in BOEM's impact statement? AS states anywhere from 11-22 vessels just to install these turbines. There is no accounting of marine life loss. There are still too many unknowns that will impact our marine environment.	<p>Atlantic Shores does not have a Power Purchase Agreement (PPA) for Project 2 and therefore the design electric generation capacity has not been established. For proposed projects that do not have a PPA, BOEM identifies the minimum nameplate generation capacity required to remain eligible for a competitive offtake award. This minimum nameplate capacity may be used as the applicant's primary goal. Atlantic Shores has established a target generation capacity of 1,327 MW for Project 2, which aligns with the interconnection service agreements and interconnection construction service agreements Atlantic Shores intends to execute with PJM.</p> <p>Atlantic Shores has not decided whether to use HVAC or HVDC transmission systems. As described in Chapter 2, <i>Alternatives</i>, the Proposed Action includes onshore substations (if high-voltage alternating current [HVAC] export cables are used) and/or onshore converter stations (if HVDC export cables are used), and the interconnection cables linking the onshore substations and/or converter stations to the Points of Interconnection to the existing electrical grid. The EIS includes impact assessments for both HVAC and HVDC systems</p> <p>Atlantic Shores has not decided whether to use small, medium, or large-size OSS. Depending on the final OSS design there would be up to ten small OSSs (five in each project), up to five medium OSSs, or up to four large OSSs in Project 1 and Project 2 combined. Small OSSs would be located at least 12 miles (19.3 kilometers) from shore, whereas medium and large OSSs would be located at least 13.5 miles (21.7 kilometers) from shore.</p>

Comment No.	Comment	Response
		<p>Air emissions from vessel operation for construction and operation and maintenance of the proposed Atlantic Shores South Project are discussed in Section 3.4.1, <i>Air Quality</i>.</p> <p>Impacts to the marine environment from construction and operation and maintenance of the proposed Atlantic Shores South Project are discussed in Section 3.5.2, <i>Benthic Resources</i>, Section 3.5.5, <i>Finfish, Invertebrates, and Essential Fish Habitat</i> Section 3.5.6, <i>Marine Mammals</i>, and Section 3.5.7, <i>Sea Turtles</i>.</p>
BOEM-2023-0030-1556-0012	<p>Only Project 1 of Atlantic Shores South has a power purchaser. It is not clear how this will affect the timing or evaluation of Project 2. Specifically the DEIS notes that Atlantic Shores South has 1,510 MW of power purchase agreements (PPAs) but is “actively seeking additional Offshore Wind Renewable Energy Certificate (OREC) awards or purchase power agreements (PPA) for Project 2.” [Footnote 27: AS DEIS at 1-4.] Thus the amount of energy covered by PPAs is only a little over half of the energy anticipated to be produced by the Projects. [Footnote 28: Atlantic Shores South has a goal of 1,327 MW for Project 2. Id.] It is unclear how the lack of a power purchaser for Project 2’s power will influence the schedule of construction and operation. The Draft EIS currently proposes concurrent construction schedules for Project 1 and Project 2 through all stages of construction except turbine installation and commissioning. [Footnote 29: AS DEIS Table 2-2 at 2-7.] The COP anticipates completion of turbine installation and commissioning in seventeen months beginning in Quarter 2 of 2026 for Project 1 and in Quarter 1 of 2027 for Project 2. [Footnote 30: AS COP Table 4.1-1 at 4-3.] It does not state whether or not the ability to procure an offtake for the energy not yet accounted for by a PPA could influence timing.</p>	<p>The schedule for the installation and commissioning of Project 2 is subject to change and is dependent on multiple factors, including the award of a PPA or a State OREC Solicitation, contractor and supply chain factors, and other considerations. Atlantic Shores recognizes the potential for efficiencies resulting from coordinating the construction of Project 1 and Project 2 and is working to realize these efficiencies to the extent practicable given wider external considerations.</p>
BOEM-2023-0030-1566-0003	<p>Given the newest turbines slated for installation are larger than those in operation study results cited are antiquated!</p>	<p>See response to comment BOEM-2023-0030-0916-0235.</p>

Comment No.	Comment	Response
	Where are those that address the sustainability/longevity of those in fabrication given their proposed high-risk locations?	
BOEM-2023-0030-1572-0005	We are told that wind energy is efficient while simultaneously seeing Siemens fail and while we are told that we need 3,400 turbines spread over 2 million acres of our ocean. How can anything that there need to be 3,400 of be efficient?	The wind energy that would be generated by Atlantic Shores South is intended to replace other sources of electricity, including replacement of non-renewable fossil fuel generation with renewable wind generation. The proposed Atlantic Shores South Project would provide electricity customers in New Jersey with 1,510 MW (Project 1) of electric generating capacity to replace existing electricity generation capacity and to provide generation capacity for anticipated growth in electricity demand in New Jersey.
BOEM-2023-0030-1606-0071	Yet one of the most recent reports by BOEM (BOEM 2022) on offshore wind substations specifically HVDCs states that “innovations in cooling systems are being studied and developed but so far no new systems are tested and available for use on a commercial scale.”[Footnote 57: Bur. Ocean Energy Mgmt. Supporting National Environmental Policy Act Documentation for Offshore Wind Energy Development Related to High Voltage Direct Current Cooling Systems (2022) https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/HVDC%20Cooling%20Systems%20White%20Paper.pdf] Are there similar studies that the Draft EIS used to make this assessment?	Atlantic Shores has indicated to BOEM that Atlantic Shores is committed to evaluating the use of technologies that reduce project environmental impacts and is considering them for use in the proposed Project provided they are technically and economically feasible and are available from reputable suppliers. Atlantic Shores has been in ongoing discussions with OSS suppliers who have confirmed that closed loop technology could be made available for use in offshore HVDC converter stations within the proposed timeframe of the proposed Project. Atlantic Shores has not reached a final decision as to whether HVAC or HVDC systems would be used for the Atlantic Shores South Project.
BOEM-2023-0030-1606-0072	The DEIS fails to assess and review the once-through cooling system as an option most likely the only option for substation cooling systems used for Atlantic Shores South. BOEM should have rejected AA Shores’ stated use of a technology that does not yet exist. The DEIS is incomplete and should include the assessment of the once-through cooling system impact on the project area.	See response to comment BOEM-2023-1606-0071.
BOEM-2023-0030-1622-0002	From your research, how have these 1,000 ft turbines done in a cat. 3 hurricane?	See response to comment BOEM-2023-0030-0485-0001 about testing of WTGs under extreme weather conditions.

Comment No.	Comment	Response
BOEM-2023-0030-1639-0002	What studies have been done (not simulations - actual data) about the sustainability during storms - especially hurricanes?	See response to comment BOEM-2023-0030-0485-0001 about testing of WTGs under extreme weather conditions.
BOEM-2023-0030-1639-0003	What is the voltage leakage from the turbines to the processing facility? What is the anticipated electromagnetic leakage as the insulation on the cable/system deteriorate?	Impacts of Electromagnetic Field (EMF) that would be generated by interarray cables and subsea transmission (export) cables are discussed in Final EIS Section 3.5.5, <i>Finfish, Invertebrates, and Essential Fish Habitat</i> . EMF strength would rapidly decrease with distance from the cables and would therefore mostly be confined to within a few meters of cable corridors. The electric field component of EMF from the cables would be largely or completely contained by the use of cable shielding. The magnetic field component of EMF would not be eliminated by cable shielding or by burying the cables, and would persist continuously over the operating life of the cables.
BOEM-2023-0030-1639-0004	Why are the NJ wind turbines 9 miles off the coast when other places are much further away?	Atlantic Shores has been granted the right to submit a COP for a project located within the geographic area identified as Lease Area OCS-A 0499. Thus, the scope of the EIS, per BOEM's regulations, is to analyze the COP Atlantic Shores submitted for Lease Area OCS-A 0499.
BOEM-2023-0030-1681-0006	What is the decommissioning procedure? Who pays for it?	See response to comments BOEM-2023-0030-0916-0221 and BOEM-2023-0030-0916-0223.
BOEM-2023-0030-1686-0001	So my first question is what is the collective frequency of energy that will be streamlined through the two landfall tables? And then the second is where can I locate the studies demonstrating the research that includes the environmental impact of these high frequency cables in the landfall locations?	<p>Please see EIS Section 3.5.2, <i>Benthic Resources</i>, Section 3.5.5, <i>Finfish, Invertebrates and Essential Fish Habitat</i>, Section 3.5.6, <i>Marine Mammals</i>, and Section 3.5.7, <i>Sea Turtles</i>, under the "Electric and magnetic fields and cable heat" IPF, for discussions on studies on potential EMF impacts to each respective environmental resource.</p> <p>All modeled EMF levels are well below guidelines protective of human health (Appendix G, <i>Mitigation and Monitoring</i>, PUB-14). The electric field from onshore shielded power cables would be blocked by the grounded cable armoring as well as the earth. Therefore, the shielded onshore cables</p>

Comment No.	Comment	Response
		<p>would not be a direct source of any electric field outside of the cables. The magnetic field component of EMF would not be blocked by cable shielding. Atlantic Shores conducted modeling of the magnetic field component for the underground onshore export cables from the landfall to the proposed onshore substation and overhead transmission lines (if required) connecting to the onshore substation (COP Appendix II-I <i>Electromagnetic Frequency (EMF) Report</i>). The modeling results indicate that the maximum modeled EMF strength of 65 ampere per meter (A/m) outside of the onshore cables right-of-way is within the allowable limit (400 A/m) set by the International Commission on Non-Ionizing Radiation Protection (ICNIRP).</p>
BOEM-2023-0030-1697-0001	<p>I think that there has to be some sort of compromise if you want to put them nine and a half miles offshore and the general public would like to see them go to 35 can't we have some sort of compromise and meet somewhere in the middle of that.</p>	<p>Atlantic Shores has been granted the right to submit a COP for a project located within the geographic area identified as Lease Area OCS-A 0499. Thus, the scope of the EIS, per BOEM's regulations, is to analyze the COP Atlantic Shores submitted for Lease Area OCS-A 0499.</p>
BOEM-2023-0030-1699-0004	<p>These blades are made of carbon glass and epoxy based resin and as part of the manufacturer's guidelines they say it needs special care for the workers' safety and protective equipment because of their length awkward shape and fragile to handle. We the people the tax payers of the U.S. need to know the -- how these fragile wind turbine blades are going to hold up in our ocean.</p>	<p>Please see response to comment BOEM-2023-0030-0916-0235.</p>
BOEM-2023-0030-1715-0006	<p>This is not reliable how many gallons of oil does each turbine require? How have they prepared to clean up after a failure? After a catastrophe what have they done to prepare?</p>	<p>Estimates of oil, diesel fuel, coolants, and lubricants contained in WTGs and OSS are presented in EIS Appendix D, <i>Ongoing and Planned Activities</i>, Table D.A2-3 for the proposed Atlantic Shores South Project and other ongoing and planned offshore wind projects. Further details are provided in EIS Section 3.4.2, <i>Water Quality</i>.</p> <p>Atlantic Shores developed an Oil Spill Response Plan (COP Volume I, Appendix I-D) with measure to avoid accidental release and a protocol to respond to such a release. In</p>

Comment No.	Comment	Response
		<p>addition, Atlantic Shores would develop a Stormwater Pollution Prevention Plan and a Spill Prevention, Control and Countermeasure (SPCC) Plan. The SPCC Plan, which is under development by Atlantic Shores, will include a discussion of mitigation for nearby residents and receptors.</p>
BOEM-2023-0030-1723-0003	<p>What are the decommissioning plans? From what I can see there is no clear decommissioning plan so after 25 or 30 years when they are no longer useful what do we do. We have a bunch of wind turbines in the ocean.</p>	<p>See response to comment BOEM-2023-0030-0916-0221.</p>
BOEM-2023-0030-1725-0002	<p>Number four have the proposed turbines been tested or subjected to hurricane conditions with the period of their expected useful lives.</p>	<p>See response to comment BOEM-2023-0030-0485-0001 regarding the testing of WTGs under extreme weather conditions.</p>
BOEM-2023-0030-1729-0005	<p>On shore existing grid and stations can't handle the incoming power at times so that has to be addressed.</p>	<p>As described in Chapter 2 <i>Alternatives</i>, the Proposed Action includes construction of onshore substations (if high-voltage alternating current [HVAC] export cables are used) and/or converter stations (if high-voltage direct current [HVDC] export cables are used), and includes the interconnection cables linking the onshore substations and/or converter stations to the Points of Interconnection to the existing electrical grid.</p> <p>Atlantic Shores plans to enter into interconnection service agreements and interconnection construction service agreements with PJM to fund improvements to the onshore Cardiff and Larrabee substations, along with required grid updates. These agreements are distinct from purchase power agreements (applicable in Connecticut, Massachusetts, and Rhode Island) and Offshore Wind Renewable Energy Certificates (ORECs) (applicable in Maryland, New Jersey, and New York). An OREC represents the environmental attributes of one MWh of electric generation from an offshore wind project. The New Jersey Board of Public Utilities awards ORECs through a competitive bidding process and they represent a long-term contract with the State of New Jersey.</p>

Comment No.	Comment	Response
BOEM-2023-0030-1729-0010	Major damage to ocean wind turbines can occur due to extreme weather of hurricanes Nor' Easter any type of super storm and even just super high winds.	See response to comment BOEM-2023-0030-0482-0001. The 500-year full population tropical cyclone conditions define the robustness level criteria. An additional increase in water level due to (e.g.,) climatic effects is estimated to be 0.3 meters by the end of the operational lifetime of the turbines. This has been included in the design.
BOEM-2023-0030-1733-0002	the aerodynamics of the 400 foot long wind tunnel blades how -- how have we tested to ensure that these blades can withstand hurricane force winds and things like even as simple as large hail storm and heavy rainfall.	See response to Comment BOEM-2023-0030-0485-0001 regarding testing of WTGs under extreme weather conditions.
BOEM-2023-0030-1737-0001	have the turbines been safely tested to withstand our storms and weather?	See response to Comment BOEM-2023-0030-0485-0001 regarding testing of WTGs under extreme weather conditions.
BOEM-2023-0030-1758-0002	Do the windmills cause the water temperature to rise? Do the windmills increase humidity? Do the windmills cause pollution? What is the reliability of the windmills? In other words do they breakdown often?	<p>Wind turbines extract kinetic energy from the atmosphere and thus can reduce wind speeds downwind of the turbine. Wind turbines increase vertical mixing in the atmosphere and thus can increase (or decrease) air temperatures and humidity downwind depending on local meteorological conditions. However, these effects dissipate with distance downwind. Because of the distance of the Project from land (approximately 16 miles from the center of the WTG array), substantial effects on wind speed, temperature and humidity are unlikely to occur over land.</p> <p>The EIS covers the effects from the presence of wind turbines on water quality under the presence of structures IPF in Sections 3.4.2.3 and 3.4.2.5; the analysis includes effects on water temperature and turbulence. The analysis is based on extensive modeling BOEM conducted in the mid-Atlantic Bight—<i>Hydrodynamic Modeling, Particle Tracking and Agent-Based Modeling of Larvae in the U.S. Mid-Atlantic Bight</i>. Details can be found in the report here: https://epis.boem.gov/final%20reports/BOEM_2021-049.pdf.</p>

Comment No.	Comment	Response
		<p>Air emissions from construction and operation of the Proposed Action are reported in Section 3.4.1, <i>Air Quality</i> and Appendix D, <i>Ongoing and Planned Activities Scenario</i>, Table D.A2-4. Most air pollutant emissions and air quality impacts from the Proposed Action would occur during construction, including nitrogen oxides (NOx), particulate matter (PM), and volatile organic compound (VOC) emissions from operation of vessels and other construction equipment. Air emissions would also occur from vessels used during operation and maintenance of the Atlantic Shores installation.</p> <p>The WTGs and OSSs are self-contained and do not generate wastewater discharges under normal operating conditions. In the event of a spill related to an allision or other unexpected or low-probability event, impacts on water quality from discharges from the WTGs or OSSs during operation would be short term.</p> <p>See response to Comment BOEM-2023-0030-0916-0235 regarding reliability of WTGs.</p>
BOEM-2023-0030-1775-0002	<p>And further I would like to know who is going to be responsible for decommissioning these turbines after 30 years. 30 years is not a long time 30 years is not a permanent solution 30 years is nothing so at the end of the 30 years who at the end of two years when one of them breaks who is going to be responsible for decommissioning because from what I have read the developers are trying to pass off that responsibility so presumably that will fall on tax payers or it won't be managed at all and we will have a graveyard of broken turbines in our oceans.</p>	<p>See response to comments BOEM-2023-0030-0916-0221 and BOEM-2023-0030-0916-0223.</p>
BOEM-2023-0030-1778-0003	<p>Additionally we would advocate for the suction bucket or the gravity based foundations for both Atlantic Shores leased site projects. Additionally we ask BOEM to choose an onshore cable route with the most minimal impacts to green or blue</p>	<p>BOEM has considered the information provided in this comment in the selection of the Preferred Alternative.</p>

Comment No.	Comment	Response
	acres designated areas and to minimize impacts to bringing transmission on shore.	Atlantic Shores will work with the Green Acres Program, State Historic Commission, and NJDEP to ensure compliance with all applicable regulations.
BOEM-2023-0030-1798-0004	specifically what are the shock hurricane and earthquake ratings for these monopiles and what are they for the tubes the different equipment that will be transporting the coolant chemicals oil all through out these substations and these sky scraper tall turbine units. Who rated them?	See response to comment BOEM-0030-0482-0001
BOEM-2023-0030-1798-0005	Furthermore, what is the exact supply chain of each component that goes into these turbines monopiles and substations? Not where they are assembled necessarily but what is the origin of the materials what is the carbon output for each material.	<p>Atlantic Shores intends to use the 5 ports listed below to supply components for Project construction.</p> <ul style="list-style-type: none"> • New Jersey Wind Port • Paulsboro Marine Terminal • Portsmouth Marine Terminal • Repauno Port & Rail Terminal • Port of Corpus Christi <p>Atlantic Shores does not anticipate using the Port of Corpus Christi to support Project operation and maintenance, but plans to use the other four ports to support Project O&M. Components for the wind turbine installations would be sourced domestically or internationally. Atlantic Shores anticipates that major components of the wind turbine installation would be sourced internationally. In their comment letter on the Draft EIS, Atlantic Shores stated they had selected the Vestas-236 15 MW turbine as the WTG for Project 1, though that is subject to change Atlantic Shores has not made final decisions concerning major components design, e.g., the foundation types for the WTGs, OSS, and met tower have not been finalized. The selection of major components would affect the characteristics of the supply chain for the Project.</p>
BOEM-2023-0030-1815-0009	The DEIS mentioned 8 underwater targets in the Wind Turbine Area (6 in Area One and 2 in Area Two) and 4 within the Atlantic offshore export cable corridor and 9 within the	Figure 2-1 in Chapter 2, <i>Alternatives</i> , illustrates the Project area, Lease Area, WTG layout, transmission (export) cable routes from the Lease Area to shore, and onshore cable and

Comment No.	Comment	Response
	<p>offshore Monmouth export cable a staggering 61- mile long cable. Since there are 200 planned wind turbines in Area One and Two there will be 200 cables laid all going to a substation. Atlantic Shores might consider buoying targets with strict orders to barge captains to stay a long way from any buoy during the cable laying phase</p>	<p>substation locations. As shown, there are two export cable corridors included in the Project design, one that would make landfall in Monmouth County and connect to the existing Larrabee substation, and one that would make landfall in Atlantic County and connect to the existing Cardiff substation.</p> <p>Within the Lease Area, interarray cables connect the WTGs to the OSS. The interarray cables and export cables would be buried in the seabed to a target cable burial depth of 5 to 6.6 feet (1.5 to 2.0 meters) and would not pose an impact to navigation.</p>
<p>BOEM-2023-0030-1815-0029</p>	<p>What also annoyed me is that I couldn't even find a rough or general description of the coordinates for the Wind Turbine Area in the DEIS (0499). The shape of the WTA does not facilitate giving coordinates. Why that odd shape? Coordinates for the Export Cables are also not apparent in the DEIS. Commercial fishermen will need to know the exact coordinates of any export cable.</p>	<p>Coordinates would be detailed in the Facility Design Report and/or Fabrication Installation Report prior to the start of construction.</p>
<p>BOEM-2023-0030-1820-0003</p>	<p>conflicting data about the size number and distance of windmills from the shore has come to light.</p>	<p>Table 2-1 in Chapter 2 of the EIS describes the number of WTGs and OSSs for the Atlantic Shores South Project. The Atlantic Shores South Project would include up to 200 total WTGs (between 105 and 136 WTGs for Project 1, and between 64 and 95 WTGs for Project 2), up to 10 OSSs (up to 5 in each Project), up to 1 permanent met tower, and up to 4 temporary meteorological and oceanographic (metocean) buoys (up to 1 met tower and 3 metocean buoys in Project 1, and 1 metocean buoy in Project 2).</p> <p>In EIS Chapter 2, <i>Alternatives</i>, Figure 2.1.1 shows the proposed Project area, Lease Area, and layout of the WTGs. The small OSSs would be located at least 12 miles (19.3 kilometers) from shore, whereas medium and large OSSs would be located at least 13.5 miles (21.7 kilometers) from shore. The Lease Area is 8.7 miles (14 km) from shore at its closest point. Alternatives D1, D2, and D3 analyze the</p>

Comment No.	Comment	Response
		exclusion of WTGs sited up to 12 miles (19.3 km), 12.75 miles (20.5 km), and 10.8 miles (17.4 km) from shore, respectively. Further information is included in EIS Chapter 2, <i>Alternatives</i> .
BOEM-2023-0030-2014-0003	Additionally the Draft Environmental Impact Statement fails to address recently based questions as to how these huge wind turbines proposed to be located in an area near our nation's busiest port and directly in major shipping lanes could survive significant and regular winter storms and hurricanes. Obviously the frequent North Atlantic massive winter storms level the ferocity and strength of hurricanes. So too however the proposed locations of the above referenced specific wind farm project and all the other wind farms off of the New Jersey coast lie directly in the frequent path of virtually all of our country's eastern seaboard hurricanes regularly taking place during the just started hurricane season itself.	See response to comment BOEM-2023-0030-0485-0001 regarding testing of WTGs under extreme weather conditions.
BOEM-2023-0030-2014-0010	The current wind farm construction proposals also minimize if not ignore the fact that the proposed location of the lease areas for these massive industrial sites occurs in one of the prime hurricane zones which has been subject to ever worsening storms over the last decade. What effects have been studied as to the impact of locating these gigantic wind turbines in highly congested shipping lanes thereby causing danger to whales and also creating navigational obstacles and hazards? With the potential for even one inevitable catastrophic storm event has scientific review or evaluation been applied as to hypothetical environmental mishaps if not total environmental disasters? The full range of scientific inquiry including establishing sound diversity and ecosystem baselines engaging in historic projected pilot studies of the full range of impacts upon ecological fishing coastal economy and all ocean resources is called for. Such science must also be applied in light of the sustainable seafood resource this particular region of the world presents literally to feed millions of people on a yearly basis!	See response to comment BOEM-2023-0030-0485-0001 regarding testing of WTGs under extreme weather conditions.

Comment No.	Comment	Response
BOEM-2023-0030-0472-0001	The Atlantic Shores Offshore Wind Project 1 and 2: These projects have to use the environmentally- friendly and less-costly "shared regional planned approach" re: transmission grid. 22 1> The UK and the Netherlands have begun to discuss a shared transmission grid between the two countries. Attached is the detailed information. The UK-Netherlands effort is an excellent example of a consolidated cooperative and coordinated multinational shared transmission grid. If two European countries can make it happen the individual US developers for offshore wind can use this approach. This will better protect the marine environment and the marine life.	BOEM does not have the authority to require applicants to use shared transmission equipment. Applicants could reach contractual agreements regarding shared equipment of their own accord, however, BOEM cannot require applicants to engage in such agreements.
BOEM-2023-0030-1681-0003	What is the historical data of the actual blade life of UAO turbines?	See response to comment BOEM-2023-0030-0916-0235 regarding reliability of WTGs.
BOEM-2023-0030-1783-0003	... as one individual also mentioned the studies that have taken place to secure whether or not these turbines are able to withstand some of the hurricanes that we have experienced off the Jersey Shore	See response to comment BOEM-2023-0030-0485-0001 regarding testing of WTGs under extreme weather conditions.

N.6.23 Mitigation and Monitoring

Table N.6-23. Responses to Comments on Mitigation and Monitoring

Comment No.	Comment	Response
BOEM-2023-0030-0003-0002	Using ecological concrete as a mitigation measure and design alternative supports compliance with strict environmental regulations. The term "ecological concrete" is an alternative to traditional concrete that's material composition enhances or encourages the growth of flora or fauna when placed in the marine environment. Ecological concrete may include recycled materials such as recycled or reclaimed concrete resulting in reduced greenhouse gas emissions compared to traditional concrete.	Thank you, BOEM acknowledges this comment.

Comment No.	Comment	Response
BOEM-2023-0030-0916-0086	The DEIS does not provide opportunity for any mitigation through a turbine exclusion zone by essentially filling the entire lease area with turbines and allowing for no alternative power level to reduce the turbine number or size.	A turbine exclusion zone has not been proposed by Atlantic Shores, BOEM, or NMFS. Such a mitigation measure is not part of the Proposed Action and has not been considered in the impact determinations presented in the EIS.
BOEM-2023-0030-0916-0247	For marine mammals as an example the proposed mitigation measures Table 3.5.6–15 present no measures at all but just a list of plans to be prepared that presumably will contain measures. NEPA rule §1508.1 and §30CFR585.105(a) do not ask for a plan but for actual concrete measures that will avoid or minimize harm. Such concrete measures should have been presented in the DEIS for public scrutiny of these critical actions.	While the mitigation measures in Table 3.5.6-14 do include the preparation of four monitoring plans, the remaining measures are not plans. Additionally, once the required plans are prepared, submitted, and approved by the appropriate agencies, Atlantic Shores will be required to implement these plans, which will include additional measures.
BOEM-2023-0030-0916-0248	Monitoring zones for vessel surveys should also have been specified in the DEIS as well as a prohibition on geophysical surveys during certain periods of the year with high whale presence particularly during the high migratory months for the right whale. Those monitoring zones will be substantially greater than the 500 meters that has been pursued at other sites. Table 3.5.6–9 of the DEIS identifies a distance for Level A injury to low frequency cetaceans from cumulative energy exposure from pile driving of 3590 meters for no source attenuation and 1830 meters for 10 dB source attenuation. As discussed in 1.3 bubble curtains are not effective in attenuating low frequency noise so monitoring zones would be on the order of 3600 meters. For the right whale based on Table 34 of the Atlantic Shores South Acoustic and Exposure Modeling Report by Jasco Applied Sciences March 312023 it would require 2640 meters of space for the right whale to avoid injury. For vessel surveys a comparable monitoring zone of 2500 meters is needed as shown in Table 4.1 in Enclosure I for a Dura Spark 240 unit with 15 dB noise transmission loss. Therefore monitoring zones above 2500 meters will be needed.	As specified in Appendix G, <i>Mitigation and Monitoring</i> , LOA-22, the shutdown zone for NARW for HRG equipment, which would be visually monitored during vessel surveys, is 1,640 feet (500 meters). This shutdown zone is mandated by NMFS through consultation under the ESA and MMPA. Table 3.5.6-10 has been updated to provide exposure ranges for all low frequency cetacean species. The 1,830 m distance is for fin and sei whales. The range for NARW is significantly smaller (720 m). Atlantic Shores has committed to implementing a noise attenuation system that achieves a 10 dB reduction, though a specific noise attenuation system has not yet been selected for the Project. Bellmann et al. (2020) demonstrated that multiple noise attenuation systems, including big bubble curtains, are capable of noise reductions of at least 10 dB. Therefore, acoustic modeling results based on 10 dB attenuation are valid for the Project. Table 34 of the acoustic modeling report (COP Appendix II-L1) does not provide ranges but take estimates. Clearance and shutdown zones for the Project are identified in NMFS' (2023) proposed rule for <i>Taking Marine Mammals Incidental to the Atlantic Shores South Project Offshore of New Jersey</i> . Based on review of the commenter's letter, their understanding of the physics that govern that transmission of

Comment No.	Comment	Response
		sound underwater is flawed, resulting in inaccurate calculations of noise isopleths for noise producing activities (e.g., vessel surveys).
BOEM-2023-0030-0916-0249	<p>Additionally, given these large monitoring zones the emphasis in Table 3.5.6–15 on visual observation is entirely misplaced. The limitations on visual detection of marine mammals have been well documented e.g., see the World Wildlife Federation Report Titled Reducing Impacts of Noise from Human Activities on Cetaceans 2014 Section 5. Visual monitoring would seem especially unreliable for vessel survey activities that continue year-round and at night and now that the need for monitoring zones much greater than 500 meters has been identified. A two-year comparison of visual and acoustic detection in the study titled A Comparison of Visual and Acoustic Autonomous Monitoring Methods for Investigating Temporal Variation in Occurrence of Southern Right Whales dated November 2017 showed that a PAM system was six times more effective in identifying whale presence than visual methods.</p>	<p>Atlantic Shores will be required to conduct passive acoustic monitoring to supplement visual observers (i.e., PSOs) during some construction activities. See Appendix G, <i>Mitigation and Monitoring</i> of the EIS, as well as the Biological Assessment for the Project, for more detailed descriptions of the mitigation measures for marine mammals.</p>
BOEM-2023-0030-1038-0005	<p>It is vitally important to the City and Port of New Bedford that the mitigation measures included in any EIS or COP issued in connection with the Project include mitigation to fishermen shoreside businesses and communities based upon the area where the actual impact is felt not simply on geographic proximity to the Project. To that end any analysis or model should focus on the impact to those ports that have historically fished in or near the project area and outside the project area where the actual product is landed and processed.</p> <p>It is also crucial that any mitigation address the economic impact throughout the 30-year life of the project. Many developers are setting up compensation plans that propose only a one-time payment to displaced fishermen or shoreside businesses. The economic impact of these projects will likely be felt throughout the life of the project. The</p>	<p>Section 3.6.3 <i>Demographics, Employment and Economics</i> discusses the Project’s potential impacts to the local and regional economies, which includes commercial and for-hire recreational fishing. Impacts to fishing are discussed in Section 3.6.1 <i>Commercial Fisheries and For-Hire Recreational Fishing</i>.</p> <p>The compensation fund will be based on both the Section 3.6.1, <i>Commercial Fisheries and For-Hire Recreational Fishing</i> analysis of revenue exposure of fishing vessels operating in the Lease Area (e.g., Table 3.6.1-15) and a separate analysis of impacts to shoreside support services, which will be conducted by Atlantic Shores (see Table 3.6.1-39).</p> <p>For long-term impacts during the operation of the Proposed Action, BOEM recommends that, at minimum, lessees</p>

Comment No.	Comment	Response
	assumption that the fishermen or businesses will simply "adapt" is flawed and will severely impact fishermen and the families and communities that rely on them.	consider the following payment structure be available for claimants: 100 percent of revenue exposure for the first year after construction, 80 percent of revenue exposure 2 years after construction, 70 percent of revenue exposure 3 years after construction, 60 percent after four years, and 50 percent after five years post construction. Compensatory mitigation beyond 5 years post-construction may be necessary and should be evaluated based on the activities proposed in the COP.
BOEM-2023-0030-1038-0006	The Atlantic Shores Fisheries/Mitigation Fund and Charter based on the exposed impact report that will be submitted to BOEM after the comment period established should also encourage economic investment in those places that are most heavily reliant on the fishing industry as a means of offsetting lost economic activity and opportunity.	The fisheries compensation fund will be based on direct losses occurring from displacement of fishing activity in the Lease Area and indirect losses from shoreside seafood businesses. Fishing ports that have higher levels of revenue exposure in the Lease Area will receive higher levels of economic investment in the form of compensatory payments to fishing vessel operators and shoreside seafood businesses.
BOEM-2023-0030-1223-0008	If additional mitigation measures will be required beyond those agreed to by the developer the FEIS should identify which are assumed for the purpose of impacts determinations.	BOEM has considered all proposed mitigation measures listed in the Draft EIS and identified during the public comment period for inclusion in the Final EIS. Based upon the analysis in the Final EIS, the BOEM decision maker will select the mitigation measures to be required in the Record of Decision.
BOEM-2023-0030-1223-0011	Given the current pace of offshore wind energy development in this region combined with workload constraints we are unable to provide a detailed review of this project and the DEIS. The analysis in the DEIS has important ramifications for terms and conditions which may be implemented through final project approval including fisheries mitigation and compensation measures. With this in mind we strongly encourage BOEM to consider the recommendations listed in the wind energy policies adopted by both Councils which apply across all projects. [Footnote 2: Available at https://www.mafmc.org/s/MAFMC_wind_policy_Dec2021.pdf] Our two Councils worked together on and adopted the same wording for these policies.	BOEM has reviewed MAFMC's wind energy policies and has determined that the EIS is consistent with these policies.

Comment No.	Comment	Response
BOEM-2023-0030-1223-0015	We also suggest expanding on the terms biodiversity and ocean co-use to make it clear that the project will avoid risks to the health of marine ecosystems ecologically and economically sustainable fisheries and ocean habitats. BOEM should clearly acknowledge that if these risks cannot be avoided they should be minimized mitigated and compensated for.	Many best practices are described in Appendix G, <i>Mitigation and Monitoring</i> , regarding benthic and shellfish, fish and invertebrates, wetlands and waterbodies, coastal habitats, and sea turtles, among others.
BOEM-2023-0030-1223-0038	Mitigation measures are necessary to reduce the potential negative environmental and socioeconomic impacts of the Atlantic Shores South project. The recommendations outlined in our offshore wind energy policies referenced above should be reflected as terms and conditions for approval of the project. We provided a separate comment letter on the draft Guidelines for Mitigating Impacts to Commercial and Recreational Fisheries. ⁴ These comments supported many of the mitigation measures recommended in BOEM’s draft guidance. We recommend that all final mitigation guidelines be reflected in terms and conditions for BOEM’s approval of this project. This is especially important given the DEIS does not firmly commit to any mitigation measures although developer-proposed measures are denoted separately in Appendix G (Table G-1 page G-2) and the impacts of these measures are evaluated as part of the proposed action. The FEIS should clearly indicate which mitigation measures will be required including those proposed by the developer and those required by other agencies and how they affect the impacts determinations.	Mitigation measures are included in Appendix G, <i>Mitigation and Monitoring</i> , and each Chapter 3, <i>Affected Environment and Environmental Consequences</i> , resource section analyzes the effects of the mitigation measures proposed by BOEM. Based upon the analysis in the Final EIS, the BOEM decision maker will select the mitigation measures to be required in the Record of Decision.
BOEM-2023-0030-1223-0039	Some minor formatting changes to Appendix G would improve readability. Tables G1 and G2 have identical formatting and it is hard to tell at a glance if the measures on a specific page are developer-proposed (Table G1) or otherwise being considered by BOEM (Table G2). Repeating the header on each page would help. A listing of the meaning of the Measure Number codes (GEO AQ BAT WET) would also be useful.	Thank you, BOEM acknowledges this comment. BOEM will consider revisions to the tables. However, the column header, which is repeated on each page, for each table in Appendix G, <i>Mitigation and Monitoring</i> , states whether the measure is applicant-proposed or agency-proposed.

Comment No.	Comment	Response
BOEM-2023-0030-1223-0040	The Councils are supportive of time of year restrictions to reduce potential impacts to sensitive life stages of fishery species to reduce impacts to fisheries and to avoid impacts to submerged aquatic vegetation and other structured habitats throughout the project area and cable route. The DEIS indicates that the developer has agreed that some time of year restrictions may be required specifically Measure Number COA-06 in Table G-1 on page G-10 notes that “time of year restrictions for construction will be followed as required through permitting and resource agency consultation”. Further detail should be provided in the FEIS on specific time of year restrictions what exactly these measures would achieve and any monitoring measures that would be in place. We recommend working with NOAA Fisheries on impact determinations and identification of sensitive habitats and fishing periods to avoid as ways to mitigate impact.	Any additional information on time of year restrictions and monitoring measures resulting from the ESA and EFH consultations are included in the Final EIS. Required measures will be specified in the Record of Decision and terms and conditions of COP approval.
BOEM-2023-0030-1223-0041	The DEIS notes that the Mid-Atlantic and New England Councils previously recommended removal of one wind turbine generator location to avoid negative impacts to the Atlantic City Reef an important recreational fishing area.5 The DEIS states that “BOEM determined that this alternative would be more suitable to address as a Project mitigation measure” (DEIS page 2-49). This is logical given that it affects just one turbine location. To reiterate our previous comments, we support removal of this turbine location as a mitigation measure.	BOEM acknowledges your support for this mitigation measure.
BOEM-2023-0030-1223-0042	The DEIS states that burial of the proposed export cables would target a depth of 5 to 6.5 ft (Measure Number BEN-03 page G-13) and that the export cable design would include a monitoring system to “detect anomalous conditions insufficient or excess cable depth or potential cable damage” (Measure Number OCE-05 page G-5). The Councils have not endorsed a specific cable burial depth but rather have recommended depths that are adequate “to reduce conflicts	The CBRA (Appendix II-A5 of the COP) determined that the most significant threat of cable interaction among the regional fishing industry comes from the surf clam fishery, which uses hydraulic dredges that generate trenches penetrating 0.66 to 1 feet (0.2 to 0.3 meters) into the seabed (NEFMCHPDT 2009; Stevenson et al. 2004). The CBRA also notes that New Jersey Administrative Code §7:7-12.21 recommends burial of submerged cables to a depth of at

Comment No.	Comment	Response
	<p>with other ocean uses including fishing operations and fishery surveys and to minimize effects of heat and electromagnetic field emissions” (from the BOEM Draft Fisheries Mitigation Guidance). Assuming a depth of 6 feet is sufficient to address these objectives we recommend the FEIS include this target burial depth as the minimum end of the range. We also recommend explaining more details on the type and frequency of monitoring for burial depth.</p>	<p>least 4 feet (1.2 meters) in areas where marine fish and invertebrates are commercially harvested using mobile bottom-tending gear. The target depth of 5 to 6.6 feet (1.5 to 2 meters) provided in the EIS meets this recommendation and is expected to be sufficient to minimize the risk of interactions with fishing gear. (BEN-03 erroneously states 5 to 6.5 feet, when it should state 5 to 6.6 feet; text has been corrected).</p> <p>An additional paragraph has been added to Section 3.6.1.5 under the “Cable emplacement and maintenance” IPF to discuss cable monitoring activities.</p>
BOEM-2023-0030-1223-0043	<p>Impacts of electromagnetic fields (EMF) on fishery species are a concern to the fishing community. For example, studies have suggested that EMF can result in changes in behavior movement and migration for some demersal and pelagic fish and shellfish species.⁶ The DEIS notes that BOEM will require appropriate shielding and burial and that cable bundling can be used to reduce magnetic field intensity and effects (page 3.5.2-17). The extent to which EMF may or may not impact marine species including the differences between different types of cables and how they would be installed for this project must be thoroughly described in the FEIS. We recommend describing EMF mitigation measures in the alternatives and/or in Appendix G; we only found reference to these issues in the environmental consequences section of the DEIS.</p>	<p>Appendix G, <i>Mitigation and Monitoring</i>, includes the following mitigation measures that are relevant to EMF:</p> <p>Project cables would be buried to a target depth of 5 to 6.6 feet (1.5 to 2.0 meters) (BEN-03, GEO-07, FIN-03; Appendix G, Table G-1).</p> <p>Atlantic Shores would institute a cable monitoring system that would monitor if buried cable depth is sufficient and include acoustic sensing and monitoring of distributed temperature and discharge (OCE-05, PUB-13; Appendix G, Table G-1). An additional paragraph has been added to Section 3.6.1.5 under the “Cable emplacement and maintenance” IPF to discuss cable monitoring activities.</p>
BOEM-2023-0030-1223-0044	<p>Appendix G of the DEIS states that cable protection measures “will be limited...and will be designed to minimize effects on fishing gear to the maximum extent practicable and fishermen will be informed of the areas where cable protection is installed” (page G-27). The details of these protection measures are not specified in Appendix G. Section 2 of the DEIS which describes the alternatives considered does not appear to detail specific cable protection materials.</p>	<p>Additional text has been added to Chapter 2, <i>Alternatives</i>, to describe the cable protection materials under consideration.</p>

Comment No.	Comment	Response
	<p>These materials are listed in Section 3 as (1) rock placement (2) concrete mattresses (3) rock bags (4) grout-filled bags and (5) half-shell pipes (page 3.5.2-16). The materials under consideration should be noted in Section 2 when the proposed action is described. Per the Councils' offshore wind energy policy we recommend that if cable armoring is needed the materials should be selected based on value to commercial and recreational fish species. Natural materials or materials that mimic natural habitats should be used whenever possible. These materials should not be obtained from existing marine habitats and must not be toxic.⁷ These recommendations also apply to scour protection placed around foundations. Different protection materials may have distinct environmental impacts.</p>	
BOEM-2023-0030-1223-0045	<p>We recommend developing a clear strategy for boulder relocation that is protective of habitats in the area potentially relocating them to soft bottom directly adjacent to existing hard bottom areas. We also recommend this type of seabed clearance be done during times of year that minimize direct impacts to spawning seasons of vulnerable finfish species. Mobile gear fishing activity should also be considered when planning specific placement options. Relocation areas with similar habitat impacts might have higher or lower potential for conflict with trawling and dredging activities. Recreational fishermen often fish on boulder habitats. Maps of boulder relocation sites should be made available to recreational and commercial fishing communities and others.</p>	<p>As provided in Section 3.6.1.9, Atlantic Shores will develop and implement a boulder relocation plan to ensure potential impacts to essential fish habitat and commercial and recreational fisheries are adequately minimized.</p>
BOEM-2023-0030-1223-0046	<p>Appendix G describes various measures to mitigate impacts on aviation and radar (page G-33 and G-34). While the fishing industry has proven adaptable in the face of change more deliberate mitigation measures that support vessel radar upgrades could minimize impacts to fishermen and others navigating through and around the project area. An adaptation fund is included within the mitigation measures identified in the Empire Wind DEIS. We recommend a similar</p>	<p>Atlantic Shores is aware of the adaptation fund identified in the Empire Wind EIS and is evaluating potential implementation of such a fund in combination with the other fisheries mitigation measures that are currently under consideration.</p>

Comment No.	Comment	Response
	fund for Atlantic Shores South to support vessel radar upgrades and training to help minimize impacts to fisheries and others navigating through and around the project area.	
BOEM-2023-0030-1223-0047	Unexploded ordnances (UXOs) can be uncovered during site preparation activities. Exposed UXOs present a significant risk to mariners especially those towing mobile gear that could bring UXO to the surface. We found no references to UXO in the main body of the DEIS except for a note in Section 3 that detonation of UXO is among the activities that will generate noise and no references at all in Appendix G. We recommend that the terms and conditions specify that developers are responsible for the safe disposal of UXO exposed due to construction activities. This is an important aspect of mitigation. Our understanding is that some UXOs might be detected via surveys but are not exposed; in such cases only mariner notification may be sufficient given disposal may present greater risks. Clear timely and repeated communication about UXO locations and any changes in the location or status of UXOs is essential and should not rely only on email notifications.	Please see Section 3.6.7.1 “Description of the Affected Environment and Future Baseline Conditions”. This section more broadly covers munitions and explosives of concern (MEC) which is inclusive of UXOs. Atlantic Shores commissioned MEC Hazard Assessment and Risk Assessment studies that determined that MEC in the Offshore Project Area is within low hazard zones. The risks of encountering MECs in the Offshore Project Area are below the industry standard of “As Low as Reasonably Practicable”. As a mitigation measure, the studies recommend that Atlantic Shores not use high-resolution magnetometry surveys to detect buried items.
BOEM-2023-0030-1223-0048	There are no specific compensation funds noted in Appendix G. Table G2 which outlines mitigation measures BOEM may require notes that the lessee would have one year from COP approval to establish a compensatory mitigation fund. The details of this fund including the amounts that will be set aside are essential information to include in the FEIS. We support these types of compensation measures but emphasize that fishermen from multiple states fish in the project area and compensation for these individuals may also be needed. We support the use of regional rather than state-specific compensation funds for fisheries impacts.	BOEM has proposed a mitigation measure that would require Atlantic Shores to establish a fisheries compensation fund (see Table 3.6.1-39). The fund will be consistent with BOEM’s draft Guidance for Mitigating Impacts to Commercial and Recreational Fisheries on the Outer Continental Shelf Pursuant to 30 CFR Part 585. The amount of the fund will be based on the revenue exposure analysis provided in Section 3.6.1, <i>Commercial Fisheries and For-Hire Recreational Fishing</i> , (e.g., Table 3.6.1-15) and a separate analysis of impacts on shoreside seafood businesses that Atlantic Shores will be required to conduct. The specific details regarding the amount of the fund and the administration of the fund will be included in the Fisheries Mitigation Plan for Atlantic Shores South.

Comment No.	Comment	Response
BOEM-2023-0030-1257-0009	Robust monitoring data collection and reporting is essential to evaluating impacts of offshore wind projects on marine coastal and avian wildlife. Atlantic Shores South should be required to employ pre-construction construction and post-construction monitoring.	BOEM-proposed mitigation to reduce impacts on marine mammals, sea turtles, and fish, including impacts related to underwater noise, is outlined in EIS Appendix G, <i>Mitigation and Monitoring</i> , and in BOEM’s BA. Atlantic Shores also has proposed measures to avoid and minimize impacts on marine mammals from underwater noise and vessel strike, as described in Appendix G, Table G-1 and the NMFS BA. The Final EIS incorporates the results of BOEM’s consultation with NMFS under the ESA for ESA-listed marine mammals, sea turtles, and fish.
BOEM-2023-0030-1257-0011	BOEM should require Atlantic Shores South to pursue studies to further strike avoidance mitigation methods to ensure that migratory species like bats birds and other offshore wildlife are protected especially as technologies advance. BOEM should explicitly require Atlantic Shores South to commit to deploying collision detection technology once commercially available	BOEM is in agreement that protective measures and practices will need to evolve as our knowledge base and technology continues to advance. It is BOEM’s expectation that will be the case, and in many instances BOEM is requiring the Applicant to do so. The Applicant is required to develop and implement a Bird and Bat Monitoring Plan (BBMP) in coordination with USFWS and other relevant regulatory agencies. This measure is included as an applicant-proposed measure in the Final EIS (BIR-16 and BAT-13, in Table G-1 of Appendix G, <i>Mitigation and Monitoring</i>). Annual monitoring reports will be used to determine the need for adjustments to monitoring approaches, <i>consideration of new monitoring technologies</i> , and/or additional periods of monitoring. New monitoring technologies could include collision detection technologies, if they become commercially available and are deemed suitable for the project.
BOEM-2023-0030-1312-0001	Moreover micro-siting techniques can further minimize the project’s environmental footprint while ensuring the preservation of jobs and other associated advantages during the construction phase.	Comment acknowledged.
BOEM-2023-0030-1339-0010	Given the level of disruption OSW development will cause to the local environment and the existing industries that rely on it comprehensive mitigation strategies are essential. Collaborative layout planning while critical to reducing some impacts cannot fully mitigate all avoidable conflicts. Full-scale	Many best practices are described in Appendix G, <i>Mitigation and Monitoring</i> , regarding benthic and shellfish, finfish and invertebrates, wetlands and waterbodies, coastal habitats, and sea turtles, among others to create an adaptive ecosystem-based management approach.

Comment No.	Comment	Response
	<p>mitigation must be required as part of this process. This would include environmental mitigation particularly full decommissioning (not conceptual as BOEM refers to decommissioning) where the environment is restored to its original state at the end of the lease period including removal of all cables gravity bases turbine components and protection methods.</p>	<p>Atlantic Shores has submitted a conceptual decommissioning plan as part of the COP. Specific procedures to be applied to project decommissioning would be determined during BOEM’s environmental review of the decommissioning plan. General procedures for decommissioning are described in Section 2.1.2.3, <i>Conceptual Decommissioning</i>.</p> <p>Before decommissioning activities can occur, Atlantic Shores must submit a decommissioning application and receive approval from BOEM. The decommissioning application must be submitted to BOEM at least two years before the expiration of the lease pursuant to § 285.905. The required contents of the decommissioning application can be found in § 285.906.</p> <p>BOEM will compare the decommissioning application with the conceptual decommissioning plan in Atlantic Shores’ approved COP to determine if additional environmental and technical reviews are needed. The NEPA review of the Decommissioning Plan will examine the impacts of various decommissioning scenarios, including EFH and ESA consultations. Upon completion of the technical and environmental reviews, BOEM may approve, approve with conditions, or disapprove Atlantic Shores’s decommissioning application. If BOEM disapproves the decommissioning application, Atlantic Shores would be required to resubmit the decommissioning application to address the concerns identified by BOEM.</p>
BOEM-2023-0030-1339-0016	<p>RODA has submitted extensive comments on BOEM’s Draft Guidance for Fisheries Mitigation including recommendations for equitable development and execution of compensatory mitigation (16. See http://rodafisheries.org/wp-content/uploads/2022/08/220822_BOEM-Fisheries-Mitigation.pdf). We will not reiterate them here but BOEM must incorporate these transparent fair and science-based</p>	<p>BOEM’s Guidelines for Mitigating Impacts to Commercial and Recreational Fisheries provide a 5-year compensation period as a minimum standard. Compensatory mitigation beyond 5 years post-construction may be necessary and should be evaluated based on the activities proposed in the COP.</p>

Comment No.	Comment	Response
	<p>recommendations for any future possible project approval including Atlantic Shores South. But it is important to note that due to the proposed spacing and interarray cable burial depth the predominant fleet – the surfclam/ocean quahog – will be permanently displaced from the area. A five year post-construction period alone to claim losses is wholly insufficient. While BOEM’s fisheries mitigation guidance is still under development Atlantic Shores must work with fishermen shoreside businesses economists and scientists to propose alternative compensation frameworks as an alternative for analysis and potential incorporation into Terms and Conditions if BOEM approves this project. Compensation should not be limited to landings values but also include value-added multiplier effects and shoreside and supporting infrastructure losses particularly given this project’s proximity to key New Jersey fishing ports.</p>	<p>BOEM has proposed a mitigation measure that would require Atlantic Shores to conduct an analysis of impacts of the Proposed Action on shoreside seafood businesses (see Table 3.6.1-39). Atlantic Shores will establish a fisheries compensation fund that will be based on both direct impacts of fisheries displacement (i.e., revenue exposure values summarized in Table 3.6.1-11) and indirect impacts on shoreside seafood businesses.</p>
BOEM-2023-0030-1339-0017	<p>To date RODA is not aware of any plans for a project to coordinate cooperative research and monitoring plans with developers of geographically relevant lease areas including Atlantic Shores South and Ocean Wind 1. The environmental impacts of Atlantic Shores South will be cumulative to those of other projects for multiple fish stocks (and oceanographic processes) and these must be coordinated to maximize the utility of any data that is collected. In particular given the immediate adjacency of the Atlantic Shores South and Ocean Wind 1 project areas and their strong importance to the clam fishery we strongly urge BOEM to require Atlantic Shores to join Orsted and Dominion Energy (developer for the CVOW project) in using the same methods for Atlantic surfclam and ocean quahog surveys. This survey methodology is in preparation with the fishing industry and credible independent scientists to co-develop cooperative monitoring and research plans to ensure that each project’s research is well coordinated with the other. This should be common practice for all wind development lease areas but particularly for abutting leases such as these. The lack of required</p>	<p>Please refer to <i>Appendix G, Mitigation and Monitoring</i>, where a number of measures proposed by the Applicant and other agencies speak to regional monitoring coordination, including the Applicant’s commitment for regionally funded research and adaptive management monitoring programs. These efforts will be undertaken through coordination with a variety of stakeholders, including regulatory agencies, scientific research institutes and other experts. BOEM anticipates that due to both the Applicant and Ocean Wind 1 contract with BPU as well as engagement with New Jersey Offshore Wind Research and Monitoring Initiative, these efforts will be closely coordinated due to their geographic proximity.</p> <p>Atlantic Shores is actively involved in RWSC and the Responsible Offshore Science Alliance (ROSA), along with prior efforts with RODA to look at research. Atlantic Shores is open to additional opportunities for coordination with other developers on research and monitoring for fisheries and other resources. To date, Atlantic Shores has not coordinated</p>

Comment No.	Comment	Response
	<p>coordination between these two lease areas elucidates the need for a cumulative approach to analyses and mitigation measures beginning at the earliest stages of any project. For data to be relevant to impact assessments it is important that at least two years of preconstruction baseline data be collected. Additionally surveys need to be conducted for the lifetime of the project. Atlantic Shores should work with fisheries scientists experts and members of the industry to determine appropriate frequency and methodology at various phases – preconstruction construction operations and decommissioning.</p>	<p>with other developers on development of monitoring plans specific to Atlantic Surfclam or ocean quahog. Atlantic Shores is planning to start this work in 2024 and will engage RWSC, RODA, and ROSA in this effort.</p>
BOEM-2023-0030-1339-0018	<p>Fisheries management relies on fishery dependent and independent data collection to understand and track populations over time and to set sustainable quotas. Disruptions to survey methodology and data collection without adequate time and analyses for adjustment will be detrimental to our understanding of fish stocks and ultimately may lead to reduced quotas for the fishing industry RODA acknowledges that BOEM and NMFS have recently published the final federal survey mitigation strategy but is concerned that the active surveys that overlap with Atlantic Shores South will be negatively impacted by these projects should adapted survey methods not be implemented immediately.</p>	<p>BOEM has developed a measure to require lessees to work with NMFS on a survey mitigation agreement for individual offshore wind projects. This BOEM-proposed mitigation measure has been added to Table G-3 in Appendix G, <i>Mitigation and Monitoring</i>, and Table 3.6.1-39 in Section 3.6.1.8</p> <p>Consistent with NMFS and BOEM survey mitigation strategy actions in the NOAA Fisheries and BOEM Federal Survey Mitigation Implementation Strategy - Northeast US Region, Atlantic Shores would be required to submit to BOEM a survey mitigation agreement between NMFS and Atlantic Shores. The survey mitigation agreement would describe how Atlantic Shores would mitigate the Project impacts on NMFS surveys. At a minimum, the survey mitigation agreement would describe actions needed and the means to address impacts on the affected surveys due to the preclusion of sampling platforms and impacts on statistical designs. Other anticipated Project impacts on NMFS surveys, such as changes in habitat and increased operational costs due to loss of sampling efficiencies, may also be addressed in the agreement.</p> <p>The survey mitigation agreement would identify activities that would result in the generation of data equivalent to data</p>

Comment No.	Comment	Response
		<p>generated by NMFS's affected surveys for the duration of the Project. The survey mitigation agreement would describe the implementation procedures by which Atlantic Shores would work with NMFS to generate, share, and manage the data required by NMFS for each of the surveys impacted by the Project. The survey mitigation agreement would also describe Atlantic Shores' participation in the NMFS NEFSC Northeast Survey Mitigation Program to support activities that would address regional-level impacts for the surveys listed above.</p>
BOEM-2023-0030-1339-0019	<p>A finding of major impacts to scientific research and surveys (p. ES-18) cannot be downplayed and the proposed mitigation measure of "[c]onsultation will continue with agencies and other research entities regarding scientific research and surveys in the Offshore Project area. Atlantic Shores construction and O&M monitoring will provide additional contributions to scientific surveys and research" (See Appendix G: Mitigation and Monitoring of the DEIS p. G-33.) does not provide reassurance that our future understanding of the biological resources will not be gravely hindered. Any reduction of or impact to fisheries surveys will likely result in increased uncertainty for stock assessments leading to changes to fisheries management and reduction in allowable catch. BOEM and NMFS must immediately work to implement strategic plans as soon as possible to minimize any 'lost time' between existing surveys and future adapted surveys.</p>	<p>BOEM has developed a measure to require lessees to work with NMFS on a survey mitigation agreement for individual offshore wind projects. This BOEM-proposed mitigation measure has been added to Table G-3 in Appendix G, <i>Mitigation and Monitoring</i>, and Table 3.6.1-39 in Section 3.6.1.8</p> <p>Consistent with NMFS and BOEM survey mitigation strategy actions in the NOAA Fisheries and BOEM Federal Survey Mitigation Implementation Strategy - Northeast US Region, Atlantic Shores would be required to submit to BOEM a survey mitigation agreement between NMFS and Atlantic Shores. The survey mitigation agreement would describe how Atlantic Shores would mitigate the Project impacts on NMFS surveys. At a minimum, the survey mitigation agreement would describe actions needed and the means to address impacts on the affected surveys due to the preclusion of sampling platforms and impacts on statistical designs. Other anticipated Project impacts on NMFS surveys, such as changes in habitat and increased operational costs due to loss of sampling efficiencies, may also be addressed in the agreement.</p> <p>The survey mitigation agreement would identify activities that will result in the generation of data equivalent to data generated by NMFS's affected surveys for the duration of the Project. The survey mitigation agreement would describe the</p>

Comment No.	Comment	Response
		implementation procedures by which Atlantic Shores would work with NMFS to generate, share, and manage the data required by NMFS for each of the surveys impacted by the Project. The survey mitigation agreement would also describe Atlantic Shores' participation in the NMFS NEFSC Northeast Survey Mitigation Program to support activities that would address regional-level impacts for the surveys listed above.
BOEM-2023-0030-1339-0022	It is concerning that Volume II of the COP indicates that Atlantic Shores will "(m)onitor 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." (24. COP Volume II: Affected Environment page 4-218). We recommend that Atlantic Shores be required to carryover the requirements of their March 31 request for authorization to take marine mammals incidental to marine site characterization offshore of New Jersey and New York. Namely that observers be placed on all vessels serving the facility to constructions operations and maintenance and decommissioning and that appropriate Marine Mammal exclusion zones be adopted (25 See – https://www.govinfo.gov/content/pkg/FR-2023-03-30/pdf/2023-06594.pdf).	Vessel strike avoidance measures, including use of visual observers and maintenance of separation distances, were included in Atlantic Shores' application for a Letter of Authorization (LOA) under the Marine Mammal Protection Act. The final requirements of the LOA, inclusive of the measures proposed by Atlantic Shores in its application, are included as the final mitigation requirements in Table 3.5.6-15. Details of these vessel strike avoidance measures are provided in Appendix G, <i>Mitigation and Monitoring</i> of the EIS and in the Biological Assessment for the Project.
BOEM-2023-0030-1518-0010	Long Beach Township requests the inclusion of economic analyses in the Final Environmental Impact Statement (FEIS) or supplemental DEIS to demonstrate the full range of alternatives considered for the Atlantic Shores South offshore wind project.	Section 3.6.3 <i>Demographics, Employment, and Economics</i> , of the EIS assesses the potential impacts of the full range of alternatives on demographics, employment, and economics. Information on potential impacts to property values and cost-benefit considerations has been added to the Final EIS.
BOEM-2023-0030-1518-0023	BOEM's plan to require post-construction monitoring without establishing baseline conditions to compare against undermines BOEM's scientific integrity. This careless	Atlantic Shores and BOEM recognize that monitoring after construction may be necessary. For example, the lessee's Bird and Bat Monitoring Plan (BBMP), SAV Monitoring Plan, and SAV Preliminary Mitigation Plan propose post-construction

Comment No.	Comment	Response
	<p>approach will undoubtedly introduce severe environmental damage that Long Beach Township will bear the brunt of.</p>	<p>monitoring. As part of monitoring plans, adaptive management may be required (i.e., new mitigation measures and monitoring may be required by BOEM if impacts deviate substantially from the impact analysis in the EIS).</p>
BOEM-2023-0030-1536-0004	<p>Also BOEM and its federal partners must make clear that developers should set aside reserve funds based on transparent consistent and equitable scientific and economic impact estimates. We also believe BOEM should be involved in implementing regional mitigation plans that fully account for regional cumulative environmental and fishery business impacts from wind development.</p>	<p>BOEM’s draft guidance for Mitigating Impacts to Commercial and Recreational Fisheries on the Outer Continental Shelf Pursuant to 30 CFR Part 585 outlines guidelines for determining adequate reserve funds for compensation. Atlantic Shores proposes a claims-based Direct Compensation Program for which Atlantic Shores would use the annual average commercial landings values and for-hire revenue stated in the Final EIS as a baseline for commercial and for-hire fishing and would hold in reserve an amount determined by the formula set out in the BOEM’s draft guidance for Mitigating Impacts to Commercial and Recreational Fisheries on the Outer Continental Shelf Pursuant to 30 CFR Part 585 using the baseline amounts.</p>
BOEM-2023-0030-1536-0008	<p>There continues to be a lack of science as to the longer-term impacts of these proposed industrial scale developments in US Waters. At a minimum BOEM working with the developers must require scientific fisheries monitoring for the life of the project. This will help address data gaps identified above but also help address un expected effects of turbine placement and development in these waters. Assurance for the protection of the Cold Pool phenomenon must be include in the analysis and scientific research ensuring its protection must be completed prior to the COP or approval of the DEIS.</p>	<p>BOEM is in agreement that protective measures and practices will need to evolve as our knowledge base and technology continues to advance. It is BOEM’s expectation that will be the case, and in many instances BOEM is requiring the Applicant to do so. Annual monitoring reports will be used to determine the need for adjustments to monitoring approaches, consideration of new monitoring technologies, and/or additional periods of monitoring.</p>
BOEM-2023-0030-1536-0015	<p>Mitigation and Spacing. Also worth noting is the majority of fishing gear types will be unable to work in these arrays. Specifically gill net bottom trawls midwater trawls and clam and scallop dredges need at least a 2nm spacing between each array. This has been shared countless time and to date never been included in a design proposal. As such the DEIS must consider a greater array spacing to allow commercial operation or assume these areas will be closed to</p>	<p>As described in Section 3.6.1.5 under the “Presence of structures” IPF, commercial fishing vessels with large, externally deployed gear may have difficulty navigating within the Lease Area, and fishing vessels that deploy bottom-oriented mobile gear will be at greater risk of gear entanglement. These factors are expected to cause fishing displacement and lost income. To mitigate for these impacts, Atlantic Shores will establish a compensation/mitigation fund</p>

Comment No.	Comment	Response
	<p>most gear types fished in NJ commercially. Thus mitigation must be considered that includes the fact that these areas will be closed to commercial fishing. And this compensatory mitigation or impact fees fully offset these fisheries losses. Finally this mitigation funds must be identified and distributed by an independent source with no relationship or control by the developers.</p>	<p>to compensate commercial and for-hire recreational fishermen for loss of income due to unrecovered economic activity resulting from displacement from fishing grounds. The compensation fund will be based, in part, on the revenue exposure in the Lease Area (e.g., Table 3.6.1-11). BOEM recommends that, at minimum, lessees consider the following payment structure be available for claimants: 100 percent of revenue exposure for the first year after construction, 80 percent of revenue exposure 2 years after construction, 70 percent of revenue exposure 3 years after construction, 60 percent after four years, and 50 percent after five years post construction. Compensatory mitigation beyond 5 years post-construction may be necessary and should be evaluated based on the activities proposed in the COP.</p> <p>BOEM recommends that lessees consider contracting with a neutral third-party to process claims, manage, and disburse funds, and handle appeals.</p>
BOEM-2023-0030-1542-0001	<p>MONITORING AND ADAPTIVE MANAGEMENT As the federal agency responsible for approval of offshore wind projects BOEM must require that offshore wind projects have a standardized and publicly available monitoring program in place before and after wind projects are constructed. Offshore wind projects at the scale proposed constitute a new type of ocean use in our waters so monitoring environmental community and recreation indicators for possible negative impacts is crucial. The standardized data from such monitoring programs can then be used to adaptively manage and mitigate negative impacts from future projects or halt the construction of future projects. The offshore wind industry needs to move with caution as they develop offshore ocean areas. Without standardized publicly available and mature monitoring programs in place major negative impacts could occur without BOEM or the public’s knowledge.</p>	<p>Comment acknowledged.</p>

Comment No.	Comment	Response
BOEM-2023-0030-1542-0006	<p>REGIONAL PLANNING. We implore BOEM to continue to work with states tribal governments and stakeholders to implement the actions in the two approved Regional Ocean Plans and to continue to update and utilize data on the ocean data portals. [Footnote 10: Mid-Atlantic Regional Planning Body. Mid-Atlantic Regional Ocean Action Plan. November 2016. Available at: www.boem.gov/sites/default/files/environmental-stewardship/Mid-Atlantic-Regional-Planning-Body/Mid-Atlantic-Regional-Ocean-Action-Plan.pdf; Footnote 11: Northeast Regional Planning Body. Northeast Ocean Plan. December 2016. Available at: https://neooceanplanning.org/wp-content/uploads/2018/01/Northeast-Ocean-Plan_Full.pdf]. Regional Ocean Plans should continue to be recognized as key planning documents for informing the siting of potential offshore wind projects. The Northeast and Mid-Atlantic ocean plans involved years of data collection and public process coordinated under regional planning bodies. These planning efforts brought together relevant federal agencies states tribal governments fishery management councils stakeholder groups and interested members of the public to develop a common vision for the future development and conservation of the ocean. A core element of regional ocean planning is the collection and analysis of geospatial information on ecological resources and human uses in the coastal and marine environment. These data sets can be accessed through the regional ocean data portals and are critical resources for BOEM and other agencies as well as permit applicants to consider when evaluating siting of potential renewable energy generation developments. Data portals provide a transparent and common reference for all stakeholders potentially affected by offshore projects.</p>	<p>Thank you for your comment, BOEM has conducted outreach and involved federally recognized Tribes throughout its environmental review of the Project, including in the form of government-to-government meetings and Section 106 consultations.</p>
BOEM-2023-0030-1556-0014	<p>We note that many of the proposed monitoring and mitigation plans found in this Draft EIS are general at this point relying on yet-to-be-developed plans such as the Avian</p>	<p>BOEM is in agreement that protective measures and practices will need to evolve as our knowledge base and technology continues to advance. It is BOEM's expectation that will be</p>

Comment No.	Comment	Response
	<p>and Bat Survey Plan (marked as confidential and unavailable) Bird and Bat Monitoring Plan Environmental Protection Plan and Fisheries Protection Plan Anchoring Plan Scenic and Visual Resource Monitoring Plan PAM Plan Pile Driving Monitoring Plan etc.[Footnote 43: AS DEIS Appendix G Table G-1.] We urge BOEM to use the recommendations herein to require protective measures and to allow practices to evolve as monitoring informs impact assessments. Continued robust monitoring of offshore wind projects and commitment to employ adaptive management practices will ensure that BOEM can swiftly minimize damages of unintended or unanticipated impacts to ecosystems or wildlife as well as inform strategies for future wind projects.</p>	<p>the case, and in many instances BOEM is requiring the Applicant to do so. For example, the Applicant is required to develop and implement a Bird and Bat Monitoring Plan (BBMP) in coordination with USFWS and other relevant regulatory agencies. This measure is included as an applicant-proposed measure in the Final EIS (BIR-16 and BAT-13, in Table G-1 of Appendix G, <i>Mitigation and Monitoring</i>). Annual monitoring reports will be used to determine the need for adjustments to monitoring approaches, consideration of new monitoring technologies, and/or additional periods of monitoring. Prior to commencing offshore construction activities, Atlantic Shores must submit the BBMP for BOEM, BSEE, and USFWS review and the Applicant must resolve all comments on the BBMP to BOEM and BSEE's satisfaction before implementing the plan.</p>
BOEM-2023-0030-1556-0016	<p>The project must comply with the federal Endangered Species Act (ESA) and Marine Mammal Protection Act (MMPA) including the MMPA least practicable adverse impact standard for all marine mammal species before any activities are undertaken.[Footnote 50:30 C.F.R § 585.801(a) (b).] BOEM is also obligated by NEPA to consider the full range of potential impacts on all marine mammal and sea turtle species. We recommend BOEM review the mitigation measures we provide in Attachment 1 and incorporate them into the requirements for Atlantic Shore South's development.</p>	<p>Comment noted.</p>
BOEM-2023-0030-1556-0042	<p>To ensure our national offshore wind industry begins on a firm footing we urge BOEM to require a mandatory 10-knot speed restriction for all project-associated vessels at all times except in limited circumstances where the best available scientific information demonstrates that whales do not use an area. Project proponents may develop in consultation with BOEM and NOAA Fisheries an "Adaptive Plan" that modifies these vessel speed restrictions. However the adaptive monitoring methods that inform the Adaptive Plan must be</p>	<p>Mitigation measures for the Proposed Action include vessel speed restrictions and an Adaptive Plan for vessel strike avoidance to reduce risk of collisions between Project vessels and marine mammals (see LOA-4 in Table G-1 and Measure #2 under measures proposed in the NMFS Biological Assessment in Table G-2 in Appendix G, <i>Mitigation and Monitoring</i>).</p>

Comment No.	Comment	Response
	<p>proven effective using vessels traveling 10 knots or less and following a scientific study design. If the resulting Adaptive Plan is scientifically proven (i.e. via peer-reviewed scientific study) to be equally or more effective than a 10-knot speed restriction the Adaptive Plan could be used as an alternative to a 10-knot speed restriction.</p>	
BOEM-2023-0030-1556-0043	<p>BOEM should use the best available scientific information on presence and abundance of North Atlantic right whales when considering seasonal restrictions to protect the species and minimize impacts to other marine mammal species in the Atlantic Shores South development area off New Jersey. Atlantic Shores South proposes a four-month seasonal restriction on impact pile driving from January to April to minimize impacts to North Atlantic right whales.[Footnote 96: AS DEIS at 3.6.8-24; AS DEIS Appendix G Mitigation and Monitoring Table G-1 at G-34.] However these dates do not reflect the best available scientific information which indicates that North Atlantic right whales occur in the Mid-Atlantic year- round.[Footnote 97: Whitt A.D. K. Dudzinski and J.R. Laliberté. 2013. North Atlantic right whale distribution and seasonal occurrence in nearshore waters off New Jersey USA and implications for management. Endangered Species Research 20:50-69.] The new scientific study by Murray et al. (2022)[Footnote 98: Murray Anita et al. "Acoustic presence and vocal activity of North Atlantic right whales in the New York Bight: Implications for protecting a critically endangered species in a human-dominated environment" supra.] and the work of Zoidis et al. (2021)[Footnote 99: Davis GE et al. Exploring movement patterns and changing distributions of baleen whales in the western North Atlantic using a decade of passive acoustic data. Glob Chang Biol. 2020 Sep;26(9):4812-4840. doi: 10.1111/gcb.15191. Epub 2020 Jul 12.PMID: 32450009; PMID: PMC7496396. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7496396/] provide important new information on the distribution and</p>	<p>The best available data on NARW presence and abundance in the Project area is provided by the most recent Roberts et al. model. The densities provided in Table 3.5.6-2 come from this model. The EIS recognizes the year-round occurrence of NARW in the Project area. As shown in Table 3.5.6-2, January through April are the months in which NARWs occur in the highest densities. Therefore, a seasonal restriction on pile driving activities is imposed in these months to minimize acoustic impacts on NARWs.</p>

Comment No.	Comment	Response
	<p>seasonality of North Atlantic right whales and should be factored into analyses. Based on those findings we recommend BOEM extend the time period of the proposed seasonal restriction to November 1 through April 30 to reflect the period of highest detections of vocal activity sightings and abundance estimates of North Atlantic right whales. We also underscore that the species should be expected to be found throughout the year in and close to the Project Area and therefore the most stringent impact avoidance minimization and mitigation are required to protect this species at all times during potentially harmful construction activities.</p>	
BOEM-2023-0030-1556-0045	<p>It is imperative that no right whale or other marine mammal species is present in the applicable Clearance Zone when pile driving starts. If the developer uses pile driving BOEM must require Atlantic Shores South to commence pile driving only during periods of good visibility (i.e. daylight and clear weather conditions). The mitigation measures enumerated in the Draft EIS states that “planned pile driving will follow a proposed schedule that avoids the completion of pile driving after dark.”[Footnote 101: Emphasis added. AW DEIS Appendix G Mitigation and Monitoring Table G-1 at G-17.] Impact pile driving started during good visibility conditions can continue after dark as necessary providing passive acoustic monitoring and the best available infrared technologies[Footnote 102: It should be noted that even the best available infrared technologies may still be insufficient given that the majority of detections in dark conditions were within 50 meters. Furthermore mounted infrared camera systems detected marine mammals at a relatively low rate despite the increased effort of Protected Species Observers with these systems compared to night vision devices or passive acoustic monitoring. Smultea Environmental Sciences LLC (Smultea Sciences). 2021. Review of night vision technologies for detecting cetaceans from a vessel at sea. Prepared for Ørsted North America 399 Boylston St. 12th Floor Boston MA 02116 by M.A. Smultea G. Silber P. Donlan</p>	<p>In order for Atlantic Shores to receive permission to initiate pile driving during low visibility conditions, it must prepare and submit to BOEM and NMFS an Alternative Monitoring Plan that would be implemented these. If this plan is not approved, Atlantic Shores may not initiate pile driving during low visibility conditions.</p> <p>Requirements of the Alternative Monitoring Plan are provided in Section 3.5.6.9 and in greater detail in Appendix G, <i>Mitigation and Monitoring</i>, and in the Biological Assessment for the Project.</p>

Comment No.	Comment	Response
	<p>D. Fertl and D. Steckler.] are used to support visual monitoring of the clearance and exclusion zones during periods of darkness (see Attachment 1). BOEM should also consider that vessels operating at night may be more likely to strike a right whale or other large whale species due to a lack of detectability. BOEM should adjust its mitigation measures enumerated in Appendix G to explicitly state that pile driving cannot be initiated during poor visibility conditions.</p>	
BOEM-2023-0030-1556-0046	<p>Appendix G of the Draft EIS mentions that Atlantic Shores South will employ noise mitigation techniques during all impact pile driving that will attenuate pile driving noise.[Footnote 104: AS DEIS Appendix G Mitigation and Monitoring Table G-1 at G-17.] However it is unclear from the Draft EIS and the COP whether or not the projects intend to use attenuation for vibratory piling associated with cofferdam installation. It is important for BOEM to acknowledge that noise generated by this activity may disturb marine life and for the agency to i) monitor noise generated by all construction activities and ii) require noise reduction and attenuation measures if noise levels exceed that which could potentially harm or disturb marine mammals.</p>	<p>Implementation of a noise attenuation system is required for impact pile driving. Other noise-producing activities, including vibratory pile driving, would have much lower effects. As stated in Section 3.5.6.5 of the EIS, vibratory pile driving for cofferdam installation is unlikely to result in injury of marine mammals. Mitigation measures to reduce impacts of this activity are provided in Appendix G, <i>Mitigation and Monitoring</i> (see LOA-26 through LOA-32).</p>
BOEM-2023-0030-1556-0049	<p>If pile driving cannot be avoided we encourage BOEM to work closely with NOAA Fisheries on activities that could lead to greater levels of noise reduction during impact pile driving for future projects as noise minimizing approaches during discrete phases of development have been identified by experts as the most promising solution to overcoming noise challenges associated with offshore wind development.[Footnote 105: Lee Juliette and Brandon Southall. "Practical Approaches for Reducing Ocean Noise Associated with Offshore Renewable Energy Development." Global Alliance for Managing Ocean Noise Workshop Report. 2022.] Such activities may include the development of a noise reduction standard [Footnote 106: Note that building robust regulatory standards for noise reduction and attenuation</p>	<p>Mitigation measures, including noise attenuation, will be required during impact pile driving to minimize noise impacts on marine mammals. Atlantic Shores will be required to implement a noise attenuation system that achieves a 10-decibel reduction (LOA-17) and conduct sound verification monitoring (LOA-18). Additional mitigation measures for impact pile driving are identified in Appendix G, <i>Mitigation and Monitoring</i> (LOA-7 through LOA-16).</p>

Comment No.	Comment	Response
	<p>which can be used internationally was identified by ocean noise experts as an important next step (id). Our groups support this recommendation and encourage BOEM’s rapid development of this standard.] (akin to the German standard for harbor porpoise) that is tailored to protect species of concern in U.S. waters and designed to account for the larger diameter monopiles planned to be installed as well as other project- and site-specific conditions in the United States. Given that underwater noise pollution negatively affects species across frequency hearing groups in the pursuance of this standard we encourage BOEM and NOAA Fisheries to consider a hybrid approach where risk is reduced for low- mid- and high frequencies rather than solely at the low frequencies at which right whales are most vulnerable. A hybrid approach would help support overall marine ecosystem health rather than prioritize a single species or species group (i.e. low-frequency hearing cetaceans).</p>	
BOEM-2023-0030-1556-0050	<p>To reduce impacts from noise produced by impact pile driving Atlantic Shores South commits to achieving 10 dB of noise attenuation.[Footnote 107: ASDEIS Appendix G at G-44 (Measure LOA-36).] This level of noise reduction and attenuation falls below what can now be achieved with best available noise control technology and we recommend BOEM strengthen its requirements to maximize the level of noise reduction during construction. As described in Bellman et al. (2020) and Bellman et al. (2022)[Footnote 108: Bellmann M. A. Brinkmann J. May A. Wendt T. Gerlach S. & Remmers P. (2020) Underwater noise during the impulse pile- driving procedure: Influencing factors on pile-driving noise and technical possibilities to comply with noise mitigation values. Supported by the Federal Ministry for the Environment Nature Conservation and Nuclear Safety (Bundesministerium für Umwelt Naturschutz und nukleare Sicherheit (BMU)) FKZ UM16 881500. Commissioned and managed by the Federal Maritime and Hydrographic Agency (Bundesamt für Seeschifffahrt und Hydrographie (BSH)) Order No. 10036866.</p>	<p>A 10-dB reduction is consistent with the requirements for other offshore wind projects and, as shown in Table 3.5.6-12, reduces the potential for injury of marine mammals to a small number of individuals of a few species. If the noise attenuation approach proves to be even more effective, that is even better, but the 10 dB reduction is considered a minimum required amount. Other mitigation measures (e.g., PAM, PSOs), in combination with noise attenuation, also contribute to minimizing impacts.</p>

Comment No.	Comment	Response
	<p>Edited by the itap GmbH; Bellman M. A. Wendt T. May A. Gerlach S. and Remmers P. (2022). Underwater noise during percussive pile driving: influencing factors on pile-driving noise and technical possibilities to comply with noise mitigation values (ERA report). Presentation at The Effects of Noise on Aquatic Life conference Berlin Germany 2022.] noise reduction levels achieved in Europe through the combined use of two noise abatement systems (NAS; one positioned in the near-field and one in the far- field) have reached a 20 dB (re: 1 μPa²s) reduction in sound exposure level (SEL) or greater.[Footnote 109: Sound Exposure Level (SEL) is defined following Bellmann et al. (2020) at 31-32. Findings are based on post-processed underwater noise measurement data and many relevant meta data of more than 2000 pile installations with and without the application of noise abatement systems (NAS) for complying with German thresholds.] A combination of the IHC Noise Mitigation Screen (IHC-NMS) and an optimized big bubble curtain (BBC) has proven among the most effective to date with a minimum average and maximum reduction in sound exposure level (ΔSEL) of 17 19 and 23 dB respectively.[Footnote 110: Bellman et al. (2020) at Table 4.] The deployment of a combination NAS (i.e. two different systems) is considered by those authors to be “state of the art”[Footnote 111: Bellman et al. (2022) id.] in terms of SEL reduction and is also important for attenuating sound across a range of frequencies [Footnote 112: Bellman et al. (2020 2022) id. CHECK PAGE/SLIDE NUMBERS.] and maximizing transmission loss.[Footnote 113: Peng Y. Tsouvalas A. Stampoultzoglou T and Metrikine A. (2021). Study of sound escape with the use of an air bubble curtain in offshore pile driving. Journal of Marine Science and Engineering 9(2) 232. https://doi.org/10.3390/jmse9020232.</p>	
BOEM-2023-0030-1556-0051	BOEM should require the developer to implement the best commercially available combined NAS technology to achieve the greatest level of noise reduction and attenuation possible in line with the mitigation hierarchy. Based on the findings of	Piles for the Atlantic Shores South project would be up to 15 m in diameter. As stated above, a 10-dB reduction is consistent with the requirements for other offshore wind projects and, as shown in Table 3.5.6-12, reduces the

Comment No.	Comment	Response
	<p>Bellman et al. (2020 2022) which indicate a reduction of 20 dB SEL is feasible for monopiles 8 m in diameter we recommend that the minimum requirement of a 10 dB (re: 1 μPa2s) reduction of SEL be viewed as a floor only. BOEM should require developers to deploy technologies proven in Europe to be capable of a 15 dB (re: 1 μPa2s) reduction in SEL or greater. The noise reduction requirement should apply to all aspects of pile driving operations including pile strikes compressors and operations vessels engaged in construction. Field measurements must be conducted on the first pile installed and data must be collected from a random sample of piles throughout the construction period. We do not support field testing using unmitigated piles. Sound source validation reports of field measurements must be evaluated by both BOEM and NOAA Fisheries prior to additional piles being installed and be made publicly available.</p>	<p>potential for injury of marine mammals to a small number of individuals of a few species. In addition to the noise attenuation requirement (see LOA-17 in Table G-1 in Appendix G, <i>Mitigation and Monitoring</i>), Atlantic Shores will also be required to conduct sound field verification during impact pile driving (LOA-18 in Table G-1 in Appendix G, Measure #7 under measures proposed in the NMFS Biological Assessment in Table G-2, and Measure #7 in Table G-3 in Appendix G, <i>Mitigation and Monitoring</i>). Pile driving would not occur without a noise attenuation system in place. Therefore, no 'field testing using unmitigated piles' would occur. Finally, it should be noted that there is not one combined noise attenuation system that has been proven to be the best in all situations, for all frequencies of noise. Effectiveness of noise attenuation systems and even their availability can vary and must be considered when selecting which system(s) to use.</p>
BOEM-2023-0030-1556-0053	<p>Entanglement in abandoned fishing gear contributes significantly to mortality and serious injury of marine mammals and sea turtles particularly the NARW. In fact the mortality due to fishing gear entanglement may actually be higher than estimated due to cryptic mortality.[Footnote 118: Pace R.M. Williams R. Kraus S.D. Knowlton A.R. Pettis H.M (2021). Cryptic mortality of North Atlantic right whales. Conservation Science and Practice 3:2.] We appreciate that Atlantic Shores South has committed to removing marine debris caught on project structures[Footnote 119: AS DEIS Appendix G at G-11 G-16 and G-18.] and encourage BOEM and the developer to create a marine debris mitigation plan in addition to the included requirement[Footnote 120: AS DEIS Appendix G at G-51-G-52.] that vessel operators employees and contractors complete marine debris awareness training as required by the National Marine Fisheries Service Biological Assessment.[Footnote 121: AS DEIS Appendix G Table G-1 at G-52]</p>	<p>As provided in Appendix G, <i>Mitigation and Monitoring</i>, (Measures MAR-06 and SEA-02), Atlantic Shores has committed to removing marine debris caught on offshore Project structures, when safe and practicable, which is more stringent mitigation than currently required by the agencies (i.e., monitoring for marine debris with no requirement for removal).</p>

Comment No.	Comment	Response
BOEM-2023-0030-1556-0054	As a baseline Atlantic Shores South should adopt at least all avian monitoring and mitigation measures identified in the Final EIS for the nearby Ocean Wind 1 project.[Footnote 128: Ocean Wind 1 Offshore Wind Farm. 2023. Final Environmental Impact Statement Appendix H Mitigation and Monitoring.]	BOEM recognizes the importance of consistency in how mitigation and monitoring will be conducted for the Proposed Action and has utilized the monitoring and mitigation measures that have been finalized for the Ocean Wind 1 Project, which is immediately south and adjacent to the Proposed Action as a basis for defining proposed mitigation and monitoring requirements for this Project, as appropriate.
BOEM-2023-0030-1556-0056	Following the precedent from nearby Ocean Wind 1[Footnote 134: Movements of radio-tagged ESA-listed birds in the vicinity of the nearby Ocean Wind will be monitored for up to three years post-construction during the spring summer and fall. Motus receivers will be installed within that wind farm to determine the presence/absence of ESA-listed species; see Ocean Wind Final EIS Appendix AB at 30.] we urge at least a similar level of commitment to use Motus tagging for seabirds and nocturnal passerine migrants as well as use operator installed Motus receivers on turbines as part of Atlantic Shores South’s post-construction monitoring plan. We recommend optimizing the number and/or the dispersion of Motus stations at the Projects using a design tool being developed under a project sponsored by NYSERDA.[Footnote 135: See Sunrise Wind COP Appendix P2 at 3.]	The Applicant must develop and implement a Bird and Bat Monitoring Plan (BBMP) in coordination with USFWS and other relevant regulatory agencies, which may include the use of Motus receivers. Coordination can be inclusive of NYSERDA, given the close coordination between offshore wind research and monitoring between NJ and other states within the region, including NY.
BOEM-2023-0030-1556-0057	Atlantic Shores South must detail those measures that are to be taken to protect this state-listed species and its habitats during the nesting season including but not limited to work stoppages. A contingency plan should be designed and implemented should any problems arise during HDD cable installation.[Footnote 139: Examples of such contingency plans are given in New England Wind COP Volume III Appendix III-R at 2.] We strongly endorse shorebird monitoring for Piping Plovers be conducted by qualified biologists from an accredited organization or an individual with at least one year of experience at an accredited organization.[Footnote 140: For example see New England Wind COP Volume III Appendix III-R at 2.]	The Applicant has committed to utilizing HDD at the landfall site and trenchless cable installation techniques for the landfall and wetland crossings to avoid impacts on wetlands and shoreline habitats, including any potential shoreline nesting areas, such as those for the federally listed (piping plover and red knot) and no listed species. HDD activities will be managed by an HDD Contingency Plan for the Inadvertent Release of Drilling Fluid to ensure the protection of marine and inland surface waters from an accidental release of drilling fluid. All drilling fluids will be collected and recycled upon HDD completion.

Comment No.	Comment	Response
		<p>In addition, the Applicant has committed to time of year restrictions for construction will be followed, as required, through permitting and resource agency consultation, including agencies other than BOEM.</p>
BOEM-2023-0030-1556-0058	<p>We note that no individual species other than the previously mentioned ESA-listed birds were identified as explicit subjects in the Projects’ monitoring framework.[Footnote 142: AS DEIS Appendix G at. G-11–G-12 G-67–G-68.] Neglecting monitoring for non-listed bird species around wind energy infrastructure poses a weakness in the Draft EIS and COP for this project.[Footnote 143: In contrast and in addition to other measures Dominion Power is sponsoring a study of Whimbrel a non-listed species at that wind energy Project Area. See Coastal Virginia Offshore Wind Commercial Project (CVOW-C) COP at 4-202.] Besides better addressing the needs of listed species other birds also should be a focus of Atlantic Shores South’s monitoring plan. Digital aerial surveys indicate Red-throated and Common Loons are common in the Project Area during fall winter and spring.[Footnote 144: AS COP Appendix II-F2 at 105 Figure 5-17.] Other avian candidates for monitoring purposes can be found among those species designated as having higher exposure scores or higher collision vulnerabilities at and from this project.[Footnote 145: AS COP Appendix II-F2 at 104 Table 5-3; see also AS COP Appendix II-F2 at 105 108 115 119 121 123–124 128 134.] Importantly the Avian/Bat Post Construction Monitoring Plan was not available for review as Appendix II-F1 states that the plan is confidential.</p>	<p>The Applicant completed an Avian and Bat Survey Plan in conjunction with BOEM and USFWS that included digital aerial surveys and a satellite telemetry study of the federally protected red knot. The digital aerial surveys gathered data on all detectable avian species that may be present in the WTA.</p> <p>The Applicant must develop and implement a Bird and Bat Monitoring Plan (BBMP) in coordination with USFWS and other relevant regulatory agencies. This measure is included as an applicant-proposed measure in the Final EIS (BIR-16 and BAT-13, in Table G-1 of Appendix G, <i>Mitigation and Monitoring</i>). Annual monitoring reports will be used to determine the need for adjustments to monitoring approaches, consideration of new monitoring technologies, and/or additional periods of monitoring. The annual report must include all data, analyses, and summaries regarding ESA-listed and non-ESA-listed birds and bats. BOEM, USFWS, and BSEE will use the annual monitoring reports to assess the need for reasonable revisions (based on subject matter expert analysis) to the BBMP. BOEM, BSEE, and USFWS reserve the right to require reasonable revisions to the BBMP (based on the results) and may require new technologies as they become available for use in offshore environments.</p> <p>Prior to commencing offshore construction activities, the Applicant must submit the BBMP for BOEM, BSEE, and USFWS review, and the Applicant must resolve all comments on the BBMP to BOEM and BSEE’s satisfaction before implementing the plan.</p>

Comment No.	Comment	Response
BOEM-2023-0030-1556-0059	<p>The monitoring framework for Atlantic Shores South ignores the potential that acoustic disturbances from construction and operations might cause harm to diving marine birds.[Footnote 149: Monitoring and mitigation for diving birds is not mentioned in conjunction with acoustic disturbances during project construction e.g. AS DEIS Appendix G at. G-11–G-12 G-67–G-68.] We refer specifically to lethal or sublethal injury from underwater sound pressure waves caused by high intensity acoustic pulses not to avoidance or temporary displacements that arise solely from avian changes in behavior. Because seabird taxa sensitive to this impact are more prevalent during winter minimization activities like curtailment may be justified to abate harm in this season. Capable of diving to 180 m depths[Footnote 150: Piatt JF Nettleship DN. 1985. Diving depths of four alcids. The Auk 102:293–297.] Razorbills especially are already known to flush readily from loud noises[Footnote 151: Lavers J Hipfner JM Chapdelaine G. 2009. Razorbill (<i>Alca torda</i>) version 2.0. In The Birds of North America (P.G. Rodewald editor). Cornell Lab of Ornithology Ithaca New York USA. https://doi.org/10.2173/bna.635] they occur during winter in the waters of the Project Area[Footnote152: AS COP Appendix II-F2 at 101-103 Table 5-2.] and like other alcids they are vulnerable to both displacement and macro-avoidance.[Footnote 153: Robinson Willmott JC Forcey G Kent A. 2013. The Relative Vulnerability of Migratory Bird Species to Offshore Wind Energy Projects on the Atlantic Outer Continental Shelf: An Assessment Method and Database. Final Report to the U.S. Department of the Interior Bureau of Ocean Energy Management Office of Renewable Energy Programs. OCS Study BOEM 2013-207. 275 pp.]</p>	<p>The Bird and Bat Monitoring Plan being required of the Applicant includes close coordination with USFWS and other relevant regulatory agencies, where annual reporting will be used to determine the need for adjustments in the program. At this time BOEM recognizes that studying acoustic disturbances are not specified in the framework, but if this type of study is identified as needed, there is opportunity for this to be added in. Further, the Applicant is committed to funding regional research efforts as part of its contract with BPU, where if this topic is identified as a research priority, there is opportunity to study it more.</p>
BOEM-2023-0030-1556-0060	<p>Densities of diving birds are typically highest during winter months on inner and middle shelf habitats[Footnote 154: Figure 4–2 in Robinson Willmott J Forcey G Vukovich M McGovern S Clerc J Carter J. 2020. Ecological Baseline Studies of the US Outer Continental Shelf: Final Report. Gainesville</p>	<p>Mitigation measures for the Proposed Action already include a seasonal pile driving restriction from January 1 through April 30 (i.e., most of the winter), as well as use of soft starts and noise abatement systems during pile driving.</p>

Comment No.	Comment	Response
	<p>FL. OCS Study BOEM 2021–079 p. 39.] at least in this portion of the Atlantic OCS. Therefore if quiet foundation alternatives (Alternatives F2 and F3) are not pursued as we recommend shifting the construction season for pile driving and other noisy operations may eliminate underwater acoustic disturbance to diving birds. If time/area closures are not practical other methods for sound abatement may include: (1) establishing safety zones monitored by visual observers[Footnote 155: E.g. the scope of responsibilities for Protected Species Observers (PSOs) could be extended to cover marine birds. PSOs are already required in adjacent projects; see Ocean Wind 1 Offshore Wind Farm. 2023. Final Environmental Impact Statement Appendix H Mitigation and Monitoring pp. H-6 H-12.] or passive acoustics and shutting down or operating at low power if large diving marine bird flocks enter these zones (2) using noise reduction gear like bubble curtains around pile driving (recommendations discussed above in Section II) and (3) deploying other noise source modifications or changes to operational parameters such as soft starts (currently included in the Draft EIS).[Footnote 156: Erbe C Dunlop R Dolman S. 2018. Effects of noise on marine mammals. Pp. 277–309 in Effects of anthropogenic noise on animals. Springer New York NY.]</p>	<p>Diving birds remain underwater for a short duration and create an air pocket around themselves when they enter the water. Given the short duration of their dives, it is highly unlikely that a diving bird would be underwater concurrent with a wave front produced by an impact hammer strike in a given location. If the bird and wave front were to co-occur, much of the noise energy would be dissipated by the air pocket around the bird. Additionally, for a diving bird to receive the high sound level, they would need to be in proximity of the pile driving activity. Therefore, impacts of underwater noise on diving birds are unlikely to occur.</p>
BOEM-2023-0030-1556-0061	<p>Noise monitoring and abatement during impulsive pile driving operations for monopile installation has been an established practice in other Atlantic wind energy project areas.[Footnote 157: https://media.fisheries.noaa.gov/2021-01/Dominion_CVOW_2020IHA_MonRep_OPR1.pdf?null=] Distances to injury-causing sound levels measured in one study varied from 0.7 to 3.1 km for the marine mammals during these installation activities.[Footnote 158: Id. at 32.] Consequently adequate spatial buffers or suitable observation distances may be required for incorporation into study designs that are used to monitor avian reactions to subsurface acoustic disturbance.</p>	<p>As described in the response to comment BOEM-2023-0030-1556-0060, dive durations for diving birds are short, making the likelihood of co-occurrence with the wave front generated by an impact hammer strike very low. Further, if a diving bird were to co-occur with this wave front, the air pocket created when they enter the water would dissipate much of the sound energy. Therefore, impacts of underwater noise on diving birds are unlikely to occur.</p>

Comment No.	Comment	Response
BOEM-2023-0030-1556-0065	<p>Atlantic Shores South’s Draft EIS and COP do not provide details for how post-construction monitoring for birds will be implemented. Consequently no descriptions are given for the study design(s) that would be used to evaluate how avian displacement is manifest at this and neighboring offshore wind facilities.[Footnote 167: The actual Avian and Bat Survey Plan (Appendix II-F1) is held to be confidential and currently not available for public scps://www.boem.gov/renewable-energy/state-activities/atlantic-shores-offshore-wind-construction-and- operations-plan.] To detect differences in avian distribution pre- and post-construction surveys must be designed and implemented to account for detection bias to adequately cover the lease area and its surroundings and to collect data at the necessary resolution. The mitigation and monitoring measures for Atlantic Shores South also make no mention of how to detect or estimate micro-avoidance (i.e. the behavioral ability of birds and bats to make last minute adjustments at small scales to avoid collision with rotors and other turbine structures); this omission should be addressed in the monitoring plan.</p>	<p>The Applicant is required to develop and implement a Bird and Bat Monitoring Plan (BBMP) in coordination with USFWS and other relevant regulatory agencies. This measure is included as an applicant-proposed measure in the Final EIS (BIR-16 and BAT-13, in Table G-1 of Appendix G, <i>Mitigation and Monitoring</i>).</p> <p>Annual monitoring reports will be used to determine the need for adjustments to monitoring approaches, consideration of new monitoring technologies, and/or additional periods of monitoring.</p> <p>Prior to commencing offshore construction activities, Atlantic Shores must submit the BBMP for BOEM, BSEE, and USFWS review. BOEM, BSEE, and USFWS will review the BBMP and provide any comments on the plan within 30 calendar days of its submittal. Atlantic Shores must resolve all comments on the BBMP to BOEM and BSEE’s satisfaction before implementing the plan. The BBMP will include the following key activities: monitoring, annual monitoring reports, post-construction quarterly progress reports, BBMP revisions (as appropriate based on monitoring reports), operational reporting (e.g., annual bird and bat mortality reporting) and raw data sharing so that data collected can be used for other research and science purposes. During the course of these efforts, if it is determined that further focus is needed on behavioral changes in birds and bats, the opportunity is available to introduce that into the BBMP.</p>
BOEM-2023-0030-1556-0075	<p>We emphatically support BOEM codifying the requirement for adaptive management [Footnote 239: AS DEIS Appendix G at G-67 (“Annual monitoring reports will be used to determine the need for adjustments to monitoring approaches consideration of new monitoring technologies and/or additional periods of monitoring.”) AS DEIS Appendix G at G-68 (“BOEM BSEE and USFWS reserve the right to require reasonable revisions to the BBMP and may require new technologies as they become available for use in</p>	<p>Thank you, BOEM acknowledges your comment.</p>

Comment No.	Comment	Response
	<p>offshore environments.”) AS DEIS Appendix G at G-68 (“potential need for revisions to the BBMP [Bird and Bat Monitoring Plan] including technical refinements or additional monitoring; and the potential need for any additional efforts to reduce impacts. If BOEM or USFWS determines after this discussion that revisions to the BBMP are necessary BOEM may require Atlantic Shores to modify the BBMP. If the reported monitoring results deviate substantially from the impact analysis included in the Final BA Atlantic Shores must transmit to BOEM recommendations for new mitigation measures and/or monitoring methods.”).] and naming the right to require the use of new monitoring technologies as they become available for use in the offshore environment.[Footnote 240: AS DEIS Appendix G at G-67 (“Annual monitoring reports will be used to determine the need for adjustments to monitoring approaches consideration of new monitoring technologies and/or additional periods of monitoring.” Emphasis added) AS DEIS Appendix G at G-68 (“BOEM BSEE and USFWS reserve the right to require reasonable revisions to the BBMP and may require new technologies as they become available for use in offshore environments.” Emphasis added) AS DEIS Appendix G at G-68 (“] This requirement aligns with the best management practices proposed by the environmental NGO community and BOEM should include these requirements in the Final EIS and Record of Decision. We also support BOEM’s proposal that if monitoring reveals that impacts to bats are greater than those discussed in the Draft EIS Atlantic Shores South must develop new mitigation measures.[Footnote 241: AS DEIS Appendix G at G-68.]</p>	
BOEM-2023-0030-1556-0076	<p>Understanding and assessing impacts from Atlantic Shores South and other offshore wind development requires access to monitoring data. We support the applicant-proposed measure that “[a]ll collected information and scientific data not deemed confidential by statute or regulation will be made publicly available”[Footnote 242: AS DEIS Appendix G</p>	Thank you, BOEM acknowledges your comment.

Comment No.	Comment	Response
	<p>at G-5 Measure GEO-32.] as well as BOEM’s proposal that “[t]he Lessee must work with BOEM to ensure the data are publicly available.”[Footnote 243: AS DEIS Appendix G at G-69.] BOEM should include these measures in the Final EIS and Record of Decision.</p>	
BOEM-2023-0030-1556-0077	<p>Because of the significant data gaps that preclude meaningful impact analyses for bats and offshore wind development robust monitoring especially post-construction monitoring will be critical to better understanding potential impacts to bats from Atlantic Shores South’s operations. Unfortunately besides annual reporting of carcasses on vessels and structures[Footnote 244: AS DEIS Appendix G at G-69.] no monitoring measures are included in either the COP or Draft EIS and the Avian and Bat Survey Plan is marked as confidential and not available for review.[Footnote 245: 245 AS COP Appendix II-F1] This deficiency is concerning and undercuts the public’s ability to assess post-construction monitoring proposals.</p>	<p>BOEM recognizes the knowledge-base on bats in the offshore wind is limited. The Applicant has completed two years of pre-construction vessel-based acoustic surveys for bats to build upon and fill knowledge gaps from previous survey efforts.</p> <p>The Applicant must develop and implement a Bird and Bat Monitoring Plan (BBMP) in coordination with USFWS and other relevant regulatory agencies. This measure is included as an applicant-proposed measure in the Final EIS (BIR-16 and BAT-13, in Table G-1 of Appendix G, <i>Mitigation and Monitoring</i>). Annual monitoring reports will be used to determine the need for adjustments to monitoring approaches, consideration of new monitoring technologies, and/or additional periods of monitoring. Prior to commencing offshore construction activities, the Applicant must submit the BBMP for BOEM, BSEE, and USFWS review. BOEM, BSEE, and USFWS will review the BBMP and provide any comments on the plan within 30 calendar days of its submittal. The Applicant must resolve all comments on the BBMP to BOEM and BSEE’s satisfaction before implementing the plan.</p> <p>Data gathered as part of the two-year pre-construction surveys will be integrated into the BBMP.</p>
BOEM-2023-0030-1556-0078	<p>Because, as discussed above, pre-construction acoustic activity may not accurately predict post- construction fatalities for bats, a commitment to post-construction monitoring is critical to yielding a better understanding about how bats interact with offshore wind turbines. As part of the data sharing requirement, BOEM should explicitly require</p>	<p>Raw data sharing is a requirement of the BBMP, and such data, that is not deemed commercially sensitive or proprietary will be made available to the public. Data sharing is also a requirement of the Applicant’s contract with BPU as part of its regional science commitments.</p>

Comment No.	Comment	Response
	that data from all post-construction monitoring be made promptly accessible to both agencies and the public.	
BOEM-2023-0030-1556-0079	Atlantic Shores South should deploy acoustic monitors post-construction on turbines and install them at nacelle height (rather than on converter stations turbine platforms and/or buoys) so as to detect activity when bats are in the rotor swept zone and more likely at risk for collision. Atlantic Shores South and BOEM should confer with bat researchers to determine how many acoustic detectors should be deployed and how many years of post-construction data should be collected in order to best inform impact analyses. The Draft EIS notes that USFWS may specify third-party data repositories for this data including NABat;[Footnote 246: AS DEIS Appendix G at G-69.] we support this and suggest that BOEM formalize this by requiring that all acoustic data be reported and submitted to NABat[Footnote 247:https://sciencebase.usgs.gov/nabat/] the Bat Acoustic Monitoring Portal BatAMP[Footnote 248: https://batamp.databasin.org/.] and/or additional appropriate data repositories.	<p>The Applicant has completed two years of pre-construction vessel-based acoustic surveys for bats to build upon and fill knowledge gaps. While employment of acoustic monitors are currently not proposed for future mitigations, the Applicant is required to develop and implement a BBMP in coordination with USFWS and other relevant regulatory agencies. Annual monitoring reports will be used to determine the need for adjustments to monitoring approaches, consideration of new monitoring technologies, and/or additional periods of monitoring, where the need to employ acoustic monitors post-construction may present itself.</p> <p>BOEM, in consultation with USFWS and other stakeholders, will identify an appropriate data repository so that data can be accessed by all interested parties. BOEM seeks to make the raw data and associated repositories consistent across offshore wind projects.</p>
BOEM-2023-0030-1556-0080	Specifically we recommend that BOEM require Atlantic Shores South to support the tagging of bats which are underrepresented in Motus to support understanding of bat activity offshore. Atlantic Shores South should install Motus towers in their Lease Area as well as support the upgrading of coastal Motus towers. We suggest that BOEM require deployment of Motus towers pre-construction in coordination with USFWS's offshore Motus network as BOEM is requiring of new lessees in the New York Bight Carolina Long Bay and California.[Footnote 250: See Final Sale Notices for the New York Bight (86 Fed. Reg. 31524) and Carolina Long Bay (86 Fed. Reg. 60274) and lease stipulations in the New York Bight leases (OCS-A 0537 0538 0539 0541 0542 and 0544) Carolina Long Bay leases (OCS-A 0545 and 0546) and California leases (OCS-P 0561 0562 0563 0564 and 0565).]	As part of BOEM's proposed requirements, The Applicant must develop and implement a Bird and Bat Monitoring Plan (BBMP) in coordination with USFWS and other relevant regulatory agencies, which may include the use of Motus receivers. The Applicant must store the raw data from all avian and bat surveys and monitoring activities according to accepted archiving practices. Such data must remain accessible to BOEM, BSEE, and USFWS, upon request for the duration of the Lease. The Applicant must work with BOEM to ensure the data are publicly available. The USFWS may specify third-party data repositories that must be used, such as NABat, the Motus Wildlife Tracking System, or MoveBank, and such parties and associated data standards may change over the duration of the monitoring plan, based on adaptive management and input from stakeholders.

Comment No.	Comment	Response
BOEM-2023-0030-1556-0081	BOEM proposes that Atlantic Shores South report dead or injured bats found on vessels and project structures.[Footnote 251: AS DEIS Appendix G at G-69.] We note that assessing bat fatalities based on carcasses found on vessels and structures is unlikely to provide a meaningful estimate of bat fatalities as carcasses can fall far from the wind turbine based on carcass size wind speed turbine height and other factors. BOEM should consult with experts to determine what if any inferences about total fatalities can be made from carcasses detected on vessels and project structures.[Footnote 252: We recommend BOEM consult with Manuela Huso Research Statistician at United States Geological Survey Forest and Rangeland Ecosystem Science Center prior to making any inferences about total fatalities based on carcasses recovered from structures.]	The Applicant is required to develop and implement a Bird and Bat Monitoring Plan (BBMP) in coordination with USFWS and other relevant regulatory agencies. Annual monitoring reports will be used to determine the need for adjustments to monitoring approaches, consideration of new monitoring technologies, and/or additional periods of monitoring. BOEM notes the comment that consultation with experts in the field to support any updates/adjustments to the BBMP based on findings of the annual monitoring reports.
BOEM-2023-0030-1556-0082	BOEM should explicitly require Atlantic Shores South to commit to deploying strike detection technologies and other novel technologies for monitoring fatalities. If monitoring reveals that impacts to bats are significant BOEM should require Atlantic Shores South to employ minimization strategies and/or technologies per the requirements BOEM proposed for monitoring plan revisions.[Footnote 253: See AS DEIS Appendix G at G-68 (“Monitoring Plan Revisions. Within 15 calendar days of submitting the annual monitoring report Atlantic Shores must meet with BOEM and USFWS to discuss the following: the monitoring results; the potential need for revisions to the BBMP including technical refinements or additional monitoring; and the potential need for any additional efforts to reduce impacts. If BOEM or USFWS determines after this discussion that revisions to the BBMP are necessary BOEM may require Atlantic Shores to modify the BBMP. If the reported monitoring results deviate substantially from the impact analysis included in the Final BA Atlantic Shores must transmit to BOEM recommendations for new mitigation measures and/or monitoring methods.” Emphasis added).	BOEM is in agreement that protective measures and practices will need to evolve as our knowledge base and technology continues to advance. It is BOEM’s expectation that will be the case, and in many instances are requiring the Applicant to do so. The Applicant is required to develop and implement a BBMP in coordination with USFWS and other relevant regulatory agencies. This measure is included as an applicant-proposed measure in the Final EIS (BIR-16 and BAT-13, in Table G-1 of Appendix G, <i>Mitigation and Monitoring</i>). Annual monitoring reports will be used to determine the need for adjustments to monitoring approaches, consideration of new monitoring technologies, and/or additional periods of monitoring. New monitoring technologies could include collision detection technologies, if they become commercially available and are deemed suitable for the project.

Comment No.	Comment	Response
BOEM-2023-0030-1556-0083	<p>We strongly support BOEM’s proposed measures that Atlantic Shores South create new mitigation measures or monitoring measures “[i]f the reported post-construction bird and bat monitoring results...indicate that bird and bat impacts deviate substantially from the impact analysis included in the Final BA [Biological Assessment.]”[Footnote 254: Id.] However there is a lack of clarity as to what would trigger this adaptive management. The post-construction monitoring measure for bats included in the Draft EIS—carcass reports from vessels and structures—will not provide comprehensive information on bat collisions which are likely the greatest cause of bat fatalities from the offshore components of offshore wind development. No research or methods are presented to translate monitoring data from these sources into bat impacts nor are we aware of any methods accepted by subject matter experts to do so.</p>	<p>The Applicant is required to develop and implement a Bird and Bat Monitoring Plan (BBMP) in coordination with USFWS and other relevant regulatory agencies. This measure is included as an applicant-proposed measure in the Final EIS (BIR-16 and BAT-13, in Table G-1 of Appendix G, <i>Mitigation and Monitoring</i>). Annual monitoring reports will be used to determine the need for adjustments to monitoring approaches, consideration of new monitoring technologies, and/or additional periods of monitoring. The annual report must include all data, analyses, and summaries regarding ESA-listed and non-ESA-listed birds and bats. BOEM, USFWS, and BSEE will use the annual monitoring reports to assess the need for reasonable revisions (based on subject matter expert analysis) to the BBMP. BOEM, BSEE, and USFWS reserve the right to require reasonable revisions to the BBMP (based on the results) and may require new technologies as they become available for use in offshore environments.</p>
BOEM-2023-0030-1556-0084	<p>Because the proposed monitoring method is unlikely to provide estimates of bat collisions from Atlantic Shores South’s offshore operations but no collision detection technologies are validated and commercially available for use offshore as discussed above BOEM should explicitly require Atlantic Shores South to commit to deploying collision detection technology once available. Strike detection technology is in development with one technology to be tested on an offshore wind turbine in 2023.[Footnote 255: Stucker J. Prebyl T. Bushey J. Good R. Roadman J. Ivanov H. Rooney S. Verhoef H. Kaandorp F. and Saraswati N. A Multi-Sensor Approach for Measuring Bird and Bat Collisions with Wind Turbines: Validation Results. 2022. Poster presentation for NYSERDA State of the Science.] Atlantic Shores South should work with agency staff and researchers to determine the appropriate duration of post-construction fatality monitoring using their current proposed methods and for after collision detection systems are installed.</p>	<p>BOEM is in agreement that protective measures and practices will need to evolve as our knowledge base and technology continues to advance. It is BOEM’s expectation that will be the case, and in many instances BOEM is requiring the Applicant to do so. The Applicant is required to develop and implement a Bird and Bat Monitoring Plan (BBMP) in coordination with USFWS and other relevant regulatory agencies. This measure is included as an applicant-proposed measure in the Final EIS (BIR-16 and BAT-13, in Table G-1 of Appendix G, <i>Mitigation and Monitoring</i>). Annual monitoring reports will be used to determine the need for adjustments to monitoring approaches, consideration of new monitoring technologies, and/or additional periods of monitoring. New monitoring technologies could include collision detection technologies, if they become commercially available and are deemed suitable for the project.</p>

Comment No.	Comment	Response
BOEM-2023-0030-1556-0085	<p>We note however that while the monitoring and mitigation measures in Appendix G state that the plan will extend through operations[Footnote 260: AS DEIS Appendix G Monitoring and Mitigation Table G-1 at G-14.] the Benthic Monitoring Plan in Appendix II-H does not. In fact post-construction monitoring outlined in the plan only includes years 1 and 3 post construction and potentially year 5 if it is deemed necessary. [Footnote 261: AS COP Appendix II-H Benthic Monitoring Plan at 13.] The monitoring plan should not only elaborate on the details of the operational benthic monitoring that is to occur for the operational life of the project but also the monitoring plan should be extended to decommissioning.</p>	<p>Mitigation measure BEN-08 does not specify the duration of benthic monitoring, nor that it will continue through operations: "BEN-08: Implement a benthic habitat monitoring plan to measure and assess the disturbance and recovery of marine benthic habitats and communities because of Project construction and operation." Based on previous studies (Daan et al. 2006; Leonhard and Pedersen 2006; Coates et al. 2013; Coates et al. 2015; HDR 2020), benthic recovery is expected to occur within months to up to 5 years. If, after the 3-year post-construction sampling period, it is determined that benthic habitat has not recovered or reached a stable climax community as compared to the pre-construction state, additional sampling will be conducted at year 5 post-construction.</p> <p>The current EIS examines the maximum impacts of the PDE, which includes full removal of Project components at decommissioning, which are expected to be the same as or similar to impacts during Project construction. Prior to decommissioning, Atlantic Shores will submit a Decommissioning Plan that will be subject to environmental review through the NEPA process. The NEPA review of the Decommissioning Plan will examine the impacts of various decommissioning scenarios and will include EFH and ESA consultations.</p>
BOEM-2023-0030-1556-0092	<p>BOEM should follow the monitoring guidance set forth in the NYSERDA Environmental Stratification Workgroup Report [Footnote 274: Available at: https://drive.google.com/file/d/15i0sGK9FyQDgS5pipnfeFrH7tA5FBHMq/view.] and undertake research similar to that conducted in Europe for monopile foundations[Footnote 275: See e.g. Schultze L. K. P. et al. "Increased mixing and turbulence in the wake of offshore wind farm foundations" Id.] to better understand the effects of individual foundations as well as the cumulative effects of large-scale build out on mixing and stratification in the Mid-Atlantic Bight. This research should also assess potential impacts on the</p>	<p>Potential hydrodynamic effects, including potential changes to primary productivity (i.e., ecosystem-type) have been described in Section 3.4.2 <i>Water Quality</i>.</p>

Comment No.	Comment	Response
	<p>development of the Cold Pool and any indirect impacts on fish and invertebrates including prey aggregations of higher trophic level predators.[Footnote 276: At least 2 NOAA documents that speak about the impact of offshore wind on copepods and prey availability: https://apps-nefsc.fisheries.noaa.gov/rcb/publications/soe/SOE_NEFMC_2021_Final-revised.pdf. See slide 4 (“Offshore Wind Risks: Right whales may be displaced and altered local oceanography could affect distribution of their zooplankton prey.”); See also page 13 of the Species in the Spotlight Report for a discussion of OSW impacts. https://media.fisheries.noaa.gov/2021-04/SIS%20Action%20Plan%202021_NARightWhale-FINAL%20508.pdf.] It does not appear that these considerations are currently included in the benthic monitoring plan.[Footnote 277: AS DEIS Appendix II-H.]</p>	
BOEM-2023-0030-1578-0006	<p>The ASOW Fisheries Monitoring Plan states “Other comments from fisheries managers emphasized the need for monitoring data to supplement information potentially lost due to project interference with existing fisheries-independent surveys. Specifically it was suggested that the surveys should be focused on collecting biomass information with gear that can be calibrated with the existing fisheries-independent surveys. With this in consideration the surveys were designed to use existing gear and methodology (i.e. NEAMAP trawl survey NJDEP funded ventless trap survey and hybrid of NJDEP and NEFSC clam survey) to facilitate broader application of data.”⁶ The trouble is that the proposed hydraulic clam dredge survey does not supplement information potentially lost due to project interference with existing fisheries-independent surveys collecting biomass information or will use gear that has been calibrated with the appropriate fisheries independent survey. The proposed hydraulic clam dredge survey does not attempt to determine the surfclam biomass within the wind lease area it only determines the changes in CPUE at specific sites. The</p>	<p>Sampling for the clam dredge survey will be conducted with a hybrid design that operates a dredge matching the NJDEP surf clam survey gear and uses the NEFSC surf clam methodology. This design was selected because the NJDEP clam survey dredge is smaller (72 in) and more maneuverable than the NMFS clam survey dredge (156 in), and maneuverability is important for safety while operating in and around the WTA. The clam dredge survey will collect length and weight measurements from sampled clams and is designed to evaluate whether there have been changes in CPUE and length/weight of clams before and after construction of the Proposed Action.</p>

Comment No.	Comment	Response
	NJDEP dredge used has not been calibrated to the NMFS dredge. The state fishery-independent survey dredge has no relevance to the federal survey and the lease area.	
BOEM-2023-0030-1578-0007	BOEM must incorporate additional mitigation measures for the Atlantic surfclam fishery for the lease area where construction will take place. The spatial operational needs of the surfclam fisheries' vessels are not being met with the proposed spacing set out in the COP. Initial studies determine that it is a viable option to mitigate the loss of surfclam grounds with a stock enhancement program to seed areas outside of operating wind energy areas.7 Additional research is needed and is ongoing. It is critical that the loss of access to the Atlantic Shores lease is mitigated through stock enhancement efforts. This is the only chance that the surfclam industry and offshore wind energy will co-exist in the mid-Atlantic Bight.	<p>Impacts of the Atlantic Shores South project on the surfclam fishery were analyzed based on NMFS socioeconomic data from GARFO-permitted vessels operating in the Lease Area and Greater Atlantic Region. The analysis determined the surfclam fishery would experience an average annual revenue exposure of \$244,380 in the Atlantic Shores South Lease Area (Table 3.6.1-11). Atlantic Shores will mitigate for these impacts by establishing a fund to compensate commercial fishermen for loss of income due to unrecovered economic activity resulting from displacement from fishing grounds.</p> <p>Atlantic Shores will also conduct a hydraulic clam dredge survey to monitor for impacts associated with construction of the Proposed Action. The survey will involve one year of pre-construction monitoring, during construction monitoring, and three years of post-construction monitoring. Detailed descriptions of these surveys are provided in the Fisheries Monitoring Plan, available at the following link: https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/Appendix%20I-K_Fisheries%20Monitoring%20Plan.pdf</p>
BOEM-2023-0030-1606-0080	Table 4.1-1 exhibits the potential unavoidable adverse impacts of the Proposed Action. Do the risks outweigh the returns if these impacts occur or are observed? Since these impacts are admittedly "potentially unavoidable" are the measures being taken to try to avoid them (i.e. as seen in Appendix G) sufficient? What are the criteria to assess and evaluate successful measures?	Many best practices are described in Appendix G, <i>Mitigation and Monitoring</i> , regarding benthic and shellfish, fish and invertebrates, wetlands and waterbodies, coastal habitats, and sea turtles, among others. Within each environmental resource section of Chapter 3, <i>Affected Environment and Environmental Consequences</i> , is a discussion on the applicable proposed mitigation measures and an explanation as to how and to what extent they minimize potential adverse impacts.

Comment No.	Comment	Response
BOEM-2023-0030-1606-0081	The DEIS does not identify measurable meaningful and actionable effective mitigation measures for when impacts cannot be avoided or minimized.	Mitigation measures for the Proposed Action are provided in Appendix G, <i>Mitigation and Monitoring</i> .
BOEM-2023-0030-1606-0084	Table G1 in the DEIS states “Please note that not all of these mitigation measures are within BOEM’s statutory and regulatory authority and some may be required by other governmental entities.” Are these other governmental entities required to sign off or weigh in on the FEIS/record of decision? What agencies are meant by “other governmental entities?” Will there be public engagement and comment periods?	Appendix G, Table G-1 includes a column that identifies the anticipated enforcing agency. The Joint BOEM/BSEE Direct Final Rule: Reorganization of Title 30 – Renewable Energy and Alternate Uses of Existing Facilities on the Outer Continental Shelf, 88 FR 6376, effective January 31, 2023 (https://www.federalregister.gov/d/2023-00871) transfers enforcement authorities from BOEM to BSEE.
BOEM-2023-0030-1606-0085	Also regarding Table G-1 for Applicant-proposed environmental protection there is no key available for measure number/name.	Appendix G, Table G-1 includes a column titled “Resource Area Mitigated” which identifies the resource for each measure.
BOEM-2023-0030-1606-0087	In addition it is stated in the DEIS that best practice is not an enforceable measure yet BOEM provides best practices as methods. How will BOEM make sure these “best practices” are actually happening? What happens if these commitments are fulfilled since they are not enforceable? Almost all of the “GEO-” and “OCE-” measures in the DEIS are “best practice” and not enforceable.	Applicant-proposed and agency-proposed mitigation measures incorporated into the ROD for the EIS are enforceable.
BOEM-2023-0030-1606-0088	For GEO-25 “Establish a hotline and contact information including email phone number and a defined protocol for cable maintenance and management” tis hotline will be the appropriate resource for contact prior to renourishment project actions and should be the contact in the case of an exposed cable. Why is this only best practice and not required?	The ROD will describe the specific terms and conditions of these measures for which compliance is required (40 CFR § 1505.3).
BOEM-2023-0030-1606-0089	For GEO-27-32 the Environmental Protection Plan and Fisheries Protection Plan reporting process and financial responsibilities Atlantic Shores has agreed to “report annually in writing to [the New Jersey Board of Public Utilities] and [the New Jersey Department of Environmental Protection] beginning June 30 2022 on actions taken to ensure	The reports submitted by Atlantic Shores to NJDEP and BPU are publicly available at this link: https://publicaccess.bpu.state.nj.us/CaseSummary.aspx?case_id=2110447 .

Comment No.	Comment	Response
	environmental protection fisheries protection mitigation of environmental and/or fishing impacts. Are any of these reports available to the public yet as mentioned in GEO 32?	
BOEM-2023-0030-1606-0092	COA-09 assign environmental/construction monitor(s) to ensure compliance with applicable permit conditions and that BMPs are functional are these 3rd party individuals? Who will be responsible for paying them/who will they report to since the measure is BMP/not enforceable?	The Applicant will be required to hire and compensate the environmental/construction monitors. These monitors will be required to demonstrate compliance through reporting either as part of the BOEM proposed conditions, or other permit conditions (EPA, NMFS, NJDEP, etc.)
BOEM-2023-0030-1606-0095	In addition there are so many “Anticipated Enforcing Agencies” listed for each protection measure. Who will specifically handle which issues? How will workers know who to contact in case of questions on specific protection measures?	Appendix G, <i>Mitigation and Monitoring</i> , Table G-1 includes a column that identifies the anticipated enforcing agency. The Joint BOEM/BSEE Direct Final Rule: Reorganization of Title 30 – Renewable Energy and Alternate Uses of Existing Facilities on the Outer Continental Shelf, 88 FR 6376, effective January 31, 2023 (https://www.federalregister.gov/d/2023-00871) transfers enforcement authorities from BOEM to BSEE. The ROD will describe the specific terms and conditions of these measures for which compliance is required (40 CFR § 1505.3).
BOEM-2023-0030-1606-0100	Table G-2 exhibits the potential agency-proposed mitigation and monitoring measures analyzed. Starting on page G-54 table G2 switches back and forth from talking about impact sections of different project phases (preconstruction construction operations and maintenance and decommissioning to different types of surveys like fisheries trawling pot/trap surveys. Why are the specific surveys listed separately for project phases?	BOEM identifies the proposed project phase for agency-proposed mitigation and monitoring measures because some impacts will not occur throughout the lifetime of the Project.
BOEM-2023-0030-1606-0101	Regarding “BOEM’s Proposed for Consultation with NMFS under the ESA” section mentioned on page G-51 when will this consultation happen and will the modifications from the meeting be public before the FEIS for public comment?	Consultation with NMFS under the ESA was completed December 18, 2023. BOEM prepared and submitted a Biological Assessment to NMFS, which NMFS used to prepare its Biological Opinion for the Project. Findings of the Biological Opinion are incorporated into the Final EIS.
BOEM-2023-0030-1686-0003	And lastly what measures will be taken if the research is not in line with the actual realtime landfall and sealife impacts and will this project be halted until measures are altered to mitigate realtime negative impacts.	The ROD will describe the specific terms and conditions of these measures for which compliance is required (40 CFR § 1505.3).

Comment No.	Comment	Response
BOEM-2023-0030-1723-0004	What are the exceptions that have been made to noise and light rules and regulations to this project and why are exceptions being made to this?	No exceptions have been made to the Atlantic Shores Project for noise or lighting.
BOEM-2023-0030-1795-0003	Other protective measures should be implemented for the right and humpback whales such as stronger noise mitigation measures impact pile driving prohibitions from November 1 to April 30 and a ban on the initiation of pile driving at night.	The mitigation measures currently included in the EIS, Appendix G, <i>Mitigation and Monitoring</i> , including noise mitigation and seasonal pile driving restrictions, reduce or minimize impacts on NARWs, humpback whales, and other marine mammals. BOEM will only authorize pile driving initiation at night if an alternative monitoring plan for pile driving during low visibility is approved by both BOEM and NMFS. If further impact reductions are deemed necessary, NMFS will include additional mitigation or monitoring requirements in its Letter of Authorization and/or Biological Opinion.

N.6.24 Cumulative Impacts

Table N.6-24. Responses to Comments on Cumulative Impacts

Comment No.	Comment	Response
BOEM-2023-0030-0861-0003	The Environmental Impact Statement does not cover long-term impacts of this project nor does it cover the cumulative impacts of all of the proposed projects together. The projects considered by the state include bigger, more, and more expansive footprints of wind farm projects than have been studied together to-date. This deficiency needs to be resolved before decisions are made regarding any of the projects.	<p>The EIS presents a description and analysis of impacts from ongoing activities and trends (i.e., the No Action Alternative) and impacts from the Proposed Action and action alternatives. The No Action Alternative provides a current baseline for analysis of impacts from the action alternatives. A separate analysis of the No Action Alternative when combined with future planned activities (i.e., cumulative actions) provides the future baseline as a basis for comparison of the cumulative impacts of the action alternatives.</p> <p>BOEM analyzes the impacts of all reasonably foreseeable future planned activities, which include future offshore wind activities, in each resource-specific section in Chapter 3 of the EIS, Affected Environment and Environmental Consequences.</p>

Comment No.	Comment	Response
		<p>The impacts of each alternative are analyzed in relation to the current baseline. Cumulative impacts of each alternative are also analyzed separately in relation to the future baseline.</p> <p>In addition, long-term effects are defined in Section 3.3, Definition of Impact Levels and, and discussion of potential long-term impacts can be found within each resource-specific section in Chapter 3 of the EIS, Affected Environment and Environmental Consequences. Long-term effects are also discussed in Chapter 4, Other Required Impact Analyses.</p> <p>BOEM also considers the body of peer-reviewed academic research on the more than 30 GW of offshore wind operating offshore Europe and more than 63 GW of offshore wind operating globally.</p>
BOEM-2023-0030-0916-0069	<p>As discussed in Enclosure II under EIS structural problems section 3 the DEIS does not present: (1) the cumulative impact of the full project itself (2) the cumulative impact of vessel surveys and pile driving construction in the New Jersey/New York lease areas (3) the cumulative impact of all vessel surveys and construction being authorized by the NMFS (4) the cumulative impact of operational turbine noise in both the New Jersey and New York lease areas on the right whales migration and (5) the cumulative impact on the right whale's migratory cycle and its continued existence i.e., on its calving, migration and feeding and on other marine mammals from wind energy project development all along the east coast.</p>	<p>BOEM analyzes the impacts of all reasonably foreseeable future planned activities, which include future offshore wind activities, in each resource-specific section in Chapter 3 of the EIS, Affected Environment and Environmental Consequences. The impacts of each alternative are analyzed in relation to the current baseline. Cumulative impacts of each alternative are also analyzed separately in relation to the future baseline.</p> <p>Please refer to Section 3.5.6, <i>Marine Mammals</i>, for a discussion on cumulative impacts of the No Action and action alternatives on marine mammals, inclusive of the North Atlantic Right Whale. Specifically, a discussion on cumulative noise impacts on the behavior of marine mammals can be found in Sections 3.5.6.3 and 3.5.6.5. Cumulative impacts of vessel surveys are discussed in Section 3.5.7, <i>Other Uses</i>, specifically under <i>Scientific Research and Surveys</i>.</p>
BOEM-2023-0030-1339-0001	<p>While the DEIS provides content related to cumulative impacts of ongoing and planned activities they fail to take a holistic view of the potential impacts from large-scale buildout of offshore wind developments on the Atlantic OCS.</p>	<p>The scope of the EIS, per BOEM's regulations, is to analyze the COP Atlantic Shores Offshore Wind, LLC submitted for Lease Area OCS-A 0499.</p>

Comment No.	Comment	Response
	<p>RODA, other fishing industry representatives, marine scientists, fishery management councils, the environmental community, and others have consistently requested, and continue to request, BOEM take a regionally cumulative approach to offshore wind planning and leasing. BOEM is doing the public and the environment a disservice by continuing to review individual projects in isolation despite the large number of projects it is “fast tracking” and the existing OSW energy production targets. It is difficult to imagine that it would not also benefit developers, transmission interests, and the public for BOEM to clarify its approach to cumulative effects review and at a minimum implement regional planning processes as robust as those it employs for oil and gas leasing.</p>	<p>BOEM analyzes the impacts of all reasonably foreseeable future planned activities, which include future offshore wind activities, in each resource-specific section in Chapter 3 of the EIS, <i>Affected Environment and Environmental Consequences</i>. The impacts of each alternative are analyzed in relation to the current baseline. Cumulative impacts of each alternative are also analyzed separately in relation to the future baseline.</p>
BOEM-2023-0030-1339-0002	<p>In past comment letters we pointed to how the announcement of additional areas in the New York Bight and Central Atlantic have consequences with existing leased projects which spoke to the need for a cumulative approach. For example, designation of the Hudson North WEA impacted RODA’s collaboration with Equinor. Based on direct feedback from the fishing industry in the region Equinor adjusted its layout design for Empire Wind 1 to reduce impacts to fishing. Unfortunately, the discussions about nuanced spacing and transit accommodations for Empire Wind were acknowledged to be greatly affected by what ultimately occurs in the Hudson North WEA which abuts the southeastern edge of the lease. This heavily transited and fished area is now slated to become a larger contiguous developed area further displacing existing users. Due to the many leases and expansive nature of this new infrastructure every aspect—from biological, ecological, social, and physical to navigational and access-related—must be looked at in a cumulative manner.</p>	<p>The scope of the EIS, per BOEM’s regulations, is to analyze the COP Atlantic Shores Offshore Wind, LLC submitted for Lease Area OCS-A 0499.</p> <p>BOEM analyzes the impacts of all reasonably foreseeable future planned activities, which include future offshore wind activities, in each resource-specific section in Chapter 3 of the EIS, <i>Affected Environment and Environmental Consequences</i>. The impacts of each alternative are analyzed in relation to the current baseline. Cumulative impacts of each alternative are also analyzed separately in relation to the future baseline.</p>

Comment No.	Comment	Response
BOEM-2023-0030-1339-0003	<p>The Atlantic Shores South project is not happening in isolation. BOEM and the consulting agencies have failed to take a comprehensive holistic approach to offshore wind development and its consequential impacts to the marine ecosystem and the communities reliant on it. There remain a significant number of unknown impacts which may be linked to these large-scale developments.</p>	<p>The scope of the EIS, per BOEM’s regulations, is to analyze the COP Atlantic Shores Offshore Wind, LLC submitted for Lease Area OCS-A 0499.</p> <p>BOEM analyzes the impacts of all reasonably foreseeable future planned activities, which include future offshore wind activities, in each resource-specific section in Chapter 3 of the EIS, <i>Affected Environment and Environmental Consequences</i>. The impacts of each alternative are analyzed in relation to the current baseline. Cumulative impacts of each alternative are also analyzed separately in relation to the future baseline.</p>
BOEM-2023-0030-1339-0006	<p>The DEIS provides a No Action Alternative that assumes only the Proposed Action will not occur over the 25-plus year lifetime analysis of the project. “Over the life of the proposed Project other reasonably foreseeable future impact-producing offshore wind and non-offshore wind activities are expected to occur which would cause changes to the existing baseline conditions even in the absence of the Proposed Action.” (12. See DEIS p. ES-6). The baseline conditions described in Appendix D of the DEIS initially include only the projects with approved construction and operations plans but incorporate overtime additional construction and operations of unapproved planned offshore wind projects. This strategy presupposes the approval of future OSW projects that have not even begun an environmental assessment nor have the public had the opportunity to provide input on. At a minimum an additional alternative should be analyzed and compared against a baseline of a No Planned Development Alternative. The No Action Alternative as presented should still be included in the DEIS but a complimentary No Planned Development Alternative should also be provided. Again, this demonstrates the need for a robust cumulative impacts analysis and mitigation measures aimed to identify and address cumulative impacts to understand the true impacts of OSW in the Atlantic.</p>	<p>The EIS presents a description and analysis of impacts from ongoing activities and trends (i.e., the No Action Alternative) and impacts from the Proposed Action and action alternatives. The No Action Alternative provides a current baseline for analysis of impacts from the action alternatives. A separate analysis of the No Action Alternative when combined with future planned activities (i.e., cumulative actions) provides the future baseline as a basis for comparison of the cumulative impacts of the action alternatives.</p> <p>BOEM analyzes the impacts of all reasonably foreseeable future planned activities, which include future offshore wind activities, in each resource-specific section in Chapter 3 of the EIS, <i>Affected Environment and Environmental Consequences</i>. The impacts of each alternative are analyzed in relation to the current baseline. Cumulative impacts of each alternative are also analyzed separately in relation to the future baseline.</p>

Comment No.	Comment	Response
BOEM-2023-0030-1499-0009	The report ignores the cumulative effect of the entire NJ plan (let alone the east coast and US plans) with 3500+ and up to as many as 5000 wind turbines and their supporting substations having between 25 Million and 35 Million gallons of hazardous fluids and 2.5 to 3.5 million pounds of SF6 “poised precariously” out over the near ocean shore.	BOEM analyzes the impacts of all reasonably foreseeable future planned activities, which include future offshore wind activities, in each resource-specific section in Chapter 3 of the EIS, <i>Affected Environment and Environmental Consequences</i> . The impacts of each alternative are analyzed in relation to the current baseline. Cumulative impacts of each alternative are also analyzed separately in relation to the future baseline.
BOEM-2023-0030-1516-0051	The project impacts in the DEIS dwarf the true impact to Brigantine, Atlantic City and surrounding communities for the reason that these communities will be surrounded by other projects that are adjacent to each other including Atlantic Shores South, Atlantic Shores North, Ocean Wind 1 and Ocean Wind 2. The impact of these combined projects including 550 wind turbines with a height of up to 1040 feet with three of the projects starting less than 9 miles off the coast is unprecedented and not considered in the DEIS other than in the discussions of a general overall cumulative impact. The combined impact of these specific projects should be examined by BOEM in rigorous detail and conclusions should be presented to the communities of South Jersey.	<p>The scope of the EIS, per BOEM’s regulations, is to analyze the COP Atlantic Shores Offshore Wind, LLC submitted for Lease Area OCS-A 0499.</p> <p>The EIS presents a description and analysis of impacts from ongoing activities and trends (i.e., the No Action Alternative) and impacts from the Proposed Action and action alternatives. The No Action Alternative provides a current baseline for analysis of impacts from the action alternatives. A separate analysis of the No Action Alternative when combined with future planned activities (i.e., cumulative actions) provides the future baseline as a basis for comparison of the cumulative impacts of the action alternatives.</p> <p>BOEM analyzes the impacts of all reasonably foreseeable future planned activities, which include future offshore wind activities, in each resource-specific section in Chapter 3 of the EIS, <i>Affected Environment and Environmental Consequences</i>. The impacts of each alternative are analyzed in relation to the current baseline. Cumulative impacts of each alternative are also analyzed separately in relation to the future baseline.</p> <p>Section ES.3 of the EIS provides an overview of the public engagement process and activities to date. The publication of the Draft EIS initiated a 45-day public comment period, which commenced with publication of the Notice of Availability (NOA) of the Draft EIS in the Federal Register on May 19, 2023. Outreach included publication of the NOA in the</p>

Comment No.	Comment	Response
		<p>Federal Register, BOEM press releases and social media announcements, notification letters to state congressional members, email notifications to tribal nations, cooperating agencies, and consulting parties, and publication of legal notices in local newspapers to advertise the public comment period and solicit input on the Draft EIS from the public, elected officials, and federal, tribal, state, and local agencies. The legal notice was published in The Press of Atlantic City, Star-Ledger, Asbury Park Press, Cape May Herald, Philadelphia Inquirer, South New Jersey Times, and the Daily Journal.</p> <p>Additionally, BOEM conducted both in-person and virtual meetings to inform interested attendees of the Draft EIS and proposed project and to provide the opportunity for the public to provide oral testimony. Two in-person meetings were held in Manahawkin, NJ and Atlantic City, NJ on June 21 and 22, 2023, respectively. Two virtual meetings were held on June 26 and 28, 2023. The potential impacts of the Project was presented and discussed at each of the four public meetings.</p>
BOEM-2023-0030-1516-0055	The DEIS fails to demonstrate that the project will not result in a combined effect of visible and rotating turbines, audible noise, reduced breeze, and higher air temperature on the shore experience and economy which will have a major impact to the cumulative shore experience.	Please refer to Section 3.6.9, <i>Scenic and Visual Resources</i> , and Appendix H, <i>Seascape, Landscape, and Visual Impact Assessment</i> for cumulative impacts analysis on scenic and visual resources. Noise is an impact-producing factor, and is discussed within each resource-specific section of Chapter 3, <i>Affected Environment and Environmental Consequences</i> . Please refer to Section 3.4.1, <i>Air Quality</i> and Appendix B, <i>Supplemental Information and Additional Figures and Tables</i> , Section B.1, <i>Climate and Meteorology</i> for cumulative impacts analysis on air quality and a discussion on climate and meteorology, respectively. Please refer to Section 3.6.3, <i>Demographics, Employment, and Economics</i> for a discussion on cumulative impacts on demographics, employment, and economics.

Comment No.	Comment	Response
BOEM-2023-0030-1518-0012	<p>The DEIS is deficient in that it fails to examine cumulative environmental impacts as required by Federal regulations [Footnote 2: 32 CFR [Section] 651.16 In addition Federal courts have recognized the importance of including cumulative impacts under NEPA. For example, see <i>Kleppe v. Sierra Club</i>, 427 U.S. 390, 413 (1976)].</p>	<p>The EIS presents a description and analysis of impacts from ongoing activities and trends (i.e., the No Action Alternative) and impacts from the Proposed Action and action alternatives. The No Action Alternative provides a current baseline for analysis of impacts from the action alternatives. A separate analysis of the No Action Alternative when combined with future planned activities (i.e., cumulative actions) provides the future baseline as a basis for comparison of the cumulative impacts of the action alternatives.</p> <p>BOEM analyzes the impacts of all reasonably foreseeable future planned activities, which include future offshore wind activities, in each resource-specific section in Chapter 3 of the EIS, <i>Affected Environment and Environmental Consequences</i>. The impacts of each alternative are analyzed in relation to the current baseline. Cumulative impacts of each alternative are also analyzed separately in relation to the future baseline.</p>
BOEM-2023-0030-1523-0011	<p>The DEIS is deficient in that it fails to examine cumulative environmental impacts as required by Federal regulations [Footnote 9: 32 CFR §651.16 In addition Federal courts have recognized the importance of including cumulative impacts under NEPA. For example, see <i>Kleppe v. Sierra Club</i>, 427 U.S. 390, 413 (1976)]. This project is just 1 of 48 or more proposed wind farms along the Eastern Seaboard which collectively introduce various cumulative impacts which must be understood prior to construction. The only evidence BOEM provides of its analysis of cumulative impacts is in regard to the viewshed from locations across South Jersey. BOEM does not offer any technical cumulative analysis of environmental impacts from the dozens of other proposed wind projects which will result in several similar actions in the same geographic area.</p>	<p>The EIS presents a description and analysis of impacts from ongoing activities and trends (i.e., the No Action Alternative) and impacts from the Proposed Action and action alternatives. The No Action Alternative provides a current baseline for analysis of impacts from the action alternatives. A separate analysis of the No Action Alternative when combined with future planned activities (i.e., cumulative actions) provides the future baseline as a basis for comparison of the cumulative impacts of the action alternatives.</p> <p>BOEM analyzes the impacts of all reasonably foreseeable future planned activities, which include future offshore wind activities, in each resource-specific section in Chapter 3 of the EIS, <i>Affected Environment and Environmental Consequences</i>. The impacts of each alternative are analyzed in relation to the</p>

Comment No.	Comment	Response
		current baseline. Cumulative impacts of each alternative are also analyzed separately in relation to the future baseline.
BOEM-2023-0030-1523-0012	NEPA guidelines on cumulative impacts require the agency to consider cumulative impacts if the proposed action “is one of several similar actions in the same geographic area.”[Footnote 10: Consideration of Cumulative Impacts in EPA Review of NEPA Documents]. One of the sole purposes of addressing cumulative impacts is to prevent the piecemeal construction of smaller projects which once constructed amount to one larger project. However, this is exactly what BOEM is doing by allowing the construction of dozens of discrete offshore wind projects which form one interconnected industrial power plant once constructed. This exact issue was raised in the Ocean Wind 1 DEIS and was neither acknowledged nor responded to in the Ocean Wind 1 FEIS. In order to resolve this deficiency BOEM must reverse course and prepare a Programmatic Environmental Impact Statement (PEIS) for the entire New Jersey and New York Bight area.	<p>The scope of the EIS, per BOEM’s regulations, is to analyze the COP Atlantic Shores Offshore Wind, LLC submitted for Lease Area OCS-A 0499.</p> <p>The EIS presents a description and analysis of impacts from ongoing activities and trends (i.e., the No Action Alternative) and impacts from the Proposed Action and action alternatives. The No Action Alternative provides a current baseline for analysis of impacts from the action alternatives. A separate analysis of the No Action Alternative when combined with future planned activities (i.e., cumulative actions) provides the future baseline as a basis for comparison of the cumulative impacts of the action alternatives.</p> <p>BOEM analyzes the impacts of all reasonably foreseeable future planned activities, which include future offshore wind activities, in each resource-specific section in Chapter 3 of the EIS, <i>Affected Environment and Environmental Consequences</i>. The impacts of each alternative are analyzed in relation to the current baseline. Cumulative impacts of each alternative are also analyzed separately in relation to the future baseline.</p>
BOEM-2023-0030-1523-0022	For these reasons, BOEM’s study of operational noise particularly cumulative impacts is wholly inadequate. In fact, BOEM’s discussion of cumulative in the DEIS is limited to no more than one sentence stating, “Operational noise impacts however would be cumulative.” BOEM offers no technical or modeling analysis of the cumulative impact of 48 or more windfarms and provides no discussion either which is a violation of 40 CFR 1502.16(a)(2) [Footnote 29: §1502.16 Environmental consequences. The discussion shall include: (2) Any adverse environmental effects that cannot be avoided should the proposal be implemented.]. BOEM’s only analysis	Noise is an impact-producing factor, and is discussed within each resource-specific section of Chapter 3, <i>Affected Environment and Environmental Consequences</i> . The language quoted is from Section 3.5.5 <i>Finfish, Invertebrates, and Essential Fish Habitat</i> (page 3.5.5-51 of the Draft EIS). Potential operational noise impacts are discussed in greater detail within that section on pages 3.5.5-20 through 3.5.5-29. In addition, cumulative operational noise impacts are discussed in Sections 3.5.6, <i>Marine Mammals</i> and 3.5.7, <i>Sea Turtles</i> .

Comment No.	Comment	Response
	was to report the existence of data for turbines that are half the size (6 MW) of the proposed wind turbines (10-14 MW) which are not comparable.	
BOEM-2023-0030-1542-0005	CUMULATIVE IMPACTS. Offshore renewable energy projects must be thoroughly examined for cumulative impacts and data deficiencies and allow for adaptive management corrections at a region-wide scale. The various and significant impacts from these projects to the environment and the potential effects on human uses should be analyzed broadly and with attention to industry-wide impacts rather than examined project by project. Currently the offshore wind power generating industry on the East Coast is poised to grow from a few operating turbines to around three thousand over the next ten years. Seriously evaluating cumulative impacts allows BOEM to proceed incrementally and cautiously to ensure that impacts from one project are understood before expanding the size of that project or proceeding with additional projects.	<p>The scope of the EIS, per BOEM's regulations, is to analyze the COP Atlantic Shores Offshore Wind, LLC submitted for Lease Area OCS-A 0499.</p> <p>BOEM analyzes the impacts of all reasonably foreseeable future planned activities, which include future offshore wind activities, in each resource-specific section in Chapter 3 of the EIS, <i>Affected Environment and Environmental Consequences</i>. The impacts of each alternative are analyzed in relation to the current baseline. Cumulative impacts of each alternative are also analyzed separately in relation to the future baseline.</p>
BOEM-2023-0030-1542-0016	Future developers of these leases must release a detailed construction schedule so that BOEM and the public can assess the effects on marine species. The cumulative impact from other planned offshore wind projects must also be addressed as the offshore wind energy industry is poised to grow exponentially in the next decade.	<p>BOEM analyzes the impacts of all reasonably foreseeable future planned activities, which include future offshore wind activities, in each resource-specific section in Chapter 3 of the EIS, <i>Affected Environment and Environmental Consequences</i>. The impacts of each alternative are analyzed in relation to the current baseline. Cumulative impacts of each alternative are also analyzed separately in relation to the future baseline.</p> <p>The construction schedules, as they are currently known, for all reasonably foreseeable offshore wind activities are included in Appendix D, <i>Ongoing and Planned Activities Scenario</i>, Table D.A2-1. The anticipated construction schedule for Atlantic Shores South is included as Table 2-2 in the EIS. Potential construction impacts on marine mammals and sea turtles are discussed in Sections 3.5.6, <i>Marine Mammals</i> and 3.5.7, <i>Sea Turtles</i>. Marine mammal and sea turtle noise</p>

Comment No.	Comment	Response
		exposure was modeled for three construction schedules and are discussed in Sections 3.5.6.5 and 3.5.7.5.
BOEM-2023-0030-1556-0013	We are concerned about the inconsistencies in the cumulative impacts analyses across Atlantic offshore wind projects. While these cumulative impact analyses generally include the same list of anticipated offshore wind projects (e.g., as seen in Table D-3)[Footnote 32: AS DEIS Table D-3 at D-10.] we find significant variability in the cumulative impacts by resource even for the no action alternatives. For environmental justice the cumulative effects of the no action alternative are moderate; minor beneficial.[Footnote 33: AS DEIS Table ES-2 at ES-16.] These are not aligned with the analysis in the Final EIS for the adjacent Ocean Wind 1 project which found cumulative effects of the no action alternative to be moderate on environmental justice.[Footnote 34: Ocean Wind Final EIS Table S-2 at S-12] Similarly cumulative impacts of the no action alternative on sea turtles are considered negligible to minor; minor beneficial in Atlantic Shores South’s Draft EIS but minor for the no action alternative for Ocean Wind 1.[Footnote 35: Id. at S-15.]	<p>The impact determinations are in agreement with other recently published FEISs (see Ocean Wind 1) and consistent with the impact level definitions in Section 3.5.7.2.</p> <p>The explanation for each impact level determination can be found in the resource-specific section of Chapter 3, <i>Affected Environment and Environmental Consequences</i>. For instance, in Section 3.6.4.4, BOEM explains the reasoning behind the determination of minor beneficial impacts on environmental justice populations for the cumulative effects of the No Action Alternative.</p>
BOEM-2023-0030-1556-0023	We note that inconsistencies are also found for the geographic analysis areas for cumulative impacts. For example, the geographic analysis areas for birds and bats vary from 0.5 mi inland (Sunrise Wind for birds and bats[Footnote 36: Sunrise Wind DEIS Appendix D at D-1 and D-2.] SouthCoast Wind for birds[Footnote 37: SouthCoast Wind at Fig. 3.5.3-1 p. 3.5.3-2.] 5 mi inland (Atlantic Shores South [Footnote 38: AS DEIS at 3.4.2-37.] and SouthCoast Wind for bats [Footnote 39: Id. at Fig. 3.5.1-2 p. 3.5.3-2.] and several other Draft EISs for both birds and bats including Ocean Wind 1) to 100 mi inland (Vineyard Wind 1 for both birds and bats [Footnote 40: Vineyard Wind Final EIS Table A-1 at A-10].)	<p>The geographic analysis area (GAA) varies for each resource as described in the individual resource sections of Chapter 3, <i>Affected Environment and Environmental Consequences of the EIS</i> and Table D-1 in Appendix D, <i>Ongoing and Planned Activities Scenario</i>.</p> <p>The bat GAA for the Atlantic Shores South Project, includes the U.S. coastline from Maine to Florida, and extends 100 miles (161 kilometers) offshore and 5 miles (8 kilometers) inland. The bird GAA for the Atlantic Shores South Project, includes a corridor extending from 0.5 mile (0.8 kilometer) inland to 100 miles (161 kilometers) off the U.S. Atlantic coastline, from Maine to Florida. The offshore limit was established to cover the migratory movement of most species in this group. The onshore limit was established to cover</p>

Comment No.	Comment	Response
		<p>onshore habitats used by the species that may be affected by onshore and offshore components of the proposed Project.</p> <p>Differences in GAA across BOEM EISs are due to consideration, when possible, of more site-specific information about the environmental resource. For instance, more site-specific information of birds in the Mid-Atlantic Bight portion of this area and the proposed location of the Project was available and incorporated into the development of the GAA for Atlantic Shores South.</p>
BOEM-2023-0030-1556-0024	<p>There are inconsistencies within the Atlantic Shores South Draft EIS with respect to planned activities included within the analyses. For several analyses (air quality, benthic resources, wetlands, navigation, and vessel traffic) BOEM only considers Ocean Wind 1, Ocean Wind 2, and Atlantic Shores North as planned activities within the geographic analysis area and does not include development in the recent New York Bight leases. Conversely, impact analyses for recreation and tourism, visual and scenic resources, cultural resources, bats, marine mammals, etc., consider impacts from additional projects. BOEM should be more explicit in how it decides the geographic analysis area for each affected resource and consequently which planned activities are or are not included.</p>	<p>The geographic analysis area (GAA) varies for each resource as described in the individual resource sections of Chapter 3, <i>Affected Environment and Environmental Consequences of the EIS</i> and Table D-1 in Appendix D, <i>Ongoing and Planned Activities Scenario</i>.</p> <p>Ongoing and planned activities included within each environmental resource analysis are only those sited within the boundaries of the delineated geographic analysis area for each resource area.</p>
BOEM-2023-0030-1556-0025	<p>BOEM should improve their analyses to ensure a high standard and consistency for their cumulative impact analyses for offshore wind projects. We also urge BOEM to ensure that in evaluating impacts to species, the agency considers potential changes in range and seasonal use due to various anticipated levels of warming and climate change.</p>	<p>BOEM acknowledges the importance of considering impacts of range and seasonal use due to anticipated levels of warming and climate change. BOEM is investigating potential impacts and intends to incorporate the research once available. For example, BOEM and NOAA are investigating how the distribution of several marine bird species may shift due to changes in oceanographic conditions within the next 30 years (see https://www.boem.gov/environment/20-03).</p>
BOEM-2023-0030-1606-0023	<p>While cumulative impacts are mentioned briefly in sections the Draft EIS does not broadly or specifically consider impacts as they relate to the 31 other known projects and offshore</p>	<p>BOEM analyzes the impacts of all reasonably foreseeable future planned activities, which include future offshore wind activities, in each resource-specific section in Chapter 3 of the</p>

Comment No.	Comment	Response
	wind lease areas in the Northeast United States as they relate to Atlantic Shores South. As such the impacts from any and all of these projects will be amplified in the geographic analysis area.	EIS, <i>Affected Environment and Environmental Consequences</i> . The impacts of each alternative are analyzed in relation to the current baseline. Cumulative impacts of each alternative are also analyzed separately in relation to the future baseline.
BOEM-2023-0030-1606-0102	With the Vineyard Wind project, BOEM changed their tiered analysis of “reasonably foreseeable” impacts to include “those proposed offshore wind projects with COPs submitted or approved at the time of analysis.” [Footnote 64: Id.] BOEM expanded their “quantitative cumulative impacts analysis” in their SEIS to include all projects with submitted or approved COPs, all projects with onshore energy awarded, and all announced and future solicitations and lease sales. However, BOEM still did not expand this to apply to transmission, interconnection, or onshore impacts. Nor did BOEM cover the full extent of navigation and transit concerns as “reasonably foreseeable.” COA supports the continued application of BOEM’s “quantitative cumulative impact analysis” and urges BOEM to continue revising their approach to include the aforementioned additional cumulative impacts for the Atlantic Shores South project.	The scope of the EIS, per BOEM’s regulations, is to analyze the COP Atlantic Shores Offshore Wind, LLC submitted for Lease Area OCS-A 0499. BOEM is not able to analyze onshore transmissions and interconnections of projects not yet permitted, and to do so is outside of the scope of the EIS.
BOEM-2023-0030-1713-0008	Nine, qualitative judgments are used to slow the impact from the proposed action when compared to a baseline that consists of the future expected conditions. Before that is done, the impact on the proposed option should be compared with the current situation without expected future changes, essentially those for similar projects. And the impact of future expected changes should also be compared with the current situation. Using those two for context, the comparison with future expected conditions can be made. The current approach allows negative impacts to be masked and camouflaged by the negative impacts of expected changes including those from similar projects in the vicinity.	<p>The EIS presents a description and analysis of impacts from ongoing activities and trends (i.e., the No Action Alternative) and impacts from the Proposed Action and action alternatives. The No Action Alternative provides a current baseline for analysis of impacts from the action alternatives. A separate analysis of the No Action Alternative when combined with future planned activities (i.e., cumulative actions) provides the future baseline as a basis for comparison of the cumulative impacts of the action alternatives.</p> <p>BOEM analyzes the impacts of all reasonably foreseeable future planned activities, which include future offshore wind activities, in each resource-specific section in Chapter 3 of the EIS, <i>Affected Environment and Environmental Consequences</i>.</p>

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		The impacts of each alternative are analyzed in relation to the current baseline. Cumulative impacts of each alternative are also analyzed separately in relation to the future baseline.
BOEM-2023-0030-1728-0002	Atlantic Shores South is one of many projects the Bureau of Ocean Energy Management is facilitating and to date there is over 2.2 million acres with 3500 turbines needing ten thousand miles of heat and electromagnetic field pulsing cables not to mention 100 or so substations 20 stories tall which will be discharging billions of gallons of hot water all of this warming the ocean even faster and all in the name of climate change. However, the fact is these power plants will not reduce climate change and that's according to BOEM. In documents and personal communication BOEM says overall it is anticipated that there will be no collective impact on global warming as a result of offshore wind projects including the proposed actions. So if massive industrialization is not going to address climate change why are we doing this?	No single project can reduce GHG emissions enough to have a measurable impact by itself on sea level rise. The GHG emission reductions from the Proposed Action would contribute incrementally, in combination with all other GHG reductions, toward slowing the rate of sea level rise.
BOEM-2023-0030-1818-0003	Just as the ocean environment has no such dividing lines or limitations the overall review process instituted by the Department of Interior and the Federal Government itself should entail one independent scientific review to be accompanied by a cost benefit analysis of all significant and long lasting economic cultural historic and especially environmental impacts proposed by the cumulative industrial construction upon the twelve to thirteen (12-13) already proposed arbitrarily divided pristine tracks of the ocean sea bed. The ocean will be forever changed modified and impacted as per NOAA's preliminary studies and the admissions of the developers themselves by these huge industrial projects.	<p>The scope of the EIS, per BOEM's regulations, is to analyze the COP Atlantic Shores Offshore Wind, LLC submitted for Lease Area OCS-A 0499.</p> <p>BOEM analyzes the impacts of all reasonably foreseeable future planned activities, which include future offshore wind activities, in each resource-specific section in Chapter 3 of the EIS, <i>Affected Environment and Environmental Consequences</i>. The impacts of each alternative are analyzed in relation to the current baseline. Cumulative impacts of each alternative are also analyzed separately in relation to the future baseline.</p>
BOEM-2023-0030-1818-0004	The cumulative and comprehensive impact of all of these leases with the massive wind turbines and all the overall projects themselves must be reviewed in their totality in one overall independent and scientific investigation.	The scope of the EIS, per BOEM's regulations, is to analyze the COP Atlantic Shores Offshore Wind, LLC submitted for Lease Area OCS-A 0499.

Comment No.	Comment	Response
		BOEM analyzes the impacts of all reasonably foreseeable future planned activities, which include future offshore wind activities, in each resource-specific section in Chapter 3 of the EIS, <i>Affected Environment and Environmental Consequences</i> . The impacts of each alternative are analyzed in relation to the current baseline. Cumulative impacts of each alternative are also analyzed separately in relation to the future baseline.
BOEM-2023-0030-2014-0007	Similarly, it is entirely inappropriate to segregate off, certain areas of inquiry, which all must be looked at cumulatively, for an accurate informed review. Even this too limited approach, exposes the under-valued and devastating impact of the proposed construction. This unique and irreplaceable expanse of the sea off the New Jersey Atlantic Coast can be viewed from a historical and cultural perspective. The impact to this priceless area of ocean expanse utilized by Henry Hudson's "Half-Moon", up to the present huge vessels, in this major world shipping lane, could include lasting and irreparable harm. A more appropriate review process must take into account all the interrelated historical, cultural, scientific, and economic impacts and threats, posed by this seemingly immovable process of massive off shore wind farm, industrial development off of New Jersey's precious coast. As such, I would urge a far more expansive and interrelated review process so that the appropriate chief looking at the pending "New York Bight PIES" application and the Atlantic Shores South Wind project, reviews all of the cumulative impacts involved.	<p>The scope of the EIS, per BOEM's regulations, is to analyze the COP Atlantic Shores Offshore Wind, LLC submitted for Lease Area OCS-A 0499.</p> <p>BOEM analyzes the impacts of all reasonably foreseeable future planned activities, which include future offshore wind activities, in each resource-specific section in Chapter 3 of the EIS, <i>Affected Environment and Environmental Consequences</i>. The impacts of each alternative are analyzed in relation to the current baseline. Cumulative impacts of each alternative are also analyzed separately in relation to the future baseline.</p>

N.6.25 Connected Action

Table N.6-25. Responses to Comments on Connected Action

Comment No.	Comment	Response
BOEM-2023-0030-1773-0005	You want to dredge the Absecon inlet and that area around Farley Marina, what kind of impacts will that have to the	Potential impacts of the connected action on recreation and tourism and commercial fisheries and for-hire recreational

Comment No.	Comment	Response
	people that regularly leave out of Farley Marine. You will impact recreational as well as commercial fisherman with regard to that.	fishing are discussed in EIS Sections 3.6.8.5 and 3.6.1.5, respectively.

N.6.26 National Environmental Policy Act/Public Involvement Process

Table N.6-26. Responses to Comments on National Environmental Policy Act/Public Involvement Process

Comment No.	Comment	Response
BOEM-2023-0030-0109-0003	Over 30 mayors have signed a moratorium to halt construction & the will of the people is being ignored. Ocean City's right to home rule was stripped away.	Comment acknowledged.
BOEM-2023-0030-0112-0005	As is the document length is not consistent with CEQ NEPA rule §1502.7 on page limits. Unless the BOEM can produce such a reasoned statement by a senior official it has violated that rule provision. In addition, the document devotes about 75 percent of its space to factors that the BOEM judges to be of minor or negligible environmental impact which by §1502.2 should receive only brief discussion once and then dismissed in favor of presentation of only significant impacts in an EIS. Therefore, we recommend that the BOEM move the insignificant impact material from the body of the EIS to an Appendix. That would bring the length of the body of the EIS down to about 225 pages-below the 300-page criteria. With that change a 45-day comment period might be reasonable.	Resources with minor or lower impact were moved to Appendix F in the Final EIS. BOEM's EIS complies with the procedural and substantive requirements of NEPA.
BOEM-2023-0030-0213-0006	A look at Section 4 of the DEIS Unavoidable Adverse Impacts of the Proposed Action Table 4.1-1 shows that the project is overwhelmingly negative from many perspectives: air quality; water quality; biological resources including birds fish and marine mammals such as whales sea turtles and wetlands; socioeconomic conditions and cultural resources including commercial fisheries employment and economics land use and coastal infrastructure; navigation and vessel traffic; recreation and tourism; and scenic and visual resources. Adverse impacts that can be reduced by	Appendix G of the EIS includes mitigation and monitoring measures for resources discussed in Chapter 3, <i>Affected Environment and Environmental Consequences</i> .

Comment No.	Comment	Response
	<p>mitigation measures but not eliminated are considered unavoidable. BOEM claims that many but not all of these unavoidable impacts would be temporary occurring during construction and installation of the turbines. It seems that the greatest threat to migratory birds would be during operation of the turbines. We need BOEM to take a stand and define the mitigating measures that will be required to meaningfully review the DEIS but this will not happen until the FEIS or ROD stages. That is why we need an intermediate step such as an amended DEIS or Supplemental DEIS to define the minimum level of BOEM mitigation to be required.</p>	
BOEM-2023-0030-0213-0010	<p>Another important point is that the DEIS states in Section 1.4 that earlier NEPA documents prepared in 2007 and 2012 were “utilized to inform the preparation of this Draft EIS and are incorporated in their entirety by reference.”. There have been many changes that have occurred since the BOEM Programmatic EIS for Alternative Energy Development was prepared in 2007 and the Final EA was completed for Commercial Lease Issuance in 2012. These changes need to be acknowledged and addressed in the DEIS. Key changes that have occurred include:• the unprecedented number of whale deaths in 2022-2023 and the association of these deaths with the geotechnical testing of subsurface conditions by the wind companies;• the automation of the operation and maintenance of offshore wind energy systems thereby reducing potential for jobs;• the reliability of offshore wind systems for base load power absent commercially available energy storage capability and the need for back-up power sources;• the lack of demonstration of these massive wind energy turbines in the U.S. or for that matter in the world;• the reliability of such never used massive turbines in adverse weather conditions such as hurricanes and strong northeasters which do not occur in Europe and as illustrated by the events in Texas in the winter of 2021 and again in the summer of 2022; • the remarkable advancement of alternative low carbon or carbon free renewable energy</p>	<p>The scope of the of 2012 Mid-Atlantic Environmental Assessment for Commercial Wind Lease Issuance analyzed the impacts from two distinct activities: (1) lease issuance (including reasonably foreseeable consequences associated with shallow hazards and geological, geotechnical, and archaeological resource surveys); and (2) site assessment activities (including reasonably foreseeable consequences associated with the installation and operation of a meteorological tower or meteorological buoys). The scope and analysis of the Environmental Assessment did not cover construction or operational activities associated with a commercial wind facility, which the 2022 Mid-Atlantic indicated would be covered under a site-specific NEPA analysis once a COP was submitted. The Atlantic Shores South EIS analysis is utilizing the site-specific data provided as part of Atlantic Shores South COP. This site-specific data includes HRG data, geotechnical data, and photo/video documentation.</p> <p>BOEM and the NOAA Fisheries have assessed the potential effects of HRG surveys associated with offshore wind development in the Atlantic. Following a rigorous assessment, NOAA Fisheries and BOEM have concluded that these types of surveys are not likely to injure whales or other endangered species. For more information, please see:</p>

Comment No.	Comment	Response
	<p>generation technologies that are being implemented now or can shortly be implemented onshore not in the ocean;• the country’s once gained but recent loss of energy independence and the effect on U.S. security world peace and inflation and the associated increase in global greenhouse gas emissions;• China and India’s ramped up implementation of coal fired power plants and the associated impact on global greenhouse emissions;• the Supreme Court ruling on June 30 2022 finding that EPA doesn’t have the authority to regulate carbon emissions from power plants; and• the cost impact comparing offshore wind to alternative onshore technologies particularly the cost impact on electric rate payers who can ill afford significant increases in these times of high inflation.</p>	<p>https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/Offshore%20Wind%20Activities%20and%20Marine%20Mammal%20Protection_1.pdf_</p> <p>For the employment and economic impacts please see Section 3.6.3, <i>Demographics, Employment, and Economics</i> of the EIS.</p> <p>Many of the listed changes are outside of the scope of this EIS and BOEM’s purpose and need. As stated in Section ES.2, <i>Purpose and Need for the Proposed Action</i>, BOEM’s purpose and need is to determine whether to approve, approve with modification or disapprove Atlantic Shores’ COP. BOEM will make this determination after weighing the factors in Subsection 8(p)(4) of the OCSLA that are applicable to plan decisions and in consideration of those goals. BOEM’s action is needed to fulfill its duties under the lease, which require BOEM to make a decision on the lessee’s plans to construct and operate two commercial-scale offshore wind energy facilities within the Lease Area (the Proposed Action) (30 CFR 585.628).</p> <p>With regard to reliability of turbines, please see BOEM-2023-0030-0916-0235 in Table N.6-22.</p>
BOEM-2023-0030-0213-0023	<p>In Appendix E of the DEIS (Analysis of Incomplete and Unavailable Information) issues of uncertainty are raised for bats benthic resources birds coastal habitat and fauna finfish/invertebrates and essential fish habitat marine mammals sea turtles commercial fisheries and cultural resources. The entire Appendix tries to explain away these deficiencies (whether you agree or not) but can’t do that in all cases.</p>	<p>The discussion in Appendix E, <i>Analysis of Incomplete and Unavailable Information</i>, notes that additional research is needed to understand certain impacts. As additional information is gathered through surveys designed to detect the effects of OSW projects on marine species, it will be incorporated into EISs for future OSW projects.</p> <p>The Final EIS considers the best available data and information that reflect the state of the science at the time of publication of the EIS.</p>

Comment No.	Comment	Response
BOEM-2023-0030-0213-0037	That BOEM acknowledge changes in a Supplemental DEIS and address the ramifications of the changes (included those documented by these comments) that have occurred since earlier BOEM efforts for a Programmatic EIS in 2007.	<p>The scope of the EIS, per BOEM’s regulations, is to analyze the COP Atlantic Shores Offshore Wind, LLC submitted for Lease Area OCS-A 0499.</p> <p>BOEM’s EIS complies with the procedural and substantive requirements of NEPA. EIS Appendix E, <i>Analysis of Incomplete and Unavailable Information</i>, includes discussions on incomplete or unavailable information by environmental resource.</p>
BOEM-2023-0030-0213-0039	That in a Supplemental DEIS BOEM address the reliability and integrity of the proposed large scale turbines and comments by GE and Siemens regarding the negative impacts of rushed development of these larger turbines that have not been constructed or tested.	<p>BOEM analyzed the Proposed Action (i.e., the proposed Project as described in Atlantic Shores’ COP), as well as a reasonable range of alternatives, as described in Chapter 2, <i>Alternatives</i>.</p> <p>With regard to reliability, please see BOEM-2023-0030-0916-0235 in Table N.6-22.</p>
BOEM-2023-0030-0372-0005	The Tribal Nations previously asked for the projects to be considered under one large umbrella to make it easier to recognize and address ecosystem effects across the Atlantic coast.	<p>The scope of the EIS, per BOEM’s regulations, is to analyze the COP Atlantic Shores Offshore Wind, LLC submitted for Lease Area OCS-A 0499.</p> <p>The EIS describes cumulative impacts of ongoing and planned activities along the Atlantic Coast by environmental resource.</p> <p>The EIS presents a description and analysis of impacts from ongoing activities and trends (i.e., the No Action Alternative) and impacts from the Proposed Action and action alternatives. The No Action Alternative provides a current baseline for analysis of impacts from the action alternatives. A separate analysis of the No Action Alternative when combined with future planned activities (i.e., cumulative actions) provides the future baseline as a basis for comparison of the cumulative impacts of the action alternatives.</p>

Comment No.	Comment	Response
		<p>BOEM analyzes the impacts of all reasonably foreseeable future planned activities, which include future offshore wind activities, in each resource-specific section in Chapter 3 of the EIS, <i>Affected Environment and Environmental Consequences</i>. The impacts of each alternative are analyzed in relation to the current baseline. Cumulative impacts of each alternative are also analyzed separately in relation to the future baseline.</p>
BOEM-2023-0030-0535-0001	<p>The draft environmental impact statement for Atlantic Shores is deficient as it fails to make clear to the public the fact that this is a FAST 41 project. That is a vital omission as people who may be impacted by this project and wish to engage in litigation will not be able to do so unless they provide a comment during the comment period. Not providing that information in full should make the EIS null and void. Also since the period of time one can sue for damages is substantially reduced in FAST 41 projects the public is being deceived by that not being made abundantly clear.</p>	<p>The Atlantic Shores South EIS meets the requirements of NEPA. The Atlantic Shores South Project was posted on the Fast-41 permitting dashboard on April 13, 2021. The link to the Project’s dashboard is included as a footnote in Appendix A, <i>Required Environmental Permits and Consultations</i>.</p> <p>The Fixing America’s Surface Transportation Act aims to improve the federal environmental review and authorization process for covered infrastructure projects rather than to fast-track reviews. NEPA regulations at 40 CFR 1501.10 provide time limits for NEPA documents to “ensure that agencies conduct NEPA reviews as efficiently and expeditiously as practicable.”</p>
BOEM-2023-0030-0573-0002	<p>Also why wasn't I notified as a taxpayer in this town to what will happen to my beloved Brigantine Beach.</p>	<p>Section ES.3 of the EIS provides an overview of the public engagement process and activities to date. The publication of the Draft EIS initiated a 45-day public comment period, which commenced with publication of the Notice of Availability (NOA) of the Draft EIS in the Federal Register on May 19, 2023. Outreach included publication of the NOA in the Federal Register, BOEM press releases and social media announcements, notification letters to state congressional members, email notifications to tribal nations, cooperating agencies, and consulting parties, and publication of legal notices in local newspapers to advertise the public comment period and solicit input on the Draft EIS from the public, elected officials, and federal, tribal, state, and local agencies. The legal notice was published in The Press of Atlantic City, Star-Ledger, Asbury Park Press, Cape May Herald,</p>

Comment No.	Comment	Response
		<p>Philadelphia Inquirer, South New Jersey Times, and the Daily Journal.</p> <p>Additionally, BOEM conducted both in-person and virtual meetings to inform interested attendees of the Draft EIS and proposed Project and to provide the opportunity for the public to provide oral testimony. Two in-person meetings were held in Manahawkin, NJ and Atlantic City, NJ on June 21 and June 22, 2023, respectively. Two virtual meetings were held on June 26 and 28, 2023.</p>
BOEM-2023-0030-0916-0002	<p>with regard to perhaps the most adverse impact of this proposal i.e., the noise impact to endangered whales from turbine construction and operation the proposed National Marine Fisheries Service (NMFS) rule was not released prior to the DEIS as we had previously recommended. This deprives the BOEM and the public of the NMFS analysis and position on this critical subject and is not consistent with CEQ NEPA Rule §1502.24(a) that an EIS be coordinated with other critical reviews “to the fullest extent possible”. If the BOEM proceeds with this DEIS then to correct these problems the comment period should be held open until at least 15 days after the NMFS proposed rule is released. However as discussed below the better course would be to restructure and reissue the document in accordance with the statutory page limits in The Fiscal Responsibility Act of 2023.</p>	<p>The potential impacts of the Proposed Action on ESA-listed species are identified and evaluated or discussed in the EIS. Additionally, BOEM prepared a Biological Assessment that evaluates the potential effects of the proposed project on ESA-listed species. ESA consultation with NMFS was completed on December 18, 2023, and findings of the Biological Opinion are incorporated into the Final EIS.</p>
BOEM-2023-0030-0916-0056	<p>Alternate Areas. The narrowing of turbine placement alternatives to only the applicant’s proposal is directly counter to the elimination of that language in the CEQ recent NEPA rule changes.</p>	<p>The Atlantic Shores EIS is consistent with CEQ NEPA regulations. The scope of the EIS, per BOEM’s regulations, is to analyze the COP Atlantic Shores Offshore Wind, LLC submitted for Lease Area OCS-A 0499.</p>
BOEM-2023-0030-0916-0178	<p>Taken together the DEIS presentation is very far from the full disclosure requirements of the National Environmental Policy Act. All that BOEM and the DEIS need to do is to present in the body of the EIS a series of visible renditions from relevant observation points for night and typical clear and overcast</p>	<p>The scope of the EIS, per BOEM’s regulations, is to analyze the COP Atlantic Shores Offshore Wind, LLC submitted for Lease Area OCS-A 0499. As described in Section ES.2, <i>Purpose and Need for the Proposed Action</i>, of the EIS, the purpose of BOEM’s action is to determine whether to approve, approve with modifications, or disapprove Atlantic Shores’ COP. The</p>

Comment No.	Comment	Response
	<p>days. Put the distance to the nearest turbine and the number of turbines being viewed on the rendition and the viewer will have no problem figuring out the impact without pages of detailed and often biased discussion.</p>	<p>potential visual impacts of the proposed turbine heights was evaluated and described in Section 3.6.9, <i>Scenic and Visual Resources</i>, and Appendix H, <i>Seascape, Landscape, and Visual Impact Assessment</i>.</p>
BOEM-2023-0030-0916-0220	<p>The DEIS presents no decommissioning impacts and say says that the presentation of project decommissioning impacts will be deferred until the lease expires. BOEM representatives have stated that a decommissioning plan will not be asked for until two years prior to the expiration of the lease. That is an irresponsible approach nor is it consistent with NEPA requirements that reasonably foreseeable impacts be included in an EIS.</p>	<p>Atlantic Shores has submitted a conceptual decommissioning plan as part of the COP. Specific procedures to be applied to project decommissioning would be determined during BOEM’s environmental review of the decommissioning plan. General procedures for decommissioning are described in Section 2.1.2.3, <i>Conceptual Decommissioning</i>.</p> <p>Before decommissioning activities can occur, Atlantic Shores must submit a decommissioning application and receive approval from BSEE. The decommissioning application must be submitted to BSEE at least two years before the expiration of the lease pursuant to § 285.905. The required contents of the decommissioning application can be found in § 285.906.</p> <p>BSEE will compare the decommissioning application with the conceptual decommissioning plan in Atlantic Shores’ approved COP to determine if additional environmental and technical reviews are needed. The NEPA review of the Decommissioning Plan will examine the impacts of various decommissioning scenarios, including EFH and ESA consultations. Upon completion of the technical and environmental reviews, BSEE may approve, approve with conditions, or disapprove Atlantic Shores’s decommissioning application. If BSEE disapproves the decommissioning application, Atlantic Shores would be required to resubmit the decommissioning application to address the concerns identified by BSEE.</p>
BOEM-2023-0030-0916-0241	<p>So the BOEM concludes its NEPA process with no NEPA consideration and public input ever of alternative turbine areas turbine size turbine number spacing or meaningful</p>	<p>BOEM evaluated the alternatives using the screening criteria presented in Appendix C, Section C.1, <i>Alternatives Screening Criteria</i>. The first criterion states that an alternative was considered but not analyzed if it is outside the jurisdiction of</p>

Comment No.	Comment	Response
	mitigation measures and as stated at the outset makes a mockery of the law.	<p>the lead agency, including resulting in activities that are not allowed under the lease (e.g., requiring locating part or all of the wind energy facility outside of the Lease Area), which is important because the Lease Area was delineated through consultation with the BOEM New Jersey Task Force (comprising federal agencies, state government, and locally elected officials), and public input with the intent of protecting ecologically sensitive areas and minimizing user conflicts while making available appropriate areas for wind development.</p> <p>Furthermore, Atlantic Shores lease pursuant to Section 2: Rights of the Lessee grants, “the exclusive right and privilege, subject to the terms and conditions of this lease and applicable regulations, to: (1) submit to the Lessor for approval a Site Assessment Plan (SAP) and Construction and Operations Plan (COP) for the project identified in Addendum ‘A’ of this lease; and (2) conduct activities in the area identified in Addendum ‘A’ of this lease (‘leased area’) that are described in a SAP or COP that has been approved by the Lessor.” Accordingly, even if BOEM were to evaluate an alternative outside of the Lease Area, BOEM would not have the ability to approve COP activities for an area not leased to Atlantic Shores.</p> <p>In the CEQ Phase 1 Final NEPA Rule’s Preamble, CEQ states that when considering the purpose and need for a project sponsored by an outside party, in addition to the applicant’s goals, other relevant factors include the agency’s mission and policy directives, the specifics of the agency’s decision, local needs, desired conditions on the landscape, other environmental outcomes, and the purpose and need of any other federal agencies completing the NEPA process for the same proposed project.</p>
BOEM-2023-0030-0916-0245	In requiring the alternatives above we did look at BOEM’s recent screening criteria of June 22 2022 for alternatives for a COP EIS but found the criteria inconsistent with the Biden	BOEM evaluated the alternatives using the screening criteria presented in Appendix C, Section C.1, <i>Alternatives Screening Criteria</i> . The first criterion states that an alternative was

Comment No.	Comment	Response
	Administration’s recent NEPA rule changes. We also found the screening criteria confusing contradictory not supported by the NEPA and subsequent case law and thus not helpful.	considered but not analyzed if it is outside the jurisdiction of the lead agency, including resulting in activities that are not allowed under the lease (e.g., requiring locating part or all of the wind energy facility outside of the Lease Area), which is important because the Lease Area was delineated through consultation with the BOEM New Jersey Task Force (comprising federal agencies, state government, and locally elected officials), and public input with the intent of protecting ecologically sensitive areas and minimizing user conflicts while making available appropriate areas for wind development.
BOEM-2023-0030-0916-0253	Per the CEQ NEPA rules An EIS should provide full and fair discussion of significant environmental impacts §1502.1 and only brief discussion of other than significant issues §1502.2. It should be concise clear and to the point and supported by evidence that the agency has made the necessary environmental analysis §1502.1. It should not be encyclopedic and shall be analytic and concise§1502.2. it should avoid useless bulk and concentrate effort and attention on important issues §1502.15. Verbose descriptions of the affected environment are themselves no measure of the adequacy of an EIS §1502.15. It should inform federal decision making and the public §1502.1. To achieve those requirements§1502.7 requires that the EIS: “shall be 150 pages or fewer and for proposals of unusual scope or complexity shall be 300 pages or fewer unless a senior agency official of the lead agency approves in writing a statement to exceed 300 pages and establishes a new page limit”. This body of this draft EIS is 904 pages long including Appendices 2198 pages long. A lay person for whom the document is intended can read about 10 pages of quasi-technical material per hour. Assuming that a person could do that for 4 hours a day it would require 55 days just to read the EIS document.	BOEM has worked diligently to provide as much information as is possible, under current regulatory guidance, within the main body of the EIS with supporting or additional information provided in the appendices. Resources with minor or lower impact were moved to Appendix F in the Final EIS, reducing the size of the EIS.

Comment No.	Comment	Response
BOEM-2023-0030-1038-0001	<p>The aggressive timeline for offshore wind development in the Atlantic poses challenges for multiple industries and multiple jurisdictions. It is imperative that BOEM takes a holistic approach to the combined development of projects. Uniformity is critical when reviewing and ruling on construction and operations plans (COP) on any individual development project.</p>	<p>BOEM has worked diligently to provide a comprehensive EIS for the Atlantic Shores South Project with the best available data commensurate with other BOEM EISs.</p> <p>The EIS presents a description and analysis of impacts from ongoing activities and trends (i.e., the No Action Alternative) and impacts from the Proposed Action and action alternatives. The No Action Alternative provides a current baseline for analysis of impacts from the action alternatives. A separate analysis of the No Action Alternative when combined with future planned activities (i.e., cumulative actions) provides the future baseline as a basis for comparison of the cumulative impacts of the action alternatives.</p> <p>BOEM analyzes the impacts of all reasonably foreseeable future planned activities, which include future offshore wind activities, in each resource-specific section in Chapter 3 of the EIS, <i>Affected Environment and Environmental Consequences</i>. The impacts of each alternative are analyzed in relation to the current baseline. Cumulative impacts of each alternative are also analyzed separately in relation to the future baseline.</p>
BOEM-2023-0030-1223-0009	<p>The purpose and need section should clarify that BOEM is not bound to only consider approval of projects large enough to meet existing state energy procurements.</p>	<p>The scope of the EIS, per BOEM's regulations, is to analyze the COP Atlantic Shores Offshore Wind, LLC submitted for Lease Area OCS-A 0499. As described in Section ES.2, <i>Purpose and Need for the Proposed Action</i>, of the EIS, the purpose of BOEM's action is to determine whether to approve, approve with modifications, or disapprove Atlantic Shores' COP.</p>
BOEM-2023-0030-1223-0014	<p>The Atlantic Shores South FEIS and future DEIS and FEIS documents for other projects should indicate that BOEM's ability to "approve [a COP] with modifications" could mean approving a smaller project than what is proposed in the COP or than would be necessary to meet existing procurements. For example, state energy procurements are often made well before detailed site characterization data have been collected</p>	<p>If a lessee's COP is approved or approved with modifications, the lessee must submit a Facility Design Report and a Fabrication and Installation Report for BSEE's review pursuant to 30 CFR 285.700–702, prior to fabricating and installing those proposed facilities. In situations where a lessee's Facility Design Report or Fabrication and Installation Report describes a project that deviates substantially from</p>

Comment No.	Comment	Response
	and before the impacts of the project have been fully analyzed. This can result in overly ambitious procurements which can pose challenges for reducing the negative impacts of the project.	the range of parameters outlined in the PDE of a lessee's approved COP, if necessary, BOEM may require a revision to a lessee's COP and may initiate additional NEPA review and other environmental consultations.
BOEM-2023-0030-1223-0037	The FEIS and all future NEPA documents for other wind projects should specify if an impact is adverse or beneficial. Generally, this is done throughout the DEIS but there are a few areas where the direction of impact is not specified. Additionally, some impact producing factors (e.g., presence of structures) are expected to have both adverse and beneficial impacts (e.g., adverse for soft bottom species and beneficial for structure-oriented species). The clarity of these descriptions would be improved if "adverse" or "beneficial" were specified for each impact or at a minimum at the beginning of each section. This should be done consistently throughout all sections of the document.	The EIS uses a four-level classification scheme to characterize the potential beneficial and adverse impacts of alternatives as either negligible, minor, moderate, or major. Each environmental resource section with Chapter 3, <i>Affected Environment and Environmental Consequences</i> , of the EIS includes a table defining the type of impact (adverse and beneficial) in relation to the level of impact (negligible, minor, moderate, or major). For instance, Table 3.4.1.2, <i>Impact level definitions for air quality</i> , in Section 3.4.1, <i>Air Quality</i> . Throughout the EIS, impacts are adverse unless specified as beneficial. The Final EIS has been reviewed and revised as needed to ensure correct and clear impact conclusions.
BOEM-2023-0030-1257-0004	Importantly robust engagement of local and expert stakeholders is critical to the success of not only Atlantic Shores South but of offshore wind in general.	The NOI was published in the Federal Register. To inform local communities of the Project, BOEM published notices in the legal section of the following papers: Asbury Park Press, Cape May County Herald, and the Star-Ledger informing the public of the virtual scoping meetings. The NOA was also published in the Federal Register and the legal section of the following papers: Press of Atlantic City, Star-Ledger, Asbury Park Press, Cape May Herald, Philadelphia Inquirer, South New Jersey Times, and the Daily Journal informing the local community of the in-person and virtual public meetings. Both digital and hard copies of the Draft EIS were sent to the following libraries: Atlantic City Free Public Library, Atlantic County Library (Brigantine Branch), Beach Haven Public Library, Monmouth County Library (Main Branch and Eastern Branch), Ocean City Free Public Library, Ocean County Library (Waretown Branch), and Sea Girt Public Library.
BOEM-2023-0030-1257-0007	As Atlantic Shores South has a power purchase agreement for Project 1 but not Project 2 BOEM should evaluate whether any resulting construction delays will initiate the need for	The schedule for the installation and commissioning of Project 2 is subject to change and is dependent on a multitude of factors, including the award of a PPA or a State

Comment No.	Comment	Response
	supplemental environmental review given any significant new information.	OREC Solicitation, contractor and supply chain factors, and other considerations. If construction delays lead to substantial changes in the nature, magnitude, or extent of the Project, a supplemental environmental review will be needed.
BOEM-2023-0030-1503-0002	<p>SECOND: Furthermore, in reading what little of the thousands of pages contained in the DEIS in the short amount of time that was afforded I note that it echoes in many ways the key knowledge gaps contained in the March 2023 publication Fisheries and Offshore Wind Interactions: Synthesis of Science published by NOAA. In this document numerous KEY KNOWLEDGE GAPS were identified as needing further research: 1. The spatial extent to which attraction to and foraging on wind turbines enhances fish production beyond local effects and the degree of change in production 2. Clarification on the balance of attraction/production/ecological trap 3. Upscaling of locally observed effects to the regional scale (i.e., demersal fish stock size) 4. Impacts on spawning and nursery ground quality with regard to habitat change 5. Trophic or feeding and nutrition interactions 6. Quality of epifaunal or benthic organisms as food for fish and subsequent levels 7. Seasonal noise effects on fish at appropriate life history stages 8. Information on the ability of animals to evade noise 9. Consideration of noise attenuation and distance from source in assessments of effects 10. Effects of pile-driving noise and operational noise were identified as priority knowledge gaps although cumulative effects of other noise sources also require attention 11. Sensitivity ranges for species of interest with regard to OSW EMF intensities and types 12. Likely encounter rates for species of interest with EMFs from OSW cables taking account of the most relevant life stages and their movement ecology; potential for cumulative effects 13. Knowledge of migratory delays resulting from EMF encounters and any ecological consequences in the context of species/life stage-specific migration 14. Knowledge of the</p>	<p>Section 3.5.5, <i>Finfish, Invertebrates, and Essential Fish Habitat</i>, analyzes the potential impacts on fish and invertebrates of conversion from soft-bottom to hard-bottom habitat associated with OSW structures (e.g., foundations, scour protection, cable protection) based on the most recent research. The discussion, as well as discussion in Appendix E, <i>Analysis of Incomplete and Unavailable Information</i>, notes that additional research is needed to understand region-scale impacts. As additional information is gathered through surveys designed to detect the effects of OSW projects on marine species, it will be incorporated into EISs for future OSW projects.</p> <p>The Final EIS considers the best available data and information that reflect the state of the science at the time of publication of the EIS.</p>

Comment No.	Comment	Response
	<p>ability of species to derive ecologically important cues in the presence of cable EMFs (and consideration of life stage) 15. Determination and quantification of distorted predator-prey interactions and consequences for energy acquisition (for predators) or survival (for prey) 16. Potential effects on sessile life stages (e.g., eggs which may be exposed to variable EMFs over longer periods) 17. Consideration of stratification and altered hydrodynamics on species at appropriate scales such as the influence on connectivity larval transport and recruitment18. Generational effect of energy emissions (noise and EMF) 19. Early life stage effects of energy emissions on later life stages20. Consideration of multimodal stressors 21. Consideration of cumulative effects rather than individual pressures 22. Species-specific spillover rates BOEM has stated in Appendix E of the DEIS for Atlantic Shores that it is not willing to invest the effort or money to properly investigate these issues as well as many more. Also in Appendix E and throughout the DEIS BOEM has cited “studies” coming directly from Atlantic Shores, the corporation that intends to install wind turbines off our coastline. Directly from BOEM’s website “BOEM’s mission is to regulate offshore renewable energy development activities in an environmentally responsible way.” However, this is not happening. Using information provided by the applicant as a valid “study” is by no means environmentally responsible nor is refusing to invest the effort to perform the PROPER studies PRIOR to destruction of marine habitat. This DEIS should be declared invalid and removed from the record altogether. No proper studies have occurred on the impact of offshore wind on the east coast feeding, breeding and migration waters. BOEM needs to start over with this document and perform the proper studies.</p>	
BOEM-2023-0030-1536-0002	<p>The pace and number of offshore wind projects in development in our region pose challenges for thorough analysis of potential impacts informed public input and adopting lessons learned from each project. There are over a</p>	<p>BOEM’s regulations require BOEM to analyze Atlantic Shores South’s submitted COP and prepare an appropriate NEPA analysis. BOEM evaluates considerations such as the number</p>

Comment No.	Comment	Response
	<p>dozen projects for which survey design and environmental review are already occurring and multiple additional areas in the New York Bight are planned to be leased. Work on these projects is already taxing available resources in the commercial fishing community and we expect at BOEM as well. Consistency in approaches and adopting lessons learned from one project to the next will benefit stakeholders who seek to engage in the review process for these complex projects.</p>	<p>of lease sales expected in each area, as well as where BOEM is in the overall leasing process.</p> <p>The EIS presents a description and analysis of impacts from ongoing activities and trends (i.e., the No Action Alternative) and impacts from the Proposed Action and action alternatives. The No Action Alternative provides a current baseline for analysis of impacts from the action alternatives. A separate analysis of the No Action Alternative when combined with future planned activities (i.e., cumulative actions) provides the future baseline as a basis for comparison of the cumulative impacts of the action alternatives.</p> <p>BOEM analyzes the impacts of all reasonably foreseeable future planned activities, which include future offshore wind activities, in each resource-specific section in Chapter 3 of the EIS, <i>Affected Environment and Environmental Consequences</i>. The impacts of each alternative are analyzed in relation to the current baseline. Cumulative impacts of each alternative are also analyzed separately in relation to the future baseline.</p> <p>BOEM strived to incorporate all applicable edits and comments received on other recently completed or ongoing BOEM environmental reviews into the Atlantic Shores South EIS.</p>
BOEM-2023-0030-1536-0003	<p>Delaying construction of this project would allow further research and deconflicting and wouldn't even substantially impact the wind industry. Example: Southern New England leases were identified from 2011-2018. At that time there weren't many NARW in the lease areas but they've subsequently moved there. A shorter timeline between leasing and development would have allowed better identification and mitigation of environmental impacts at the time of project review.</p>	<p>BOEM's EIS complies with the procedural and substantive requirements of NEPA. The Final EIS considers the best available data and information that reflect the state of the science at the time of publication of the EIS.</p>

Comment No.	Comment	Response
BOEM-2023-0030-1542-0007	<p>IMPACT ANALYSIS STANDARDIZATION. Surfrider has been frustrated by the inconsistencies in the NEPA analyses for the East Coast offshore wind COPs that have been released over the last few years. We have seen inconsistencies for cumulative impacts between similar project analysis and even for the No Action Alternative. We do appreciate the separation of impact analysis for marine mammals so that North Atlantic right whales are assessed separately from other marine mammals as done for this Project.</p>	<p>BOEM strived to incorporate all applicable edits and comments received on other recently completed or ongoing BOEM environmental reviews into the Atlantic Shores South EIS. BOEM’s approach to cumulative impacts has evolved in response to comments received on other BOEM environmental reviews.</p> <p>The Atlantic Shores South EIS presents a description and analysis of impacts from ongoing activities and trends (i.e., the No Action Alternative) and impacts from the Proposed Action and action alternatives. The No Action Alternative provides a current baseline for analysis of impacts from the action alternatives. A separate analysis of the No Action Alternative when combined with future planned activities (i.e., cumulative actions) provides the future baseline as a basis for comparison of the cumulative impacts of the action alternatives.</p> <p>BOEM analyzes the impacts of all reasonably foreseeable future planned activities, which include future offshore wind activities, in each resource-specific section in Chapter 3 of the EIS, <i>Affected Environment and Environmental Consequences</i>. The impacts of each alternative are analyzed in relation to the current baseline. Cumulative impacts of each alternative are also analyzed separately in relation to the future baseline.</p>
BOEM-2023-0030-1249-0001	<p>Additional time was requested and denied. These comments will be amended and supplemented. Selection of the Lease Area as described in the DEIS was accomplished without proper authority. Selection of the Lease Area as described in the DEIS was arbitrary unreasonable capricious and exceeded the authority of the government actors involved. Selection of the Lease Area as described in the DEIS violated the rights of citizens and stakeholders to due process and equal protection of law. The competitive leasing process resulting in the award of Lease OCS-A-0499 exceeded the authority of BOEM. In each of the assignments of Lease OCS-A-0499 BOEM</p>	<p>The New Jersey wind energy areas were established by BOEM through a development process that initiated in 2011 (BOEM 2023). On Feb. 3, 2012, BOEM published in the Federal Register a Notice of Availability of an Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) for commercial wind lease issuance and site assessment activities on the Atlantic OCS offshore New Jersey, Delaware, Maryland, and Virginia(BOEM 2012). Consultations ran concurrently with preparation of the EA and included consultations under the Endangered Species Act, Magnuson-Stevens Fishery Conservation and Management Act, Section</p>

Comment No.	Comment	Response
	<p>exceeded its proper authority and violated the rights of citizen stakeholders to due process and equal protection of law. Executive Order 14008 exceeded the authority of the President. BOEM has exceeded its proper authority under the OCSLA. Implementation of the “shared goals of the federal agencies to deploy 30 GW of offshore wind” was not authorized by Congress and therefore violates due process and equal protection of law.. Implementation of the “shared goals of the federal agencies to deploy 30 GW of offshore wind” exceeds BOEM’s authority and therefore violates due process and equal protection of law. To the extent BOEM was authorized pursuant to the authority cited on ES-2 footnote 3 of the DEIS such delegation exceeds the authority of the President. [In the DEIS BOEM fails to protect biodiversity and promote ocean co-use. In light of above Alternative A No Action is appropriate.</p>	<p>106 of the National Historic Preservation Act, and the Coastal Zone Management Act. On July 11, 2012, BOEM issued a “Finding of No Historic Properties Affected for the Issuance of Commercial Leases within the New Jersey Wind Energy Area.”</p> <p>Through a competitive leasing process under 30 CFR 585.211, Atlantic Shores was awarded Commercial Renewable Energy Lease OCS-A 0499 offshore New Jersey and 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 (Project 1 and Project 2, referred to collectively as the Atlantic Shores South Project). The submittal of the COP triggers a NEPA review by BOEM and this EIS is the result of that.</p>
BOEM-2023-0030-1337-0002	<p>CONCERN: Was the NOI published in local newspapers so that residents would have been aware early on that this project was being proposed. Were hard copies of the documents placed in the local libraries so that residents could access them if they didn’t have internet? Also given the timing of the NOI publication during COVID -19 many residents were more consumed with the virus not this giant proposal. There could have been a timelier opportunity to publish the NOI possibly delay the NOI or even better take extra steps to notify the public. Based on your extensive experience with the NEPA process this was deception and an opportunity to solicit minimal comments from the public during a vulnerable time.</p>	<p>The NOI was published in the Federal Register. To inform local communities of the Project, BOEM published notices in the legal section of the following papers: Asbury Park Press, Cape May County Herald, and the Star-Ledger informing the public of the virtual scoping meetings. The NOA was also published in the Federal Register and the legal section of the following papers: Press of Atlantic City, Star-Ledger, Asbury Park Press, Cape May Herald, Philadelphia Inquirer, South New Jersey Times, and the Daily Journal informing the local community of the in-person and virtual public meetings. Both digital and hard copies of the Draft EIS were sent to the following libraries: Atlantic City Free Public Library, Atlantic County Library (Brigantine Branch), Beach Haven Public Library, Monmouth County Library (Main Branch and Eastern Branch), Ocean City Free Public Library, Ocean County Library (Waretown Branch), and Sea Girt Public Library. BOEM’s regulations require BOEM to analyze Atlantic Shores South’s submitted COP and prepare an appropriate NEPA analysis.</p>

Comment No.	Comment	Response
		<p>The Fixing America’s Surface Transportation Act aims to improve the federal environmental review and authorization process for covered infrastructure projects rather than to fast-track reviews. NEPA regulations at 40 CFR 1501.10 provide time limits for NEPA documents to “ensure that agencies conduct NEPA reviews as efficiently and expeditiously as practicable.”</p>
BOEM-2023-0030-1337-0003	<p>The lease agreements were being arranged several years prior and the RFPs to contractors that were going out to secure the work were also underway all without local community involvement/awareness.</p>	<p>The New Jersey wind energy areas were established by BOEM through a development process that initiated in 2011 (BOEM 2023). On Feb. 3, 2012, BOEM published in the Federal Register a Notice of Availability of an Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) for commercial wind lease issuance and site assessment activities on the Atlantic OCS offshore New Jersey, Delaware, Maryland, and Virginia(BOEM 2012). Consultations ran concurrently with preparation of the EA and included consultations under the Endangered Species Act, Magnuson-Stevens Fishery Conservation and Management Act, Section 106 of the National Historic Preservation Act, and the Coastal Zone Management Act. On July 11, 2012, BOEM issued a “Finding of No Historic Properties Affected for the Issuance of Commercial Leases within the New Jersey Wind Energy Area.”</p> <p>The scope of the EIS, per BOEM’s regulations, is to analyze the COP Atlantic Shores Offshore Wind, LLC submitted for Lease Area OCS-A 0499. As described in Section ES.2, <i>Purpose and Need for the Proposed Action</i>, of the EIS, the purpose of BOEM’s action is to determine whether to approve, approve with modifications, or disapprove Atlantic Shores’ COP.</p>
BOEM-2023-0030-1339-0004	<p>[Bold: RODA strongly urges BOEM to reconsider the sequencing of the site assessment COP approval and NEPA initiation for OSW projects as the current rushed timeline has resulted in Proposed Alternatives that may not be possible given technical constraints or could be improved with more information.] If the site assessment is fully complete prior to</p>	<p>NEPA regulations at 40 CFR 1501.10 provide time limits for NEPA documents to “ensure that agencies conduct NEPA reviews as efficiently and expeditiously as practicable.”</p>

Comment No.	Comment	Response
	<p>the COP approval and initiation of the NEPA analyses the Proposed Action would be better informed. A compression of these different analyses and permitting actions means the public is not adequately informed of the expected project design and again demonstrates why alternatives should be fully analyzed and compared against each other - not solely to the Proposed Action. [Bold: We strongly urge BOEM to require geological information which may drastically change a project design in light of fisheries impacts be more readily available early on in the process. A rushed process does equal a better process.]</p>	<p>BOEM’s regulations describe the requirements for a COP at subpart F (30 CFR 585.620 – 585.629). BOEM’s decision to approve, disapprove, or approve with modifications a COP requires environmental reviews and consultations under NEPA and other applicable Federal statutes. Previously, BOEM published guidance to assist applicants in preparing their COP filings. However, BOEM recognizes that, for a variety of reasons, it may not be possible or practicable for applicants to provide BOEM with an initial COP submission that meets all data and information requirements under subpart F.</p> <p>Accordingly, BOEM may begin processing incomplete COP submissions, subject to a BOEM-reviewed “supplemental filing schedule” for submitting the remaining required information in time to inform the requisite environmental analyses and COP decisions. This guidance, known as the “NOI Checklist,” revises the current process for partial COP submissions to: (1) improve the efficiency and effectiveness of reviews; (2) provide clarity to COP applicants and cooperating agencies participating in BOEM’s NEPA analysis; (3) avoid delays to the NEPA analysis after the NOI, which are particularly disruptive to applicants, cooperating agencies, and BOEM’s decision making. The revised approach identifies the minimum threshold for a partial COP submission that an applicant generally should meet before BOEM will initiate the NEPA analysis through publication of an NOI.</p>
BOEM-2023-0030-1439-0001	<p>We were not informed for this public input previously as was most Jersey Shore residents. It is essential for regulatory agencies to ensure that relevant stakeholders including local communities and organizations like EDBA are informed and given opportunities to provide input during the project development stages. We encourage you to improve the process in use by BOEM and NOAA to express your need for a</p>	<p>Section ES.3 of the EIS provides an overview of the public engagement process and activities to date. The publication of the Draft EIS initiated a 45-day public comment period, which commenced with publication of the Notice of Availability (NOA) of the Draft EIS in the Federal Register on May 19, 2023. Outreach included publication of the NOA in the Federal Register, BOEM press releases and social media announcements, notification letters to state congressional</p>

Comment No.	Comment	Response
	majority of public input and clarification on topics requiring the public input process.	<p>members, email notifications to tribal nations, cooperating agencies, and consulting parties, and publication of legal notices in local newspapers to advertise the public comment period and solicit input on the Draft EIS from the public, elected officials, and federal, tribal, state, and local agencies. The legal notice was published in The Press of Atlantic City, Star-Ledger, Asbury Park Press, Cape May Herald, Philadelphia Inquirer, South New Jersey Times, and the Daily Journal.</p> <p>Additionally, BOEM conducted both in-person and virtual meetings to inform interested attendees of the Draft EIS and proposed Project and to provide the opportunity for the public to provide oral testimony. Two in-person meetings were held in Manahawkin, NJ and Atlantic City, NJ on June 21 and June 22, 2023, respectively. Two virtual meetings were held on June 26 and 28, 2023.</p>
BOEM-2023-0030-1439-0003	<p>“Takes” issued for this report to occur in this final form had no onsite data regarding these harmful collision possibilities? Data used was collected from estimates foreign sources having no relevant hurricane or impact trauma data whatsoever. The Atlantic Windfarm project will violate NEPA MMPA and ESA by BOEM not addressing these scenarios of harm to marine life by granting the EIS statement. This EIS is not complete and must not be issued for any in process New Jersey Wind Farm! The present N.J. windfarm proposals as outlined to date can actually result in “Killing Fields” of our valued marine resources lacking verified on site data studied and reported. If harm occurs windfarm activity would have to be stopped to avoid and cease the harm. Structures will have to be removed or modified. NOAA and the Bureau of Ocean Energy Management share the final Federal Survey Mitigation Strategy for Northeast and Mid-Atlantic regions. We repeat: without a scientific study of these harmful impacts: A) ATLANTIC N.J. WIND WILL VIOLATE THE NEPA ACT</p>	<p>The EIS is not intended to be a take assessment. Takes of marine mammals are authorized and managed by NMFS through take authorizations and Biological Opinions. If NMFS determines too many takes have been authorized, no further takes will be issued. However, it is not the purpose of the EIS to rule on this topic.</p>

Comment No.	Comment	Response
	IF THIS EIS IS ALLOWED BY BOEM* NEPA ACT – See attachment.	
BOEM-2023-0030-1499-0003	Along the same line though not directly related to the content of your plan your EIS presumes compliance with the executive order that has spawned the creation of the OSW wind plans that you were tasked to analyze. This is a fatal flaw in the system. There is no mechanism for your assessment begin with an analysis of the quality of the executive order. Due to this there is no organization it seems to do a full cost analysis of what the total plan costs what it costs to the NJ residents and what other options might be looked at to avoid what this 6000 page report tries to vet.	The scope of the EIS, per BOEM’s regulations, is to analyze the COP Atlantic Shores Offshore Wind, LLC submitted for Lease Area OCS-A 0499. As described in Section ES.2, <i>Purpose and Need for the Proposed Action</i> , of the EIS, the purpose of BOEM’s action is to determine whether to approve, approve with modifications, or disapprove Atlantic Shores’ COP.
BOEM-2023-0030-1514-0001	As a citizen very much concerned about climate change and what we can do to reverse the damage already done I fully support the proposed wind farms off the coast of New Jersey. I recognize that there is an organized effort to stop the windfarms based on supposed harm to marine mammals and other environmental factors. It is important that the EIS address these issues and provide a solid scientific basis for proceeding with the windfarms while ensuring that all steps are taken to reasonably mitigate any negative impacts. I recognize that there is no free lunch and that building turbines in the ocean and the associated electrical conduits between the turbines and the mainland will necessarily result in localized damage. However the EIS must balance these against the known and documented far greater damage that is being done by fossil fuel generation.	The Final EIS considers the best available data and information that reflect the state of the science at the time of publication of the EIS.
BOEM-2023-0030-1516-0002	Second, given the lack of time given for a reasonable member of the public to read and assess thousands of pages of information in the DEIS its appendices and other related studies released at the same time, the lack of time allowed to read and identify May 2023 changes to the previously released Atlantic Shores South COP Public Comments because BOEM refuses to release a red lined version of the	BOEM has worked diligently to provide as much information as is possible, under current regulatory guidance, within the main body of the EIS with supporting or additional information provided in the appendices. One such example is Appendix F, <i>Assessment of Resources with Minor (or Lower) Adverse Impacts</i> , which was included as a placeholder in the Draft EIS. Environmental resource sections determined to

Comment No.	Comment	Response
	<p>report and its appendices which is also thousands of pages and the lack of time to read 120 pages of cited scientific studies used to make decisions on the projects impact which the general public does not have access to without paying for the documents on research websites; the lack of a DEIS document in language of minority population we therefore want to put on the record that as we identify other issues in the DEIS COP or other related documents we reserve the right to provide public comment to BOEM or other agencies overseeing this project and/or raise legal objections concerning those issues in addition to issues raised in this public comment document. We are also officially requesting at least a six month extension of the public inspection and comment period for these and other reasons mentioned in this document. Our opinion is that the level of deficiencies in the current ASOWNJ DEIS and DEIS process are so high that the report should be disqualified from being used in the permitting process.</p>	<p>have adverse impact levels of minor (or lower) were relocated to Appendix F as part of the Final EIS.</p> <p>Publication of the Draft EIS initiated a 45-day comment period, after which BOEM assessed and considered all the comments received in preparation of the Final EIS. BOEM is compliant with the Council on Environmental Quality's requirement for a Draft EIS to be published for public review and comment for a minimum of 45 days. During the comment period BOEM held 4 public meetings. Two meetings were held in person in New Jersey and two were held virtually.</p>
BOEM-2023-0030-1516-0004	<p>The team assigned to the Atlantic Shores South Project has demonstrated that they are ineffective in carrying out their roles and responsibilities. Per the BOEM ASOWNJ DEIS In Executive Order (EO) 14008 Tackling the Climate Crisis at Home and Abroad issued January 27 2021 President Biden stated that it is the policy of the United States "to organize and deploy the full capacity of its agencies to combat the climate crisis to implement a Government-wide approach....." The BOEM's lack of funding and resources for educating the public on offshore wind projects violates the Executive Order unless the intent was to encourage rubber stamping of permits by government agencies to get the "green energy" projects implemented regardless of the lack of any rigorous process to evaluate the cost to the environment and economy.</p>	<p>BOEM's EIS complies with the procedural and substantive requirements of NEPA.</p> <p>The Fixing America's Surface Transportation Act aims to improve the federal environmental review and authorization process for covered infrastructure projects rather than to fast-track reviews. NEPA regulations at 40 CFR 1501.10 provide time limits for NEPA documents to "ensure that agencies conduct NEPA reviews as efficiently and expeditiously as practicable."</p>
BOEM-2023-0030-1516-0006	<p>The ASOWNJ DEIS exceeds the current regulatory page limits and has not fully disclosed the impacts of the proposed</p>	<p>BOEM's EIS complies with the procedural and substantive requirements of NEPA. BOEM has worked diligently to</p>

Comment No.	Comment	Response
	<p>action. It does not have the proper scope nor any real reasonable alternatives and is virtually unreadable and incomprehensible to the public as well as to a decision-maker. The Fiscal Responsibility Act of 2023 placed page limits on EISs of 150 or 300 if the project is of "extraordinary complexity." Unlike the CEQ regulations there is no provision allowing an agency to find that more than 300 pages is necessary for an environmental impact statement. The Act also does not have an effective date for these page limits which should mean the provisions were effective on the date of enactment June 3 2023 prior to the close of this comment period. Giving this expanse of missing and distorted information in the DEIS and the new law regarding page limits the DEIS should be restructured into a shorter more focused document with full disclosure of all the relevant impacts meaningful alternatives and reissued if the BOEM continues to promote this unsuitable project Community members who requested a paper copy of the DEIS did not receive a paper copy of the Appendices which contain critical information about the project. The BOEM website does not include a copy of any of the actual studies that were referenced in Appendix J. It takes hours to find one study and most of them are behind paywalls. Many of the BOEM studies are outdated lack external validity to the Jersey Shore and irrelevant. Conclusions and results were misinterpreted or misrepresented. BOEM made no effort to repeat the public surveys based on old project specifications such as number size and location of turbine used in scientific studies regarding tourism real estate and recreation. Surveys should have been repeated after the 2022 visual simulations were released. BOEM lists links to entire DEIS websites as cited information in Appendix J. How is the reader supposed to read thousands of pages of another project's DEIS to parse out the information relevant to the citing used to draw a conclusion about something in the ASOWNJ project?</p>	<p>provide as much information as is possible, under current regulatory guidance, within the main body of the EIS with supporting or additional information provided in the appendices. One such example is Appendix F, <i>Assessment of Resources with Minor (or Lower) Adverse Impacts</i>, which was included as a placeholder in the Draft EIS. Environmental resource sections determined to have adverse impact levels of minor (or lower) were relocated to Appendix F as part of the Final EIS.</p> <p>The Final EIS considers the best available data and information that reflect the state of the science at the time of publication of the EIS.</p>

Comment No.	Comment	Response
BOEM-2023-0030-1516-0008	<p>BOEM claims that the 2009 NJ Energy Task Force was an effective community engagement and public input process. On the BOEM website there is a Task Force roster of local officials. In contrast to this long list based on the minutes of the meetings posted on the BOEM website there were few to no local officials who participated in the actual meetings. The participants were employees of government agencies and wind developers who observed the meetings. The information provided to the task force and used in decision making was based on wind turbine specifications that were far different than the wind turbine specifications now approved for the ASOWNJ project. Some of the major differences that are significant are the power blade rotation speed and height of the turbine which impacts visual quality real estate values and tourism fishing industry and the benthic and atmospheric conditions. Therefore, decisions were made on misinformation. The decision of the NJ lease area locations was based on bad information. The lease area maximum distance from the shore was based on a 2004 report completed by a wind energy company using a 100-foot depth as the reason. This maximum distance was never adjusted throughout the wind energy area location identification process and the 100-foot maximum depth remained a key criterion in every study. In the May 2023 public meetings BOEM team members stated that the lease areas could not be adjusted but it is now evident that the lease areas were identified using misinformation. If the lease areas can't be changed the wind turbine specifications being used to determine them should not be allowed to be changed either. There is no explanation of how the wind turbine "models" were changed or who had the authority to make the changes. What was the process used to provide the public the specific information about the change in the size of the wind turbines? Based on the deficiencies described above at a minimum all studies and surveys must be updated using</p>	<p>The New Jersey wind energy areas were established by BOEM through a development process that initiated in 2011 (BOEM 2023). On Feb. 3, 2012, BOEM published in the Federal Register a Notice of Availability of an Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) for commercial wind lease issuance and site assessment activities on the Atlantic OCS offshore New Jersey, Delaware, Maryland, and Virginia(BOEM 2012). Consultations ran concurrently with preparation of the EA and included consultations under the Endangered Species Act, Magnuson-Stevens Fishery Conservation and Management Act, Section 106 of the National Historic Preservation Act, and the Coastal Zone Management Act. On July 11, 2012, BOEM issued a "Finding of No Historic Properties Affected for the Issuance of Commercial Leases within the New Jersey Wind Energy Area."</p> <p>The scope of the EIS, per BOEM's regulations, is to analyze the COP Atlantic Shores Offshore Wind, LLC submitted for Lease Area OCS-A 0499. As described in Section ES.2, <i>Purpose and Need for the Proposed Action</i>, of the EIS, the purpose of BOEM's action is to determine whether to approve, approve with modifications, or disapprove Atlantic Shores' COP. The potential visual impacts of the proposed turbine heights was evaluated and described in Section 3.6.9, <i>Scenic and Visual Resources</i>, and Appendix H, <i>Seascape, Landscape, and Visual Impact Assessment</i>.</p>

Comment No.	Comment	Response
	the actual number distance and areas and size of wind turbines in the ASOWNJ project.	
BOEM-2023-0030-1516-0049	Although BOEM states that they have been appropriately informing the public throughout the process over many years critical information was just released in May 2023 which discloses the ASOWNJ impacts including but not limited to the CUMULATIVE HISTORIC RESOURCES VISUAL EFFECTS ANALYSIS – ATLANTIC SHORES OFFSHORE WIND SOUTH PROJECT and the Finding of Adverse Effect for NHPA Section 106 Consultation. BOEM’s information on cumulative impacts was only released in May 2023. Visual Simulations were only released in 2022. Prior to this Wind Energy Companies were making marketing presentations in the communities stating that the project had no impact to the scenic and visual quality of the Jersey Shore. Now we have the official documented information which demonstrates that the communities were given misinformation or no information regarding many critical issues for years. The official information vital to the public’s understanding and opinion of the project is severely late in notifying the public in a long multiyear process.	The scope of the EIS, per BOEM’s regulations, is to analyze the COP Atlantic Shores Offshore Wind, LLC submitted for Lease Area OCS-A 0499. BOEM could initiate the NEPA process only after receipt of the COP. BOEM has worked diligently to provide information to the public as quickly and efficiently as possible under current regulatory guidance.
BOEM-2023-0030-1518-0014	These uses of the EIS document are inappropriate. According to CEQ NEPA rules an EIS should provide “full and fair discussion of significant environmental impacts” and provide only brief discussion of other significant issues [Footnote 8: https://www.ecfr.gov/current/title-40/chapter-V/subchapter-A/part-1502/section-1502.1 . [Section] 1502.1 Purpose of environmental impact statement.]. The EIS is also far too cumbersome for a lay person to read and comprehend in a relatively short period of time. Section 1502.7 of the NEPA rules require that an EIS be limited to 150 pages or less except for proposals of unusual scope or complexity. Even under exceptions an EIS should be limited to 300 pages [Footnote 9: https://www.ecfr.gov/current/title-40/chapter-V/subchapter-A/part-1502/section-1502.7 . [Section] 1502.7 Page limits.]. The COP and EIS together total	BOEM has worked diligently to provide as much information as is possible, under current regulatory guidance, within the main body of the EIS with supporting or additional information provided in the appendices. One such example is Appendix F, <i>Assessment of Resources with Minor (or Lower) Adverse Impacts</i> , which was included as a placeholder in the Draft EIS. Environmental resource sections determined to have adverse impact levels of minor (or lower) were relocated to Appendix F as part of the Final EIS. Publication of the Draft EIS initiated a 45-day comment period, after which BOEM assessed and considered all the comments received in preparation of the Final EIS. BOEM is compliant with the Council on Environmental Quality’s requirement for a Draft EIS to be published for public review

Comment No.	Comment	Response
	over 4000 pages and therefore reviewers should be provided with a 135-day extension which The Township and several other communities in NJ have already requested from BOEM.	and comment for a minimum of 45 days. During the comment period BOEM held 4 public meetings. Two meetings were held in person in New Jersey and two were held virtually.
BOEM-2023-0030-1518-0057	<p>The Township has raised numerous concerns regarding the Atlantic Shores South project. While supporting alternative energy sources the Township believes that offshore wind energy is being rushed in the Mid- Atlantic region by BOEM at the direction of politicians and corporate developers without considering the welfare of the people it is meant to benefit. The Township fears that the rapid industrialization of the oceans through multiple wind farms may cause long-term and irreversible damage to the economy environment and culture of Long Beach Township as well as negatively impact fisheries and endangered species. Additionally offshore wind energy is deemed more expensive and unreliable compared to established electricity generation methods which is likely to burden the Township's residents financially. The approval of the project as it stands could result in unwanted job market restructuring and have lasting effects on the Township's culture heritage and traditions. In its current form the Atlantic Shores South project offers no benefits to Long Beach Township only short-term jobs that will eventually disappear leaving residents with higher electricity costs and a diminished quality of life. Given the detrimental impacts discussed above Long Beach Township cannot endorse the Atlantic Shores South project in its present form. The Township remains willing to collaborate with BOEM and lessees in a constructive and respectful manner to address these concerns.</p>	BOEM appreciates the comment and Long Beach Township's willingness to collaborate.
BOEM-2023-0030-1523-0001	Cape May County officials have worked closely with wind energy developers and their partners since the beginning of the consultation process only to have their concerns ignored and brushed aside without any meaningful engagement. To make the County's position abundantly clear we would like	Thank you for your comment.

Comment No.	Comment	Response
	the record to show that Cape May County has significant concerns about offshore wind projects off its coast and stands in complete opposition to the Atlantic Shores South offshore wind project as proposed.	
BOEM-2023-0030-1523-0007	BOEM's has boxed itself in so tightly that its current approval process for offshore wind projects ensures that every proposed offshore wind project will share the same fate – agency approval no matter the impacts. This further highlights the fact that the NEPA process as implemented by BOEM favors developers rather than the public or the environment and that BOEM has political pressure to adhere to this approach rather than conducting its due diligence in regard to protecting marine ecosystems.	The scope of the EIS, per BOEM's regulations, is to analyze the COP Atlantic Shores Offshore Wind, LLC submitted for Lease Area OCS-A 0499. As described in Section ES.2, <i>Purpose and Need for the Proposed Action</i> , of the EIS, the purpose of BOEM's action is to determine whether to approve, approve with modifications, or disapprove Atlantic Shores' COP. BOEM has worked diligently to provide as much information as is possible, under current regulatory guidance, using the best available data and information that reflect the state of the science at the time of publication of the EIS. In this way, the decision maker will consider the best available science when weighing whether to approve, approve with modifications, or disapprove the COP.
BOEM-2023-0030-1523-0009	Moreover NEPA implementing regulations of CEQ (40 CFR 1502.16(a)(3)) mandate that an Environmental Impact Statement (EIS) should address the connection between short-term environmental uses and potential impacts on long-term productivity. However in the DEIS BOEM improperly emphasizes potential benefits over potential impacts. BOEM mischaracterizes offshore wind development throughout the EIS by overstating potential job creation climate and habitat benefits while minimizing environmental economic and visual impacts many of which the DEIS defines as major.	Section 3.1.2, <i>Impact Terminology</i> , of the EIS defines short-term, long-term and permanent effects, which are applied to the analysis of each environmental resource. Table ES-2, BOEM contends that the EIS does not minimize potential adverse impacts nor overstate potential beneficial impacts. The EIS analyses use the best available data and information that reflect the state of the science at the time of publication of the EIS.
BOEM-2023-0030-1523-0010	These uses of the EIS document are improper according to CEQ NEPA rules which require a "full and fair discussion of significant environmental impacts" and only brief discussion of other important matters. Nevertheless the EIS is excessively burdensome for laypeople to read and understand within a reasonable timeframe because it is filled with inappropriate claims about the benefits of offshore	BOEM has worked diligently to provide as much information as is possible, under current regulatory guidance, within the main body of the EIS with supporting or additional information provided in the appendices. One such example is Appendix F, <i>Assessment of Resources with Minor (or Lower) Adverse Impacts</i> , which was included as a placeholder in the Draft EIS. Environmental resource sections determined to

Comment No.	Comment	Response
	<p>wind. Section 1502.7 of the NEPA rules specifies that an EIS should be limited to 150 pages except for exceptionally large or complex proposals where a limit of 300 pages applies. In this case the Combined Operations Plan (COP) and EIS span over 4000 pages warranting a 135-day extension for reviewers which has already been requested by the County and several other communities in New Jersey from BOEM. BOEM and NOAA's own scientists are aware of the environmental perils of offshore wind projects yet BOEM continues its cavalier approach in advancing the reckless industrialization of the ocean. BOEM has failed in its mission to manage the development of offshore wind projects in an environmentally and economically sound manner consistent with the requirements under NEPA regulations.</p>	<p>have adverse impact levels of minor (or lower) were relocated to Appendix F as part of the Final EIS.</p> <p>Publication of the Draft EIS initiated a 45-day comment period, after which BOEM assessed and considered all the comments received in preparation of the Final EIS. BOEM is compliant with the Council on Environmental Quality's requirement for a Draft EIS to be published for public review and comment for a minimum of 45 days. During the comment period BOEM held 4 public meetings. Two meetings were held in person in New Jersey and two were held virtually.</p>
BOEM-2023-0030-1555-0005	<p>Are the owners required to pre-fund/escrow decommissioning costs up front? How does NJ avoid the control entities filing for bankruptcy and avoiding proper decommissioning?</p>	<p>BOEM does not require lessees to set aside funds for decommissioning during the operations phase of the lease. However, BOEM requires lessees to provide financial assurance for each stage (lease issuance, SAP, COP, installation) of a commercial lease pursuant to the regulations at 30 CFR § 585.516. Decommissioning-specific financial assurance is covered in 30 CFR § 585.516(a)(4) and is required to be in place before a lessee is allowed to install any facilities approved in the COP. Financial assurance may include bonds, third party guarantees or other financial instruments to cover the cost of decommissioning the entire project following the termination of operations. BOEM may allow a lessee to use evidence of financial strength and reliability in lieu of some or all of the decommissioning financial assurance pursuant to 30 CFR § 585.527. The decommissioning cost estimate is determined by BOEM on a case-by-case basis and covers the cost for BOEM to directly contract the decommissioning work should the lessee become insolvent. The amount of decommissioning and supplemental financial assurance must be no less than the amount required to meet all lease obligations. BOEM may call</p>

Comment No.	Comment	Response
		for the forfeiture of a lessee’s financial assurance in the event of failure to meet its decommissioning obligations.
BOEM-2023-0030-1556-0003	Standardize the process for evaluating cumulative impacts across projects as important inconsistencies reduce the relevance and application of the analysis across the region and for individual projects. Standardize the separation of impact analysis for marine mammals so that North Atlantic right whales (NARW) are assessed separately from other marine mammals as done for Atlantic Shores South in future NEPA analyses. Include in the ROD the proposed requirement (Measure GEO-32) for making all non-confidential data publicly available. If construction schedules are delayed (due to lack of a power purchase agreement for Project 2 or for other reasons) and significant new information relevant to environmental concerns becomes available assess whether supplemental review will be needed.	<p>BOEM is indeed standardizing cumulative impacts analysis methodology and discussion, as well as standardizing the approach to evaluation of potential impacts to all environmental resources, including marine mammals.</p> <p>GEO-32, like all mitigation measures, could be considered by decision makers and incorporated into the ROD.</p> <p>If construction delays lead to substantial changes in the nature, magnitude, or extent of the Project, a supplemental environmental review will be needed.</p>
BOEM-2023-0030-1606-0001	That said the DEIS is woefully inadequate incomplete misleading and suggests bias toward Atlantic Shores South. It must be withdrawn completed and re-issued for public review. Moreover BOEM shows a lack of due process and transparency in providing only the minimum 45 days of public comment undermining public review as described in previous letters.	<p>The Final EIS considers the best available data and information that reflect the state of the science at the time of publication of the EIS.</p> <p>Publication of the Draft EIS initiated a 45-day comment period, after which BOEM assessed and considered all the comments received in preparation of the Final EIS. While BOEM appreciates your concern, BOEM is compliant with the Council on Environmental Quality’s requirement for a Draft EIS to be published for public review and comment for a minimum of 45 days. During the comment period BOEM held 4 public meetings. Two meetings were held in person in New Jersey and two were held virtually.</p>
BOEM-2023-0030-1606-0086	Recently the BOEM Modernization Rule delegates authority and oversight to the federal Bureau of Safety and Environmental Enforcement (“BSEE”). What are those authorities and oversight duties as they relate to BOEM’s and a DEIS/FEIS?	The Joint BOEM/BSEE Direct Final Rule: Reorganization of Title 30 – Renewable Energy and Alternate Uses of Existing Facilities on the Outer Continental Shelf, 88 FR 6376, effective January 31, 2023 (https://www.federalregister.gov/d/2023-00871) transfers enforcement authorities from BOEM to BSEE. Please see Appendix G, <i>Mitigation and Monitoring</i> , for

Comment No.	Comment	Response
		the identification as which mitigation measure is enforceable by BSEE, BOEM, or both.
BOEM-2023-0030-1606-0110	Similarly Chapter 14 of this Appendix HAZARD IDENTIFICATION AND RISK MANAGEMENT (pages 28-29) the Risk Assessment Matrix system should be fully described and used in any section a risk is considered to provide details for public review. This would provide the public with a transparent essential review of the risk potentialities and the ability to comment on the results of the calculations. All underlying data used for each Risk Assessment Matrix must be included to allow separate analysis of the calculations.	BOEM believes the Risk Assessment Matrix and Draft EIS provided appropriate level of detail among the potential risks. The level of detail is commensurate with other BOEM offshore wind EISs.
BOEM-2023-0030-1606-0013	Yet currently there are numerous Memorandum of Understandings (“MOUs”) Memorandum of Agreements (“MOAs”) or “Programmatic Agreements” between BOEM and various agencies foreign governments companies and consultants specific to offshore wind or renewable energy development especially aimed to fast-track efforts and processes. The purpose of a recent MOU a 10-year initiative between BOEM and the National Oceanic and Atmospheric Administration (“NOAA”) signed on January 12 2022 is “to coordinate the resources responsibilities and expertise of both agencies to responsibly advance offshore wind energy development on the Outer Continental Shelf.” The MOU essentially cuts-out the public and is spearheaded by one administration’s plans for “advancing” offshore wind. The MOU reads: “This MOU will also serve as an ‘umbrella agreement’ that facilitates the timely development of subsequent agreements related to offshore wind energy.” These agreements are causing public confusion and deprive the public of due process in reviewing private interests’ impacts to public resources.	<p>BOEM’s authority under the Outer Continental Shelf Lands Act (OCSLA) to authorize renewable energy activities on the Outer Continental Shelf (OCS) along with the shared goals of other federal agencies to deploy 30 gigawatts of offshore wind energy capacity in the United States by 2030 are two of the factors influencing the purpose and need of the proposed Project.</p> <p>Atlantic Shores submitted a COP for Lease Area OCS-A 0499. BOEM’s regulations require BOEM to analyze Atlantic Shores’ COP. As described in Section ES.2, <i>Purpose and Need for the Proposed Action</i>, of the EIS, the purpose of BOEM’s action is to determine whether to approve, approve with modifications, or disapprove Atlantic Shores’ COP.</p>
BOEM-2023-0030-1699-0006	Governor Murphy changed the law in New Jersey to fast track offshore wind he took the home rule away from we the tax payers of New Jersey so we have nothing to say about the industrialization of the ocean. Then Governor Murphy passed	BOEM’s EIS complies with the procedural and substantive requirements of NEPA.

Comment No.	Comment	Response
	executive orders increasing the number of turbines to meet his aggressive wind goal.	The Fixing America’s Surface Transportation Act aims to improve the federal environmental review and authorization process for covered infrastructure projects rather than to fast-track reviews. NEPA regulations at 40 CFR 1501.10 provide time limits for NEPA documents to “ensure that agencies conduct NEPA reviews as efficiently and expeditiously as practicable.”
BOEM-2023-0030-1713-0002	Point two the wind areas were selected years ago not in accord with NEPA requirements for such a major decision and with virtually no public input. At that time much smaller and less noisy turbines were contemplated.	<p>The New Jersey wind energy areas were established by BOEM through a development process that initiated in 2011 (BOEM 2023). On Feb. 3, 2012, BOEM published in the Federal Register a Notice of Availability of an Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) for commercial wind lease issuance and site assessment activities on the Atlantic OCS offshore New Jersey, Delaware, Maryland, and Virginia(BOEM 2012). Consultations ran concurrently with preparation of the EA and included consultations under the Endangered Species Act, Magnuson-Stevens Fishery Conservation and Management Act, Section 106 of the National Historic Preservation Act, and the Coastal Zone Management Act. On July 11, 2012, BOEM issued a “Finding of No Historic Properties Affected for the Issuance of Commercial Leases within the New Jersey Wind Energy Area.”</p> <p>Through a competitive leasing process under 30 CFR 585.211, Atlantic Shores was awarded Commercial Renewable Energy Lease OCS-A 0499 offshore New Jersey and 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 (Project 1 and Project 2, referred to collectively as the Atlantic Shores South Project).</p> <p>The scope of the EIS, per BOEM’s regulations, is to analyze the COP Atlantic Shores Offshore Wind, LLC submitted for Lease Area OCS-A 0499, including evaluating the potential impacts of the turbines proposed by Atlantic Shores.</p>

Comment No.	Comment	Response
BOEM-2023-0030-1819-0001	We join the chorus of other Tribes and intertribal organizations calling for an immediate moratorium on the current Bureau of Ocean Energy Management scoping and permitting process including these Section 106 consultations in order to allow time to enact a new Nationwide Programmatic Agreement (“NPA”) for all currently permitted or proposed offshore wind projects that will guide a new and appropriate BOEM scoping and permitting process for future development. This NPA must be inclusive of avoidance measures minimization of impacts integration of Indigenous Knowledge and provide full mitigation through completion of comprehensive and transparent procedures to appropriately protect Tribal environmental cultural and sovereign interests.	See response to comment BOEM-2023-0030-1819-0001 in Table N.6-14.
BOEM-2023-0030-1819-0002	Finally we call upon President Biden and his entire Administration to support shared Tribal jurisdictional authority over and Tribal management of offshore renewable energy activities aimed at empowering Native communities through socio-economic benefits such as job opportunities revenue sharing and support for Tribal energy development projects – as this Administration does on other areas such as forests and sacred sites located on public lands.	In April 2023, BOEM’s Director, Liz Klein, and other BOEM leaders met with leaders from Tribal Nations at the Tribal Leaders Summit at Mohegan Sun. The discussions centered on BOEM’s renewable energy program and concerns about offshore wind development on the east coast, including the call from Tribal Nations for a moratorium on offshore wind energy development and for execution of a nationwide Section 106 Programmatic Agreement. BOEM looks forward to meeting with Tribal leaders to discuss the follow up actions from this April 2023 meeting and continuing these discussions to ensure we are addressing your concerns.
BOEM-2023-0030-2014-0008	Further from a procedural as well as a substantive standpoint I would hereby strongly object to the manner in which BOEM has conducted the pending leasing process which contemplates an award for offshore wind farm sites prior to a complete environmental assessment of this vast area as well as the cumulative impacts of the already awarded leased sites off the New Jersey Coast. Initially I object to the inadequate and far too short time period during which residents public interest groups and elected officials have had the opportunity to have commented upon the 2000 page DEIS. Rather than utilizing the all too convenient cover of any	The New Jersey wind energy areas were established by BOEM through a development process that initiated in 2011 (BOEM 2023). On Feb. 3, 2012, BOEM published in the Federal Register a Notice of Availability of an Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) for commercial wind lease issuance and site assessment activities on the Atlantic OCS offshore New Jersey, Delaware, Maryland, and Virginia(BOEM 2012). Consultations ran concurrently with preparation of the EA and included consultations under the Endangered Species Act, Magnuson-Stevens Fishery Conservation and Management Act, Section

Comment No.	Comment	Response
	<p>on-going post COVID-19 Crisis BOEM officials should have conducted and still should consider holding further in-person public hearings in the affected geographic areas of the New Jersey Coast.</p>	<p>106 of the National Historic Preservation Act, and the Coastal Zone Management Act. On July 11, 2012, BOEM issued a "Finding of No Historic Properties Affected for the Issuance of Commercial Leases within the New Jersey Wind Energy Area."</p> <p>Through a competitive leasing process under 30 CFR 585.211, Atlantic Shores was awarded Commercial Renewable Energy Lease OCS-A 0499 offshore New Jersey and 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 (Project 1 and Project 2, referred to collectively as the Atlantic Shores South Project).</p> <p>BOEM is compliant with the Council on Environmental Quality's requirement for a Draft EIS to be published for public review and comment for a minimum of 45 days.</p> <p>Two in-person meetings were held in Manahawkin, NJ and Atlantic City, NJ on June 21 and June 22, 2023, respectively. Two virtual meetings were held on June 26 and 28, 2023.</p>
BOEM-2023-0030-0213-0026	<p>I recommend that the DEIS be amended and supplemented then reissued by BOEM since key information and inputs are not available for the DEIS at this time so as to give the public an opportunity to review and make meaningful comment and have interaction with BOEM on same before a Final EIS is prepared. For purpose of my comments I refer to this as a Supplemental DEIS. If BOEM moves directly to a Final EIS without this intermediate step there is not adequate opportunity for meaningful public review and comment before BOEM finalizes the document and renders their decisions on mitigation measures and project acceptance.</p>	<p>BOEM's EIS complies with the procedural and substantive requirements of NEPA.</p> <p>A supplemental environmental review is warranted when there are substantial changes in the nature, magnitude, or extent of the Project. The efficiency of the NEPA process is dependent on completing the analysis and making the document available to the public in a timely manner. As described in the NEPA regulations, an agency should commence preparation of an EIS as close as practicable to the time the agency received a proposal so that the Final EIS can contribute to the decision-making process (40 CFR 1502.5). It would not be feasible for BOEM to delay the analysis or the EIS to include potentially available information. Appendix E, <i>Analysis of Incomplete and Unavailable Information</i>, includes</p>
BOEM-2023-0030-0213-0036	<p>That BOEM commit to preparation of an amended DEIS i.e. a Supplemental DEIS (before preparation of the Final EIS) to cover issues where information is not yet available analyses are not yet complete or for which other government agencies</p>	

Comment No.	Comment	Response
	are to make key decisions that affect the DEIS. The public should be entitled to make comments on a Supplemental DEIS that could not be made in a meaningful way due to time constraints and project determinations already made if only a Final EIS is prepared.	discussions on incomplete or unavailable information by environmental resource.
BOEM-2023-0030-0213-0001	One of my purposes in commenting on the DEIS is point out that in my view it is premature to issue the DEIS due to missing information unfinished ongoing studies and lack of evidence to support the findings in the DEIS. The DEIS is incomplete. It should be amended and supplemented to address the comments raised on the document and reissued to allow the public to make informed comments before a Final EIS is prepared by BOEM. Instead as currently planned the next step by BOEM will be to prepare a Final EIS to be used to make determinations as to the level of mitigation or other project changes required to allow the project to move forward. Further additional decisions re mitigation could be made by BOEM after the Final EIS as part of its Record of Decision (ROD). I don't think that anyone believes that BOEM will deny the project. By first amending and supplementing the DEIS BOEM will allow the public to provide comments in a more timely and meaningful manner to influence BOEM decision making and adoption of mitigation measures to be required.	
BOEM-2023-0030-1774-0001	when I read the draft EIS it became clear to me that the document was incomplete it seemed like it was premature on the part of BOEM to publish the DEIS when there was missing information or unfinished ongoing studies that weren't addressed or identified and/or lack of evidence to support the findings that were in the draft EIS in my view.	
BOEM-2023-0030-1774-0003	by first amending and supplementing the draft EIS to make it a complete document BOEM will allow the public to provide comments in a more timely and meaningful manner to influence BOEM decision making going forward particularly in regard to adoption of mitigation measures to be required.	

Comment No.	Comment	Response
BOEM-2023-0030-0537-0002	My other concern is that you called this a public meeting but provided no opportunity for the public as whole to speak. BOEM works for us when will they listen to us in a true public forum?	BOEM hosted two in-person meetings and two virtual meetings to allow the public an opportunity to learn about the Project and provide comments. Additionally, the public meetings were not the only way the public was able to provide comments on the Project. Members of the public could also mail in comments or submit them via regulations.gov. BOEM leadership attended all the public meetings, so members of the public were able to speak to BOEM leadership during both the in-person and virtual public meetings.
BOEM-2023-0030-1606-0019	BOEM made crucial mistakes regarding public information of Atlantic Shores South public meetings misrepresenting the dates on BOEM social media. On May 19 2023 the BOEM Facebook account notified the public that three in-person public meetings would be held at 5pm on Tuesday June 20; Wednesday June 21; and Thursday June 22. It was additionally mentioned that there would be a virtual public meeting at 1pm on Monday June 26. However the current BOEM website lists very different dates: two in-person meetings on June 21 and June 22 and virtual meetings on June 26 and June 28.a. This potential misinformation proves very confusing for the public. Social media has proven incredibly effective in communicating meeting information with the public but it can be very damaging when the wrong details are spread widely. The public must be kept consistently and continuously aware of the process of the Atlantic Shores projects including being given full knowledge of what meetings are being held. It is absolutely crucial that public input is welcomed and valued at these meetings as that is their initial purpose. However if incorrect dates are allowed to circulate such as those that were advertised and many people remain unaware of the second virtual meeting date this purpose will be hindered. This lack of transparency with the public raises concerns about the future processes of OSW development projects.	BOEM hosted two in-person meetings and two virtual meetings to allow the public an opportunity to learn about the Project and provide comments. BOEM intended to conduct 3 in-person and one virtual meeting, but at the last minute one of the venues was unable to host the meeting. Instead of cancelling the meeting, BOEM changed the format to a virtual meeting to still allow the public an opportunity to learn about the project and provide comments. Thus, the meeting that was scheduled to be in-person on June 20, was rescheduled to be virtual on June 28. This change was published as legal notices in the following papers: <ul style="list-style-type: none"> • The Press of Atlantic City • Star-Ledger (Ocean City) • Asbury Park Press • Cape May County Herald • Philadelphia Inquire • South New Jersey Times • The Daily Journal Additionally, the public meetings were not the only way the public was able to provide comments on the Project. Members of the public could also mail in comments or submit them via regulations.gov. BOEM leadership attended all the public meetings, so members of the public were able to speak to BOEM leadership during both the in-person and virtual public meetings.

Comment No.	Comment	Response
BOEM-2023-0030-0540-0001	I was told by a BOEM employee that a draft of the Environmental Impact Statement is available for me to read on this website. I can not find it. The information provided at the meeting at the Holiday Inn Manahawkin NJ was disappointingly lacking in content. It is apparent to me that BOEM is aware of the negative impacts that these projects will cause on our environment and that the representatives present were not prepared to address them. They referred me to the EIS. Please email me a copy so that I may review it. The brief statement in the Federal Register is not sufficient.	Please see response to comment BOEM-2023-0030-1606-0019.
BOEM-2023-0030-0540-0002	The first poster at the front door of the meeting showed a timeline of the projects with a remark and large arrow that says "You are here." This chart suggests that it is too late in the project for any meaningful action to be taken on public comments. The effects of pile driving should have been better understood by the BOEM representatives and more details of Foundation Alternatives A B and C should have been made available or included on the diagrams (as an example).	Please see response to comment BOEM-2023-0030-1606-0019.
BOEM-2023-0030-1055-0003	In my opinion submitted as representative of many individuals in the impacted stakeholder position the format of the information session was not beneficial from an educational perspective and not conducive to any citizen discourse. This critique is presented without any criticism of BOEM representatives who were professional polite and patient. In my opinion submitted as representative of many individuals in the impacted stakeholder position if the intention of the public comment portion of the DEIS review is to inform and engage community stakeholders that goal was not achieved. In my opinion submitted as representative of many individuals in the impacted stakeholder position a stakeholder attending the information session (June 21 and June 22) and/or participating in virtual meetings (June 26 and June 28) does not have adequate time to formulate	Please see response to comment BOEM-2023-0030-1606-0019.

Comment No.	Comment	Response
	<p>comments by July 3 11:59 p.m. In my opinion submitted as representative of many individuals in the impacted stakeholder position the imposition of a deadline on July 3 at 11:59 is not reflective of a good faith effort to provide an opportunity to comment.</p>	
BOEM-2023-0030-1606-0021	<p>Further the Federal Register announcing the DEIS and BOEM communications regarding the opportunities for public engagement were different inconsistent and misleading. The two public informal “open house” meetings on June 21 2023 and July 22 2023 as well as the two virtual public meetings held on June 26 2023 and June 28 2023 were held less than two weeks from the comment period deadline not giving much time for the public to digest and verify information presented in these meetings in time to provide informed comments.</p>	Please see response to comment BOEM-2023-0030-1606-0019.
BOEM-2023-0030-1646-0001	<p>Public hearing should be to listen to the public in an open forum where all can hear each others' comments. The 6/21/23 public hearing did not do that. People don't have the opportunity to fully participate with this format. A wasted opportunity on BOEM's part to hear from the public. Very disappointing very frustrating. Listen to the people who live here.</p>	Please see response to comment BOEM-2023-0030-1606-0019.
BOEM-2023-0030-1654-0001	<p>P.S. I am respectfully requesting a formal public hearing regarding offshore wind.</p>	Please see response to comment BOEM-2023-0030-1606-0019.
BOEM-2023-0030-1606-0020	<p>In the Federal Register the Public Notice[1] announcing the availability of the DEIS clearly states that there will be “public hearings.” Yet in a separate BOEM document[Footnote 14: Bureau of Ocean Energy Management “What to Expect at the In-Person Open House Public Meetings” as seen June 26 2023 https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/41594_AtlanticShores_MeetingInfo_V02.pdf.] not linked in the Federal Register notice the open “informal” “open house” format and conduct of the “public meetings”</p>	Please see response to comment BOEM-2023-0030-1606-0019.

Comment No.	Comment	Response
	<p>are described. However there is no mention of these “informal” “public meetings” or “open house” formats in the Public Notice published in the Federal Register. While COA welcomes and supports the “open house” format to address questions from the public the lack of a public notice for these informal open houses in the Federal Register undermines the public’s opportunity to be prepared for such; therefore this confusing attempt at public engagement is unacceptable. Moreover there was no open formal public hearing following an open forum in which the public could speak directly to decision makers and in a formal manner for all to hear issues and concerns. There was only a virtual opportunity which denies the public a forum before decision makers.</p>	
BOEM-2023-0030-1683-0001	<p>This informational meeting is fine but I want to request a formal public hearing. This open house public meeting is not an acceptable replacement for a public hearing. Where are the agency decision makers and officials?</p>	<p>Please see response to comment BOEM-2023-0030-1606-0019.</p>
BOEM-2023-0030-1694-0001	<p>And I have been doing public comment public meetings State and Federal from Texas to Maine for 23 years and this process that BOEM has allowed the public is completely and totally unacceptable it's intellectually dishonest and it's not what we expect from the Federal Government for an issue this serious that involves the public.</p>	<p>Please see response to comment BOEM-2023-0030-1606-0019.</p>
BOEM-2023-0030-1699-0001	<p>BOEM Atlantic Shores have not been transparent or good neighbors to the tax payers of New Jersey. These open house public meeting hosted by BOEM are not an acceptable replacement for a formal public hearing. Atlantic Shores had informal public hearing in Brigantine much like today public comments could be put in a wooden box and supposed to be addressed. Nobody got back to the tax payers of New Jersey. We invited them again to Brigantine to do another public meetings they did not show up and then the they lied to the fact that they were not invited they were. The DEIS is</p>	<p>Please see response to comment BOEM-2023-0030-1606-0019.</p>

Comment No.	Comment	Response
	<p>over 6200 pages long it's unacceptable that we the tax payers of New Jersey are only going to have 45 days to review the document. This should be at the minimum of 90 days. We the people are furious that the offshore wind litigations and talking points are comparing U.S. oceans to Europe offshore wind farms. This is misleading to the public.</p>	
BOEM-2023-0030-1732-0013	<p>robust engagement of local and expert stakeholders is critical to the success of not only Atlantic Shores South but of offshore wind in general.</p>	<p>Please see response to comment BOEM-2023-0030-1606-0019.</p>
BOEM-2023-0030-1762-0004	<p>I will also say that the two virtual meetings and the two in-person meetings are not sufficient or meaningful we need open houses town hall style meetings so the community can speak to the representatives of this project.</p>	<p>Please see response to comment BOEM-2023-0030-1606-0019.</p>
BOEM-2023-0030-1789-0002	<p>I believe the preface language on the written comment form which was distributed at the public meeting seems to suggest to persons like myself that are citizen stakeholders that non substantive comments of their opinion are not as valued as substantive comments from experts and I believe that's a disservice to the public and the entire process is tainted by the -- by the lack of encouragement of people to submit their comments.</p>	<p>Please see response to comment BOEM-2023-0030-1606-0019.</p>
BOEM-2023-0030-1585-0001	<p>It is extremely concerning that the online public meetings on June 26 and June 28 respectively were organized by the NJ League of Conservation Voters. This is an organization that is made up of lobbyists for the NJ Democratic Party. When the registration button includes a "Donate Now" link that is even more concerning. When the follow up email includes a link that says please comment; here is a sample comment you can use--and that sample comment is totally pro-wind that is even more concerning!!!</p>	<p>BOEM hosted two in-person meetings and two virtual meetings to allow the public an opportunity to learn about the Project and provide comments. The four meetings were organized and hosted solely by BOEM. BOEM's third-party contractor (ICF) served as moderators. The New Jersey League of Conservation Voters were not involved in any way with regards to organizing, moderating or hosting the meetings. In addition, BOEM was not aware of any solicitations by the New Jersey League of Conservation Voters.</p>

Comment No.	Comment	Response
BOEM-2023-0030-1592-0005	It is also a travesty. .and a major conflict of interest that BOWM allowed a group that is a lobbyist for the NJ Democratic Party--the NJ League of Conservation Voters--to handle the registrations and moderation of the online Zoom meetings re the AS DEIS. This group attempts to push its pro wind agenda--even soliciting for donations at the end of each Zoom meeting registration. They then sent a follow up email--which offered a "sample comment" in an attempt to directly influence the general public to make a pro-wind remark in the comments section.	Please see response to comment BOEM-2023-0030-1585-0001.
BOEM-2023-0030-1597-0001	Very concerned about BOEM's bias in this commenting period due to allowing the NJ League of Conservation Voters to have control of the registration process for the online hearings for the Atlantic Shores DEIS. Not only did they register whoever wanted to attend this meeting but they collected their personal information including home addresses and email addresses. They had a "donate now" button at the end of the sign up process soliciting funds for their pro-wind group. They also had a follow up email that went out to all registrants suggesting how they could comment and gave the registrants a canned comment about how wind energy was necessary to prevent climate change. This is just wrong. It's a gigantic conflict of interest. BOEM should not be attempting to influence the general public about this projects by using paid lobbyists of the NJ Democratic Party to influence public opinion.	Please see response to comment BOEM-2023-0030-1585-0001.
BOEM-2023-0030-1516-0009	How can Citizens trust that the BOEM agency will fairly evaluate their public input and comments criticizing the ASOWNJ project given that BOEM has created the appearance of an association with the Pro Wind lobbyist group League of Conservation Voters by using them to organize the comment period sessions. Not only did this group's logo appear on public input social media signup communications but they were also permitted to solicit money from participants who signed up for the public input	Please see response to comment BOEM-2023-0030-1585-0001.

Comment No.	Comment	Response
	<p>sessions and were evidently permitted to collect participants' contact information facilitating future solicitations for the organization based on follow up social media solicitations to participants days after the meeting. The League of Conservation Voters promotes and lobbies for political candidates that aggressively support offshore wind projects and this organization does not report any negative impacts of offshore wind. The appearance of BOEM's bias greatly reduces the integrity of BOEM permitting process and suggests that the process of public input is disingenuous even after citizens have spent thousands of hours reading the BOEM documents and researching the impacts of the offshore wind projects. As a result BOEM may have greatly hindered the democratic process because citizens believe that their input is not worth the effort when BOEM's decision has the appearance of being influenced by an organization who promotes offshore wind projects and is a "done deal".</p>	
BOEM-2023-0030-1245-0002	<p>BOEM has also not provided sufficient information to the public to comment on this DEIS in a true open public hearing. The in-person public meetings were incorrectly advertised as three events occurring on June 20 21 and 22 when they were actually two meetings held on June 21 and 22. It had additionally stated that one virtual meeting would be held on June 26 -- an announcement that excluded the second virtual meeting on June 28. Additionally these informal in-person meetings do not accomplish the same goal as a public hearing -- the only opportunity provided to the public to speak directly to decision-makers is virtual. This conflicting information confuses the public limits their input and further harms the transparency of the offshore wind approval process.</p>	Please see response to comment BOEM-2023-0030-1606-0019.
BOEM-2023-0030-0888-0001	<p>Hi. An open house/public meeting is not an adequate substitution for a true public hearing. The public has a right to direct access to agency decision makers. Also the comment period for a project of this size and potential impact was</p>	Please see response to comment BOEM-2023-0030-1606-0019.

Comment No.	Comment	Response
	completely inadequate and needs to be extended by six months.	BOEM is compliant with the Council on Environmental Quality's requirement for a Draft EIS to be published for public review and comment for a minimum of 45 days. The efficiency of the NEPA process is dependent on completing the analysis and making the document available to the public in a timely manner. As described in the NEPA regulations, an agency should commence preparation of an EIS as close as practicable to the time the agency received a proposal so that the Final EIS can contribute to the decision-making process (40 CFR 1502.5). It would not be feasible for BOEM to delay the analysis or the EIS to six months.
BOEM-2023-0030-0112-0007	There are additional impediments to allowing for meaningful public input on the draft EIS. There is no in-person public meeting to be held on Long Beach Island NJ which is the place most affected by the proposed project. The designated Holiday Inn is in Manahawkin NJ not on Long Beach Island as labeled incorrectly. There are ample facilities on the Island for this and we recommend that an in-person public meeting be arranged.	When selecting a venue, BOEM considered several features including location, accessibility, availability, size, and technical capabilities and support. At the time of the in-person public meetings, the Manahawkin location was the closest location to Long Beach Island that met the criteria.
BOEM-2023-0030-0045-0001	Due to the sheer size of the Draft Environmental Impact Statement (DEIS) for the Atlantic Shores South offshore wind project we are respectfully requesting a minimum of a 90-day to 135-day extension of the public comment period so that we can thoroughly review the information and provide valuable comments. The DEIS and its appendices including the COP itself total more than 6200 pages. This amounts to a 4x increase over the length of the DEIS for Ocean Wind 1 which was granted only a minimal and insufficient extension in 2022 of 15 days. In order for our members to properly respond to the DEIS in a meaningful capacity we must be provided a reasonable amount of time to prepare our comments.	Publication of the Draft EIS initiated a 45-day comment period, after which BOEM assessed and considered all the comments received in preparation of the Final EIS. BOEM is compliant with the Council on Environmental Quality's requirement for a Draft EIS to be published for public review and comment for a minimum of 45 days. During the comment period BOEM held 4 public meetings. Two meetings were held in person in New Jersey and two were held virtually. The efficiency of the NEPA process is dependent on completing the analysis and making the document available to the public in a timely manner. As described in the NEPA regulations, an agency should commence preparation of an EIS as close as practicable to the time the agency received a proposal so that the Final EIS can contribute to the decision-making process (40 CFR 1502.5).

Comment No.	Comment	Response
BOEM-2023-0030-0049-0001	Please afford WeThePeople adequate time to review this in its entirety.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0053-0001	I would like to request an extension of the public comment period for the Atlantic Shores DEIS. The document is at least four times the size of the Ocean Wind 1 DEIS released last June and it will require significant time to read the report in its entirety. And therefore would appreciate consideration for an extension in order for review.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0068-0001	Please extent the comment period for this massive amount of information to be reviewed	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0069-0001	I request a 90-135 day extension for the public comment period. The DEIS is a whopping 6200 pages 4 times longer than Ocean Wind 1 DEIS. We need adequate time to research this massive industrialization of our treasured coast and provide valuable comments.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0072-0001	Due to the 6200 pages that need to be read I am requesting an extension on the comments . It will take a long time to read all the important information . 100 more days to read all of this information.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0073-0001	More time is needed for the comment time	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0086-0001	Please extend the commenting period so we have the time to read the document. This is way too important of an issue to rush.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0088-0001	The public needs more time to review this environmental impact statement and prepare arguments against it. We need to protect our coast from industrialization!	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0089-0001	The Atlantic Shores DEIS is more of a volume than a document. Therefore the public needs an extended period of time to evaluate it. There needs to be an extension of at least 90 days for public comments.	Please see response to comment BOEM-2023-0030-0045-0001.

Comment No.	Comment	Response
BOEM-2023-0030-0092-0001	Due to the sheer size of the Draft Environmental Impact Statement (DEIS) for the Atlantic Shores South offshore wind project we are respectfully requesting a minimum of 135-day extension of the public comment period so that we can thoroughly review the information and provide valuable comments. The DEIS and its appendices including the COP itself total more than 6200 pages. This amounts to a 4x increase over the length of the DEIS for Ocean Wind 1 which was granted only a minimal and insufficient extension in 2022 of 15 days. In order for me to properly respond to the DEIS in a meaningful capacity we must be provided a reasonable amount of time to prepare our comments.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0094-0001	This comment period should be extended for a massive document. Double the size of the last one. Stop the nonsense of off shore wind greed. You will be accountable for destroying the environment of our beach communities. You are part of the problem.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0095-0001	I am requesting an extension on the comment period to provide adequate time to read and research your 6200 page document.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0098-0001	We the public and citizens and taxpayers and Jersey shore residents demand an extended and reasonable extension for the public hearing of the off shore wind proposal off the Atlantic coast	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0103-0001	I am requesting a 90-135 day extension for the public comment page! This is way too along for anyone to decipher in such a short time!	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0110-0001	Please stop with these turbine projects. In the meantime give an extension on the comment period. This request is huge and impacts protected animals	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0112-0003	The draft EIS also makes repeated references to the project Construction and Operations Plan which is 4081 pages long or about twice the length of the EIS requiring significantly more time just to read that. Beyond that the EIS references over	Please see response to comment BOEM-2023-0030-0045-0001.

Comment No.	Comment	Response
	1220 technical and scientific reports to support its conclusions requiring the reader to secure and review those extensive references to see if those conclusions are valid. It is simply not possible for a public person to even read all this material within 45 days much less formulate and prepare comments. Therefore to allow for meaningful public input the 45-day time period for comment must be extended for at least another 90 days- to 135 days. Alternatively the BOEM could restructure the 904-page long body of the draft EIS and then reissue it with a 45-day comment period.	
BOEM-2023-0030-0113-0001	I request an 135 day extension to give the public time to read and assess the report	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0114-0001	I am requesting a 90-135 day extension allowing for public comment . This document is thousands of pages and anyone that hopes to read this deserves more time.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0118-0001	This document is huge! We need more time to review it. Please extend the review period at least 90 days.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0129-0001	Due to the sheer size of the Draft Environmental Impact Statement (DEIS) for the Atlantic Shores South offshore wind project we are respectfully requesting a minimum of a 90-day to 135-day extension of the public comment period so that we can thoroughly review the information and provide valuable comments. The DEIS and its appendices including the COP itself total more than 6200 pages. This amounts to a 4x increase over the length of the DEIS for Ocean Wind 1 which was granted only a minimal and insufficient extension in 2022 of 15 days. In order for our members to properly respond to the DEIS in a meaningful capacity we must be provided a reasonable amount of time to prepare our comments.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0138-0001	As NJ shore resident who will be impacted by the Atlantic Shores South off shore wind turbines wind project I am requesting a minimum of 90 days to review this lengthy report.	Please see response to comment BOEM-2023-0030-0045-0001.

Comment No.	Comment	Response
BOEM-2023-0030-0166-0001	We are requesting an extension within which to respond	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0177-0001	Please allow for the extension! There is alot too go over and comprehend !	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0182-0001	We need more time to read and understand exactly what this over 600 page document means to our wildlife living in our oceans.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0198-0003	45 days is not enough to study and respond to a 60000 page document. Please reconsider our request cleans depend on man to keep it healthy and building monstrous structure that require oil and cables to be nuild under the ocean and share front towns. This is permanent and irreversible damage.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0198-0004	I am a concerned citizen and resident of Long Island. I implore you to give more time for the experts and lawyers to review you 6000 page document.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0199-0001	More time is needed on the windmill farms please allow	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0204-0001	More time is needed to conduct the proper studies and present them to the public for approval. This IS a public affair that needs PUBLIC approval not a political/industrialized rush to change the wheel that is not broken.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0207-0001	we are respectfully requesting a minimum of a 90-day to 135-day extension of the public comment period so that we can thoroughly review the information and provide valuable comments.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0213-0034	To foster respect for affected communities as advocated by the new Chief of the Office of Renewable Energy Programs that as part of commenting on the DEIS she and other BOEM officials visit LBI to get a sense of its character and culture and meet with the elected officials of these impacted communities to understand their concerns. That BOEM extend the DEIS review period to accommodate that action.	Please see response to comment BOEM-2023-0030-0045-0001.

Comment No.	Comment	Response
BOEM-2023-0030-0216-0002	Pointing to multi-thousand pages of documents accompanying these endeavors is but a ploy to dissuade the public from thoroughly examining the dark areas of these projects. And what good would come of such a complaint after thorough study? It seems that the federal and state governments have already set a course to proceed with the attitude of "the public be damned."	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0224-0001	I am requesting an extension of the comment period on BOEM-2023-0030-0001 by at least 90 days. The document is 6200 pages long and impossible to read and comprehend the complexity of the available documents BOEM-2023-0030-0001 and make my comment in the 45 days allotted to do so. Please grant an extension so I can make a educated comment on the enormous documents accurately;	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0226-0001	I am writing to you today to ask for an extension on the comment period for BOEM-2023-0030-0001 of at least 90 days. The document is 6200 pages. I don't believe 45 days is long enough to read and comment on such an important document. Please honor my request.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0227-0001	I am writing to you today to ask for an extension on the comment period for BOEM-2023-0030-0001 of at least 90 days. The document is 6200 pages. I don't believe 45 days is long enough to read and comment on such an important document. Please honor my request.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0267-0001	I am writing as a concerned NJ resident and ratepayer to request an extension of the public comment period for the Atlantic Shores South Draft Environmental Impact Statement (DEIS). The proposed 45-day comment period insufficient for concerned NJ residents and ratepayers subject to evaluate and comment on this unwanted undertaking. Please provide a six-month extension to the current proposed period for the 6200+ page document.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0293-0001	It's time to give more time to review the report to much is at stack.	Please see response to comment BOEM-2023-0030-0045-0001.

Comment No.	Comment	Response
BOEM-2023-0030-0305-0001	I am requesting an extension of 90-135 days for BOEM-2023-0030-0001. This is an enormous document containing 6200 pages. The 45 day comment period is not sufficient time to read understand the complexity of the document and then make an educated public comment. Please grant a 90-135 day extension so the average reader has the opportunity to read the 6209 pages fully and comment.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0330-0001	The amount of time for review is not sufficient. Adding 45 days would allow the public more time to absorb the full scope of the information presented in the EIS.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0339-0001	Please consider extending the time frame for public comments as most don't even know what's is planned who will be directly affected. 6200 pages is a lot of information to digest. Thanks for your consideration	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0347-0001	The comment period MUST be extended to 100 plus days to allow adequate time for evaluation and analysis investigation due to the significant SIZE of the document compared to the initial filings.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0364-0001	6200 pages requires a 90-120 day extension for us to have a fair chance at reviewing this document.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0365-0001	45 days is not enough to review this 6000 page document.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0371-0001	You must extend the comment period. This is not enough time to read and study 6200 pages!	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0382-0001	I am writing to protest the size of the of Draft Environmental Impact Study and the insufficient time being provided for public comment. This should be withdrawn for two very clear reasons. 1. The document exceeds the size mandate.2. Given the size 45 days is insufficient time to review. This should not be controversial. Either do a better job of drafting a statement that complies with the requirements or extend the time frame for review and comment.	Please see response to comment BOEM-2023-0030-0045-0001.

Comment No.	Comment	Response
BOEM-2023-0030-0391-0001	<p>I am writing on behalf of Long Beach Township New Jersey to request an extension of the public comment period for the Draft Environmental Impact Statement (DEIS) issued on May 19th for the Atlantic Shores South offshore wind project. Long Beach Township will be the most impacted community by the Atlantic Shores South offshore wind project planned just 8.7 miles off our coast. As you may already be aware the Township of Long Beach has major concerns about the project and stands in fervent opposition to any and all offshore wind projects off of its coast. To make our position abundantly clear we reject this project in its entirety. In its current form the DEIS for the Atlantic Shores South offshore wind project including its appendices and the associated Construction and Operations Plan collectively total over 6200 pages. The volume of material amounts to a 4x increase over the length of the DEIS for Ocean Wind I which was granted only a minimal and insufficient extension in 2022 of 15 days. Therefore we are respectfully requesting a minimum of a 90-day to 135-day extension of the public comment period so that we can thoroughly review the information and provide valuable comments. In order for us to properly respond to the DEIS in a meaningful capacity we must be provided a reasonable amount of time to prepare our comments. Unless BOEM reissues a revised and shortened version of the DEIS as required under NEPA and CEQ rules 90 to 135 days is fair and prudent.</p>	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0403-0001	<p>First the public needs more time to spread the report to all East Coast states AND around the world as our marine life is World concern. As well as more time for those who already have access to the report to read it.</p>	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0409-0001	<p>This report is huge! More time is needed to review it! This is being pushed through way too fast. There is so much at stake! We have to get this right the FIRST time around!</p>	Please see response to comment BOEM-2023-0030-0045-0001.

Comment No.	Comment	Response
BOEM-2023-0030-0411-0002	The report on impacts requires more time to fully evaluate. 45 days is not sufficient. please extend this eval period to analyze full impact report.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0431-0001	45 days to review these HUGE report is not a sufficient amount of time to review and comment on this report. I am a federal employee and must under NEPA law also allow sufficient review time. I know the comment period can be extended as I have done it myself.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0433-0002	This proposal need much more time to study and fair decision can not be made in the short time proposed.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0437-0002	More time is requested to evaluate and review the impact on marine life and the overall impact.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0440-0001	I as well of tens of thousands of citizens that love and appreciate our sea life would like more time to review this document. Please allow us our right to do so.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0451-0001	more time is needed for both experts and the public to assess this.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0470-0001	We need more time to read this incredible long document from the Atlantic wind!	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0501-0001	I am a New Jersey shore homeowner who is respectfully requesting that you significantly extend the public comment period for the Atlantic Shores South OSW project as given the plethora of material requiring review totaling more than 6200 pages the current 45 day deadline is highly unreasonable. With all due respect and in the name of fairness please extend the comment period a minimum of four additional months.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0545-0001	BUT WE NEED MORE TIME TO ACTUALLY READ THIS DOCUMENT your commenting period is WAY TOO SHORT of TIME period for actual discourse about the impacts! PLEASE ALLOW MORE TIME FOR CITIZENS TO REVIEW THIS	Please see response to comment BOEM-2023-0030-0045-0001.

Comment No.	Comment	Response
BOEM-2023-0030-0546-0001	Much more time is needed to review these documents!	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0551-0001	I am writing to request an extension on the time allotted to comment on the DEIS document. The document is massive in volume and I would like to be able to have more time to review it.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0572-0001	We need more time to comprehend the impacts of a very large binder Environmental impact 6 months or so.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0573-0001	After attending the BOEM meeting in Atlantic NJ I want to request Atlantic Shores provide more time to review the Off short Wind Environmental Impact Statement. I request at least an additional 6-12 months additional to wrap my head about how this project will destroy my time at my second home in Brigantine NJ.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0586-0001	In the name of good governance due process fairness public interest and the democratic process Clean Ocean Action (“COA”) respectfully and urgently requests that the Bureau of Ocean Energy Management (“BOEM”) extend the public comment period by a minimum of 90 days for the Draft Environmental Impact Statement (“DEIS”) for the two offshore wind projects “Atlantic Shores South” proposed by Atlantic Shores Offshore Wind LLC off the New Jersey coast. The projects are a joint venture partnership between Shell New Energies US LLC and EDF-RE Offshore Development LLC (a subsidiary of EDF Renewables North America). In addition we urge BOEM to hold formal public hearings in a public forum for the record. Recently BOEM released for public review and comment a massive Draft Environmental Impact Statement for Atlantic Shores South which is a combination of two projects totaling 200 turbines with large support substations 1025 miles of cables and large-scale onshore facilities. There are thousands of pages for review and hundreds of references to study assess and comment upon. BOEM provides the bare minimum of only 45 days for the	Please see response to comment BOEM-2023-0030-0045-0001.

Comment No.	Comment	Response
	public to review study and submit comments about these two complex projects. At the same time BOEM released the Final Environmental Impact Statement for another offshore wind project off New Jersey the Ocean Wind 1 project -- a 100-turbine facility with 5 substations with thousands of additional pages for review.	
BOEM-2023-0030-0587-0001	In addition to the letter submitted by Clean Ocean Action (“COA”) respectfully and urgently requesting that the Bureau of Ocean Energy Management (“BOEM”) extend the public comment period by a minimum of 90 days for the Draft Environmental Impact Statement (“DEIS”) for the two offshore wind projects “Atlantic Shores South” we submit this addendum. As of June 23 2023 621 people have signed a petition ¹ (both on paper and digital) to demand an extension to the comment period by six months for these two projects. Clean Ocean Action will continue to gather petition signatures in support of an extension and share the totals as part of our public comment period submission.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0621-0001	The commenting timeline for this project is far too short for anyone to be able to provide a meaningful comment. There are 4000 pages in the documents associated with Atlantic Shores projects and the average citizen cannot read and digest this information as well as provide a comment within the stated time period. The commenting period should be extended so that all stakeholders will have an opportunity to comment.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0623-0001	The commenting period should be extended so that the public will have an opportunity to comment. There are 4000 pages in the documents associated with Atlantic Shores projects and the average working man cannot read and digest this information as well as provide a comment within the stated time period. The commenting timeline for this project is way too short for anyone to be able to provide a meaningful comment.	Please see response to comment BOEM-2023-0030-0045-0001.

Comment No.	Comment	Response
BOEM-2023-0030-0625-0004	Further the amount of time to review and comment on this massive document is so unreasonable that one would have to give up all of their activities of daily living including sleep to get through it in the allotted time frame.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0773-0001	The time period for commenting on this project is far too short. There are over 4000 pages in the documents associated with this project and there is no way that the average citizen can read and digest much less comment on the project within the short time frame allotted. There are only 13 days from the first public meeting to the comment deadline and 5 days from the last public meeting. The comment period should be extended.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1755-0007	The county is not opposed to clean energy projects but has major concerns with the process in which its development and the lack of stakeholder engagement in Cape May County this is clear in the fact that the vast majority of residents were unaware of this development until very recently.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0837-0001	Not enough time has been given to for commenting period on this issue - only 13 days from the first public meeting to the deadline only 5 days from the last public hearing. There are more than 4000 pages of material to review. An extension is clearly needed on the commenting period so that people can make educated decisions.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0839-0001	There is a great need to extend time period for further review	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0848-0001	I oppose the Wind Turbine project off the New Jersey coast for many reasons however would like to first say that the time should be extended to review this lengthy document. It is utterly impossible to fully analyze and draw conclusions when there is not enough time to fully read and discuss. This project will affect the Jersey Shore tremendously and no decisions should be made when due diligence has not been practiced during its review stage.	Please see response to comment BOEM-2023-0030-0045-0001.

Comment No.	Comment	Response
BOEM-2023-0030-0853-0001	More time is needed by the impacted party to get through 6000 pages. Grant an extension.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0856-0001	Please allow more time to review documents.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0857-0001	Not enough time has been given for comments. The time for comments needs to be extended.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0858-0001	More time is needed for citizens to review the documents regarding the environmental impact statements.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0861-0007	The first tip on the website for submitting effective comments is to "Read and understand the regulatory document you are commenting on". 45 days is not enough time for an interested party to read and understand a 2324 page document and any related studies. I request at least an additional 6 months of review time to read and understand the document so that I may provide more and more informed comments.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0867-0001	I request that BOEM extend the comment period so stakeholders can review the voluminous document and appendices. This was snuck by the taxpayers and residents and was pushed through by special interests.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0873-0001	Insufficient time has been allowed for the general public which is significantly affected by this project to read the thousands of pages of technical jargon in the DEIS. The time period for commenting needs to be extended.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0874-0001	More time is needed!!	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0876-0001	The 45 review period is no where near enough time to evaluate the enormity of this proposal. The review period should be extended a minimum of 90 days.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0879-0001	1)The time provided is insufficient to fully read and then comment on the enormous DEIS that has been hastily fabricated for this project. An extension of time needs to be	Please see response to comment BOEM-2023-0030-0045-0001.

Comment No.	Comment	Response
	issued so that the general public can have an opportunity to learn and then comment.	
BOEM-2023-0030-0897-0001	More time is needed to review all those pages. This process is moving too quick for people to read through and understand everything.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0910-0001	I would like many others ask for a 6 month extension of time to review the plan.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0915-0001	This comment period needs to be extended. The time to review is not nearly long enough	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0916-0001	Our request for a 90-day extension was not responded to. Therefore we may supplement our comments at a later date.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0916-0078	It is simply not possible for a person to undertake such an extensive document review and prepare comments in 45 days nor should they have to. It was BOEM's job to do that show that it has done the "necessary environmental analysis" and to present the relevant impact itself in the EIS proper which it has not done.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0916-0091	Taken together the DEIS exceeds the current regulatory page limits and has not fully disclosed the impacts of the proposed action. It does not have the proper scope nor any real reasonable alternatives and is virtually unreadable and incomprehensible to the general public as well as to a decision-maker.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0918-0001	The comment period needs to be extended.45 days to read and understand over 4000 pages of scientific reports is not enough. Choosing the commenting deadline in the middle of a holiday weekend is irresponsible.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0919-0003	the DEIS is so long that the average person that wishes to read through the layers of this hellacious and damaging project cannot get through it. A good 6 months from 7/3 needs to be allowed	Please see response to comment BOEM-2023-0030-0045-0001.

Comment No.	Comment	Response
BOEM-2023-0030-0926-0001	I'd like to begin by stating that the 45 day comment period is grossly inadequate for a document that's 6000 pages long including all appendices. I respectfully request that this comment period be extended by at least 6 months to give lay people the chance to review the document in its entirety.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-0928-0001	the time period given for review and comment is laughable but it holds true to the way this entire project has been ramrodded through at every level.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1055-0001	<p>These comments constitute a formal request for an extension of the deadline to submit comments to the draft Environmental Impact Statement (DEIS) for the Proposed Atlantic Shores South Wind Project. By email dated June 16 2023 I submitted a request to adjust the deadline which I repeated in follow up emails and through verbal requests at the information session on June 21 2023. On June 27 I received email correspondence from Kimberly Sullivan of BOEM which indicated: "Currently BOEM does not anticipate a comment period extension however we review and consider all requests for extensions when received."</p> <p>Accordingly this is an additional formal request to extend the public comment period and adjust the deadline from July 3 at 11:59 p.m. To clarify this request is for an adjustment for all interested parties not a personal request. In the event BOEM denies this request please provide a formal reply with a citation and include explanation why BOEM has decided not to adjust the deadline including rationale for not exercising its discretionary authority to do so.</p>	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1055-0002	In my opinion submitted as representative of many individuals in the impacted stakeholder position BOEM's 45 day review period is insufficient under the circumstances to provide meaningful review and opportunity to formulate comments. In my opinion submitted as representative of many individuals in the impacted stakeholder position the 45 day comment period is arbitrary and unreasonable because of the significant amount of information presented for review	Please see response to comment BOEM-2023-0030-0045-0001.

Comment No.	Comment	Response
	<p>and the lack of meaningful opportunity to formulate comments. In my opinion submitted as representative of many individuals in the impacted stakeholder position the DEIS should have been edited and formatted so it was more amenable to review by community stakeholders. In my opinion submitted as representative of many individuals in the impacted stakeholder position BOEM should have made the DEIS available at an earlier date. In my opinion submitted as representative of many individuals in the impacted stakeholder position BOEM should have considered a page limit or better synopsis techniques throughout the DEIS which included many fields of study and within particular sections of the DEIS. In my opinion submitted as representative of many individuals in the impacted stakeholder position the material in the DEIS is overwhelming in volume and content for review by citizen stakeholders and non-professionals.</p>	
BOEM-2023-0030-1055-0004	<p>In my opinion which I present as my personal opinion but have reason to believe it is shared by many other stakeholders publication of notice in the Federal Register on May 19 and the stubborn refusal despite many requests to extend the deadline of July 3 at 11:59 p.m. reflects an unfair calendar management strategy which whether purposeful or coincidental favors the project developer to the detriment of the public especially citizen stakeholders. In my opinion which I present as my personal opinion but have reason to believe it is shared by many stakeholders publication of notice in the Federal Register on May 19 at the start of the summer tourism season and the conclusion of the public comment period on July 3 at 11:59 p.m. in the midst of the critical holiday weekend reflects whether purposeful or coincidental an extreme lack of courtesy to stakeholders who depend on the tourism season for their livelihood. In my opinion which I present as my personal opinion publication of notice in the Federal Register on May 19 and the unwillingness to extend the deadline of July 3 at 11:59 p.m.</p>	<p>Please see response to comment BOEM-2023-0030-0045-0001.</p>

Comment No.	Comment	Response
	<p>reflects a lack of good faith and transparency in the process which whether purposeful or coincidental favors the project developer to the detriment of the public. In my opinion submitted as representative of many individuals in the impacted stakeholder position BOEM’s failure to heed the request for additional time is a hindrance to participation and as such whether purposeful or coincidental favors the project developer to the detriment of community stakeholders.</p>	
BOEM-2023-0030-1055-0005	<p>In my opinion submitted as representative of many individuals in the impacted stakeholder position it is arbitrary and unreasonable that a participant in the virtual meeting on June 28 has 3 business days to formulate comments and a participant on June 26 has 5 business days to synthesize explore further resources and formulate substantive or non-substantive comments by July 3 at 11:59 p.m. In my opinion submitted as representative of many individuals in the impacted stakeholder position the deadline of 11:59 p.m. on July 3 is arbitrary and unreasonable given that the next day is a federal holiday and it is patently unlikely that BOEM employees will commence review on that holiday. Imposition of a deadline on the midnight before a holiday whether purposeful or coincidental exacerbates the prevalent view among community stakeholders that the BOEM process is hopelessly slanted in favor of the project developer with its team of professionals and administrators. Further the deadline itself—July 3 at 11:59 p.m.—is fundamentally unfair and smacks of an ulterior motive whether purposeful or coincidental because it quells discussion and discourse among family neighbors and guests who would be gathering for July 4 events. In my opinion presented as my personal opinion the BOEM process as reflected in this particular situation is so fundamentally unfair that whether purposeful or coincidental it validates a certain frame of reference that the democratic process has been dismantled in the aggressive pursuit of offshore wind to the benefit of offshore wind developers and to the detriment of citizen stakeholders.</p>	Please see response to comment BOEM-2023-0030-0045-0001.

Comment No.	Comment	Response
	<p>Please reconsider and extend the deadline by 45 days. At a minimum please leave the comment link open and accept written comments for an additional 15 days. My further substantive and non-substantive comments will follow in a subsequent submission but given all the circumstances I submit that Alternative A–No Action–is the proper outcome.</p>	
BOEM-2023-0030-1158-0001	<p>I'd like the comment period to be extended.</p>	<p>Please see response to comment BOEM-2023-0030-0045-0001.</p>
BOEM-2023-0030-1223-0012	<p>We recommend that BOEM extend the comment period for this and future DEIS documents to 60 days consistent with multiple other projects (e.g. Sunrise Wind CVOW New England Wind SouthCoast Wind). A 60-day comment period for DEIS review is preferable over 45 days given the length and complexity of the DEIS and associated documents. The beginning of this comment period overlapped with opportunities related to Gulf of Maine research and commercial leasing and the New England Council was working during that time to prepare comments on these issues.</p>	<p>Please see response to comment BOEM-2023-0030-0045-0001.</p>
BOEM-2023-0030-1245-0001	<p>I write to express my concerns regarding the rollout of the Draft Environmental Impact Statement (DEIS) for the Atlantic Shores Offshore Wind Project (BOEM-2023-0030) and request that the comment period be extended to review this substantial and consequential report. Regrettably the minimal short time frame for comment has also been marked by miscommunications which has made it especially difficult for many to participate. I and many of my constituents have consistently raised concerns that the offshore wind industrialization approval process has left unaddressed and unanswered numerous serious questions concerning the potentially harmful environmental impact on whales marine life and the ecosystems that currently allow all sea creatures great and small to thrive. The Draft Environmental Impact Statement which was released a little more than a month ago and contains more than two thousand pages will take</p>	<p>Please see response to comment BOEM-2023-0030-0045-0001.</p>

Comment No.	Comment	Response
	<p>substantial time to review. However BOEM's decision to limit this comment period to forty-five days -- the absolute minimum required by the National Environmental Policy Act (NEPA) -- is insufficient given the magnitude of this project. The Atlantic Shores project is set to contain 200 turbines with large support substations 1025 miles of cables and large-scale onshore facilities-a project larger than any that currently exists in the United States. Equally concerning is that the comment period closes this coming Monday on July 3 -- after the bare minimum of only 45 days for public review. This rapid comment period which parenthetically falls on the eve of July 4th has been difficult for many interested stakeholders who may not be able to conduct a full review and ensure that their voices are heard in this short time frame. Businesses elected officials and residents must be able to fully review the DEIS which is prohibitively challenging during one of the busiest times of the year and BOEM must reevaluate its decision to close the comment period on this date in light of this reality.</p>	
BOEM-2023-0030-1250-0001	<p>In addition to the previous letter submitted by Clean Ocean Action ("COA") respectfully and urgently requesting that the Bureau of Ocean Energy Management ("BOEM") extend the public comment period by a minimum of 90 days for the Draft Environmental Impact Statement ("DEIS") for the two offshore wind projects "Atlantic Shores South" we submit this addendum. As of June 30 2023 at 5:34pm 890 people have signed a petition (both digitally and on paper) to demand an extension to the comment period by six months for these two projects. Clean Ocean Action will continue to gather petition signatures in support of an extension and share the totals as part of our public comment period submission.</p>	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1327-0001	<p>The EIS is far too lengthy to be read in the amount of time allotted. This time frame automatically places the concerned citizen at a disadvantage in the process and should not be</p>	Please see response to comment BOEM-2023-0030-0045-0001.

Comment No.	Comment	Response
	permitted. Please extend the deadline for reading and submitting comment.	
BOEM-2023-0030-1328-0001	Please extend the comment period so that we can provide meaningful input.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1330-0001	I need more time to read the document thoroughly.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1331-0001	I urge you to grant an extension on The Environmental Impact Statement for the wind turbine project off of Long Beach Island NJ to give EVERYONE time to thoroughly read this lengthy document.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1332-0001	We definitely need an extension in the comment period	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1333-0001	Can you please provide an extension so people have time to read the entire EIS.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1334-0001	We are please asking for an extension to review the Impact Statements regarding the offshore wind turbine project going on along Long Beach Island	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1336-0001	I am asking for an extension to review the Environmental Impact Statement. It is extensive and more time is needed to evaluate the information and make certain that going forward is the best thing to do for the environment.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1337-0004	CONCERN: Fast forward to the public review of the draft EIS (DEIS). For some reason the time allotted for the stakeholders to review the recently released DEIS is 45 days. And comments on the entire project need to be in by July 3. Neither of these timelines are reasonable given the scope and potential impact of this project and even more importantly the length of the document demands a rigorous review time. The public review timeline needs to be extended to 90 days. The size and complexity of this document along with the cross-reference to the COP demands additional time in order to prepare a thoughtful and comprehensive response.	Please see response to comment BOEM-2023-0030-0045-0001.

Comment No.	Comment	Response
BOEM-2023-0030-1338-0001	More time is needed to read and consider this very lengthy EIS.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1340-0001	We need more research and an extended period of time to conduct and review the proposal from Orsted.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1341-0001	Requesting more time to review the 2000 page document for a thorough analysis of the data.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1342-0001	I am requesting more time and research on this project.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1343-0001	I am asking for an extension to review the Environmental Impact statement for the Atlantic Shores OSW Project. There has not been enough since the document was submitted to perform a detailed review.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1344-0001	I am asking for more time to review the Environmental Impact statement. The statement reads that will change the ecosystem - there are alternates to clean energy that do not have to impact the ocean and marine life. More time to review the impact statement and asking for additional research to ensure that any industrial action for clean energy does not kill the ocean's delicate ecosystem and further harm our planet.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1345-0001	Please allow for more time to review the environmental impact statement to understand what the wind farms so close to shore would do to the environment.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1346-0001	I think that the comment period for these two offshore wind projects should be extended by 6 months so that people have enough time to read all 2200 pages of the DEIS thoroughly. 45 days is not enough time for most people to read all pages of a 2200 page document thoroughly.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1360-0001	Please extend the review period so that well-informed comments and decisions can be made by the people who will be affected the projects - the taxpayers the coastal communities the fishing industry health officials etc.	Please see response to comment BOEM-2023-0030-0045-0001.

Comment No.	Comment	Response
BOEM-2023-0030-1361-0001	I want an extension so I can review the documents . The is a CB lot to read and I need more time .	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1373-0001	I would like more time to finish reading all the material . This is a massive amount to read . You need to give us more time .	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1375-0001	I think you need to give the people of NJ more time to read all this information . These documents are numerous and you have not given us enough time . Additional time is needed.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1404-0001	On June 6th 2023 Brigantine requested that BOEM grant an extension of the public comment period for the Atlantic Shores South project. The DEIS for the Atlantic Shores South project is more than 6000 pages inclusive of all the appendixes and it's unreasonable to expect any normal human being to be able to fully read and comprehend a document of that size in the 45 day comment period. This request was followed by similar requests from: Congressman VanDrew Senator Polistina Assembly Representatives Swift and Guardian and the Mayors of Ventnor Margate and Longport. According to the National Environmental Policy Act rules BOEM is required to provide the public with a meaningful opportunity to comment on projects of this nature. If this is true why did BOEM ignore and fail to respond to the written request of many Atlantic County officials on an extension of the public comment period? If these offshore wind projects are so good for the environment and the local economy why is BOEM in such a rush to push them forward without providing a meaningful opportunity for the public to understand and comment on this project?	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1414-0001	Please extend the time to review this information. My concern is for the ocean animals and the environment.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1415-0001	There is no doubt that the Atlantic Offshore Winds Project off the coast of Long Beach Island will have a massive irreversible effect on not only the people of NJ but it's ecology and	Please see response to comment BOEM-2023-0030-0045-0001.

Comment No.	Comment	Response
	environment. Additional time is definitely warranted to study this unprecedented project and the associated Draft EIS.	
BOEM-2023-0030-1416-0001	The comment/review period should be extended for this DEIS as was the case for Ocean Wind1 which was half the size of the Atlantic Shores DEIS	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1419-0001	I need an extension to review this.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1434-0001	More time is needed to review documents! The documents are too long for the time frame allowed.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1436-0001	Let me begin by asking for an extension for the commenting period for the DEIS for Atlantic Shores South.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1450-0001	I am writing as a stakeholder in the above referenced project as a Brigantine NJ homeowner to respectfully request a 180-day extension seeking more time to submit comments to the Draft Environmental Impact Statement ("DEIS") for the proposed Atlantic Shores South project ("the Project") offshore New Jersey.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1450-0003	Stakeholders in this project such as myself need additional time to fully comprehend over 6200 pages [Footnote 2: The Atlantic County Board of Commissioners is calling on the Bureau Ocean Energy Management (BOEM) to extend the comment period to between 90 and 135 days on the draft environmental impact statement for the proposed Atlantic Shores South offshore wind farm to review and comment on 6200 pages of the DEIS. (https://www.savingseafood.org/news/state-and-local/new-jersey-atlantic-county-commissioners-call-for-comment-extension-on-offshore-wind-project/ ; accessed July 2 2023).] of this DEIS to retrieve the information in such a large document to make a fully reasoned response and for BOEM to correct defects in the notice process.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1459-0001	There needs to be an extension to review this massive document	Please see response to comment BOEM-2023-0030-0045-0001.

Comment No.	Comment	Response
BOEM-2023-0030-1465-0001	Please vote for an extension in order to have all the public concerns evaluated and addressed prior to proceeding with the wind turbine projects. There are so many issues that have not been resolved yet.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1466-0001	As a threshold matter Cape May County echoes the near-unanimous consulting party request that the deadline for comments on the DEIS be extended. BOEM states repeatedly that it is engaging in good faith consultation and wants to hear the voices and opinions of all those parties affected by this development. Despite this assertion however BOEM only provided the public 30 days to read digest and critique hundreds of pages of documents many of which are highly technical in nature and require expert review. We therefore request a 90-day extension to the comment period so that consulting parties can review the DEIS more deeply confer with affected citizens and provide BOEM with more substantive constructive feedback.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1501-0001	An extension of time needs to be granted to further review and analyze the draft Environmental Impact Statement (EIS) before the Atlantic Shores South Project is to be permitted.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1503-0001	The Atlantic Shores Environmental Impact Statement deadline for comments falls in the middle of a holiday weekend and does not provide enough time for stakeholders to respond. The deadline for comments should be extended.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1507-0001	The Atlantic Shores Environmental Impact Statement deadline for comments falls in the middle of a holiday weekend and does not provide enough time for stakeholders to respond. The deadline for comments should be extended.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1512-0001	Per the CEQ NEPA rules an EIS should provide full and fair discussion of significant environmental impacts §1502.1 and only brief discussion of other than significant issues §1502.2. It should be concise clear and to the point and supported by evidence that the agency has made the necessary environmental analysis §1502.1. It should not be	Please see response to comment BOEM-2023-0030-0045-0001.

Comment No.	Comment	Response
	<p>encyclopedic and shall be analytic and concise §1502.2. It should avoid useless bulk and concentrate effort and attention on important issues §1502.15. Verbose descriptions of the affected environment are themselves no measure of the adequacy of an EIS §1502.15. It should inform federal decision making and the public §1502.1. To achieve those requirements §1502.7 requires that the EIS: “shall be 150 pages or fewer and for proposals of unusual scope or complexity shall be 300 pages or fewer unless a senior agency official of the lead agency approves in writing a statement to exceed 300 pages and establishes a new page limit”. This body of this draft EIS is 904 pages long including Appendices 2198 pages long. A lay person for whom the document is intended can read about 10 pages of quasi-technical material per hour. Assuming that a person could do that for 4 hours a day it would require 55 days just to read the EIS document. The draft EIS also makes repeated references to the project Construction and Operations Plan which is 4081 pages long or about twice the length of the EIS requiring significantly more time just to read that. Beyond that the EIS references over 1220 technical and scientific reports to support its conclusions requiring the reader to secure and review those extensive references to see if those conclusions are valid. It is simply not possible for a public person to even read all this material within 45 days much less formulate and prepare comments. Therefore to allow for meaningful public input the 45-day time period for comment must be extended for at least another 90 days- to 135 days. Alternatively the BOEM could restructure the 904-page long body of the draft EIS and then reissue it with a 45-day comment period.</p>	
BOEM-2023-0030-1516-0072	<p>The public only 45 days to evaluate and comment on the impact along with reviewing thousands of pages of other impacts in the ASOWNJ EIS.</p>	<p>Please see response to comment BOEM-2023-0030-0045-0001.</p>
BOEM-2023-0030-1520-0009	<p>The lack of transparency among Federal and State officials and agencies re: sharing the initial site information purchase</p>	<p>Please see response to comment BOEM-2023-0030-0045-0001.</p>

Comment No.	Comment	Response
	<p>amounts / timelines/fiscal/budget fact detail with involved foreign and domestic businesses; the extremely limited available and timely information offerings and comment periods for stakeholders- that have been offered over Fed/State Holidays has honestly been a real disappointment and has significantly added to citizens/taxpayers loss of trust and confidence in their Federal and NJ elected officials especially those who would support and in some cases fast track such thoroughly unresearched destructive proposals and seemingly would sell out/abandon their promises and duties of advocacy and defense for the US and state of NJ security Atlantic/NJ coastline wildlife fishing industry/citizens/constituents/taxpayers.</p>	
BOEM-2023-0030-1530-0001	<p>I am opposed to the Offshore Wind a project and request an extension to digest this massive amount of information.</p>	<p>Please see response to comment BOEM-2023-0030-0045-0001.</p>
BOEM-2023-0030-1536-0001	<p>The pace of development is preventing the application of lessons learned from early projects. Even these comments appear to be one of scores of documents released this year by BOEM for comment. The Government and concerned industries have little opportunity to review and understand the decisions and policies to date given all the comments being submitted. Given 45 days to review and comments on this document alone one must average reading 63 pages for 40 consecutive days to have five days to draft comments. This is insane and we question if these documents only support a predetermined conclusion and offer no real dialog or opportunity for analysis and reconsideration.</p>	<p>Please see response to comment BOEM-2023-0030-0045-0001.</p>
BOEM-2023-0030-1546-0002	<p>There is a plethora of information and not enough time to review and respond.</p>	<p>Please see response to comment BOEM-2023-0030-0045-0001.</p>
BOEM-2023-0030-1548-0001	<p>I begin by asking you to extend the comment period for EIS Atlantic Shores North; 45 days is not enough the general public to get through this lengthy document to “read and</p>	<p>Please see response to comment BOEM-2023-0030-0045-0001.</p>

Comment No.	Comment	Response
	understand the regulatory document you are commenting on". To expect a lay person to read and understand these massive documents and make clear and concise comments backed up by research is just another example why this whole process has been flawed.	
BOEM-2023-0030-1555-0001	Given the magnitude of the public disclosure there should be an extension of the comment period.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1561-0001	Please give us more time to review these documents and have time to read the proposal given.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1563-0001	Please extend the comment and review period of the Atlantic Shores Offshore Wind Project1 LLC and Atlantic Shores Offshore Wind Project 2 LLC's Proposed Wind Energy Facilities Offshore NJ.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1571-0001	I request an extension to the comment period of six months.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1573-0001	An extension needs to be given for more time to review the massive DEIS! These projects should not be rushed without a full understanding of their impact on our environment and our economy we have too much to lose for this to be moving forward so quickly.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1580-0002	I personally need more time to read the DEIS. The average American needs more time and I feel these length of this document is to squash anyone's desire to dive into the material as the time required for review simply cannot be met. 180 days should be allotted.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1582-0002	I am upset that we were not afforded additional time for review and comment upon this voluminous document.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1589-0002	See attached file(s) and a please extend the comment and review date for the Atlantic Shores Offshore Wind Project 1LLC and Atlantic Shores Offshore Wind Project 2 LLC's Proposed Wind Energy Facilities Offshore New Jersey.	Please see response to comment BOEM-2023-0030-0045-0001.

Comment No.	Comment	Response
BOEM-2023-0030-1593-0001	Please grant an extension to review the document	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1594-0001	Extend comment period no need to industrialize our oceans	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1595-0001	I believe that this DEIS needs to be reviewed in much more detail and will require at least 6 months of analysis for the residents of New Jersey to get the answers that they are looking for. This program has been rushed BOEM has not been forthcoming in requested meetings with town councils local mayors and legislators and others after repeated requests. The one-on-one sessions were a sham and designed to protect you from any public forums while pretending to offer private testimony with no answers to any of our questions on your part.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1595-0005	We demand at least a 6 month extension to resolve these and many other issues to New Jersey residents satisfaction. This project has been quietly moved ahead because you know that when more people find out about the devastation coming to our shores which you ADMIT TO in your DEIS they will stop this program.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1606-0015	BOEM must provide more time overall to review Draft EIS and Final EIS documents now and in the future.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1606-0016	COA maintains the 45-day public comment period issued under the original notice was insufficient time to review and prepare comments on the large-scale industrial development in the Proposed Action. Clean Ocean Action collected petition signatures in a short time frame to support sufficient time and reasonable and responsible offshore wind energy development off the NY/NJ coast. In two and a half weeks' time 940 people signed Clean Ocean Action's petition[Footnote 13: Clean Ocean Action Petition "Defend the Ocean: Two Offshore Wind Projects Treated as One...Twice the Impacts" as seen at 6:10pm on July 3 2023 https://chnng.it/XNvCrYPPSD . Also see Attachment 1 of paper	Please see response to comment BOEM-2023-0030-0045-0001.

Comment No.	Comment	Response
	signed petitions.] (digital and paper) to extend the public comment period for the Applicant's DEIS by six (6) months.	
BOEM-2023-0030-1606-0018	The Draft EIS comment period commenced during the beginning of the summer season having been announced just before Memorial Day weekend. BOEM allowed a mere 45-days for the public to review assess affirm share consider absorb understand and provide comments. BOEM providing this bare minimum for public comment is not good governance. Interested groups do not meet during summer months or regularly with members and boards to be able to discuss issues and get board or administrative approval for testimony and comments in the amount of time given (e.g. 45 days). This is not enough time to review thousands of pages in the DEIS prepare questions and concerns for verbal testimony at virtual hearings and prepare meaningful written comments. Similarly the public comment period ends in the middle of a holiday weekend with a bustling Jersey Shore and prime summer vacation time. Comments are due July 3 2023 at 11:59am which is during the most significant summer tourism holiday weekend at the Jersey Shore. Businesses and individuals are diligently working to earn a living during this important revenue- generating weekend. As such and as described later in this section COA reiterates its request for a minimum 90-day extension to the comment period to allow the public time to properly review the documents and inform the EIS.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1656-0001	Please extend comment period for ASOW DEIS an additional 180 days! 4000+ pages for citizens to review is impossible in current timeframe!	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1679-0001	First of all I would like to request that the time for comments on the draft EIS be extended at least until after the summer. It is completely unfair to expect people with jobs families and obligations to review a 2200 page document. It is further evidence of how the public has been overlooked in all of this.	Please see response to comment BOEM-2023-0030-0045-0001.

Comment No.	Comment	Response
BOEM-2023-0030-1707-0001	First of all I would like to request that the time for comments on the draft EIS be extended at least until after the summer. It is completely unfair to expect people with jobs families and obligations to review a 2200 page document in such a short time. It is further evidence of how the public has been overlooked in all of this.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1713-0009	Ten the public has not been given sufficient time to review the voluminous information provided in the DEIS and the associated references.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1723-0006	First I want to start by saying there is definitely not enough time to publicly comment on this DEIS 45 days is nowhere near long enough to review and comment on a document that is massive like this.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1727-0001	The first thing I would like to say we need more time to read this 4000 page report and you did not allow ample time for people to read it let alone understand it to be able to make a legitimate comment.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1728-0001	And I'd like to begin by again requesting an extension to the comment period for this massive project in fact it's actually two projects in one with over 200 turbines along with many other options and alternatives that we just heard about yet BOEM is providing the minimum of 45 days which is not reasonable. COA submitted a letter supported by over 700 citizens to ask for an extension until after the summer to allow the coastal community currently hard at work in the tourism and fishing industry and making a living an opportunity to review the thousands of pages and supply their comments in detail.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1731-0001	And then echoing some previous comments the 6200 pages provided at this time for your general public is just far too long far too in depth we really do need a bit more time to really get into the entire impact statement and to understand exactly how it will effect us.	Please see response to comment BOEM-2023-0030-0045-0001.

Comment No.	Comment	Response
BOEM-2023-0030-1748-0001	I request an extension to the comment period by six months. This fool's gold rush to approve wind power factories in pristine areas is overwhelming in the public's time to respond properly. The rush by government and industry is by government and industry design. The limited time the government is providing to qualified protect subsidies is irrelevant and leading to irrational decisions.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1751-0003	Clean Ocean Action requests BOEM to extend the comment period to allow more time for the public to review the lengthy one draft environmental impact statement that was issued for two massive offshore wind power plants Atlantic Shores One and Two. Clean Ocean Action requests an extension of at least 90 days for the following reasons.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1754-0001	The size of this report 6000 pages that everybody is you know rightly complaining about it's too hard to read and digest it should not be a comfort to anyone. I see it as a huge tomb of costly mitigations risky mitigations that we can't -- we can't know if this would work. What would be a better scenario if 500 pages were enough to describe how this would go. So that's my comment on the size of this report. So it's really quite frightening that's it's huge.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1762-0003	Given the sheer volume the 6000 pages of documents to say nothing of the attachments there is no possible way that anyone even an expert can comb through it in 45 days and make a reasonable response. I am asking for a six month extension so that stakeholders have a chance to review this.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1764-0001	My initial comment would deal again with the fact that BOEM had established the official comment period for the draft EIS to be 45 days with totally certainly inappropriate end date of July 3. I had written to the Secretary of the Interior and copied BOEM copied Kimberly Sullivan back on May 22 to ask for a six month extension of time during which to comment on the draft EIS and especially to even read review digest the massive documentation the one EIS DEIS is rather 2000 pages	Please see response to comment BOEM-2023-0030-0045-0001.

Comment No.	Comment	Response
	and couple that by two with the exhibits attached thereto it's some 6000 pages it's simply inappropriate to even digest it to get through it digest it and review it one's self as not to submit it to appropriate experts for further review. I'd ask for that six month time period extension. I again reiterate such a request.	
BOEM-2023-0030-1772-0001	I want to say that the time allowed for the review of the draft environmental impact study by Atlantic Shores is way too short for the average American to be able to read through the report it's convoluted and it needs to be dissected by people that are interested in actually putting the time into reading it thoroughly and rushing through it I would ask that it be extended well past the end of summer.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1773-0001	I appreciate the time spent by BOEM to prepare these large documents the environmental or the draft environmental impact statement but to give us 45 days to read this and comment on it is a lot. Their needs to be an extension and I have requested that in writing from you guys.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1787-0002	Clean Ocean Action requests a minimum extension of 90 days to the comment period to allow the public to fully comprehend the information presented in such a large document. We acknowledge the pressing need for addressing climate change and are not opposed to offshore wind when done responsibly and sustainably however in this case we fully support and promote the alternative A which is the no action plan under which no construction would occur for the following reasons the research that other ocean advocates have done shows lack of proper baseline science to determine the true impacts of this large scale development. A healthy protected ocean is the greatest buffer in reducing climate change.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1789-0003	I urge that people be given more time and I feel that it's absolutely necessary for the fairness of the system and I oppose the offshore wind project for many many reasons	Please see response to comment BOEM-2023-0030-0045-0001.

Comment No.	Comment	Response
	which I will certainly put together in my comments but I most importantly urge the citizens to have an active role in the process	
BOEM-2023-0030-1798-0007	6000 plus pages how are we supposed to review that in any meaningful way in a less than two month period. Ladies and gentlemen I rise in strong request we need an extension I support the three six month extension.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1791-0004	My other great concern is that you know BOEM just held their public information presentations last week in Manahawkin and Atlantic City. Now less than one week later starting today we had the virtual meetings and numerous community organizations and coastal mayors have asked for an extension of the public comment period and BOEM has not responded. We have sent letters we have sent emails we have made phone calls. It's really impossible for anyone in our communities to be able to give relevant comments on such a huge document that's over 2000 pages long.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1802-0001	I would like to add to the call for additional time. I am a member of the public I am not an engineer I am an not an environmentalist I have enjoyed -- I am the third generation of my family to live at the Jersey Shore in the summers and maintain property down there. I worked there as a child and I still go down as many weekends as possible I enjoy activities on the water fishing sailing and I want to make the right decision. And looking at this process the time that it took to assemble 6000 pages of documents for this project to give the general public simply 45 days to review it and raise questions is -- it's not reasonable and I think a further you know 90 to 120 days would allow experts to weigh in to help members of the public like myself make the best decision possible.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1807-0001	On behalf of the Township of Long Beach NJ we are submitting a request for a 135-day extension of the public	Please see response to comment BOEM-2023-0030-0045-0001.

Comment No.	Comment	Response
	<p>comment period. CEQ NEPA regulations require that an EIS should provide “full and fair discussion of significant environmental impacts” and provide only brief discussion of other significant issues. The EIS is far too cumbersome for a lay person to read and comprehend in a relatively short period of time. Section 1502.7 of the NEPA rules require that an EIS be limited to 150 pages or less except for proposals of unusual scope of complexity (which this undertaking is not). Even under exceptions an EIS should be limited to 300 pages[1](Footnote 1: https://www.ecfr.gov/current/title-40/chapter-V/subchapter-A/part-1502/section-1502.7. § 1502.7 Page limits.) The COP and EIS collectively total over 4000 pages and therefore reviewers should be provided with a 135-day extension which Cape May County and various other communities have already requested from BOEM.</p>	
BOEM-2023-0030-1807-0003	<p>I am writing on behalf of Long Beach Township New Jersey to request an extension of the public comment period for the Draft Environmental Impact Statement (DEIS) issued on May 19th for the Atlantic Shores South offshore wind project.</p>	<p>Please see response to comment BOEM-2023-0030-0045-0001.</p>
BOEM-2023-0030-1815-0024	<p>Needless to say a DEIS of over 2000 pages is very difficult and time consuming to wade through and a 45-day comment period is woefully inadequate and should be extended.</p>	<p>Please see response to comment BOEM-2023-0030-0045-0001.</p>
BOEM-2023-0030-1816-0001	<p>Contrary to the stated intention the sheer length of the document and the limited review period of 45 days precludes meaningful public input and it is not consistent with a number of provisions of the Council of Environment Quality's National Environmental Policy Act rules.</p>	<p>Please see response to comment BOEM-2023-0030-0045-0001.</p>
BOEM-2023-0030-1818-0001	<p>The Bureau of Ocean Energy Management (BOEM) stated that the official public comment period as to this draft Environmental Impact Statement (EIS) is forty-five (45) days. The document with all its attachments is in excess of 2000 pages. As such it is virtually impossible to attempt to read and review this entire voluminous publication much less to ask meaningful questions and to comment upon it. I would ask</p>	<p>Please see response to comment BOEM-2023-0030-0045-0001.</p>

Comment No.	Comment	Response
	your office and BOEM to extend the official time period for at the very least an additional six (6) months.	
BOEM-2023-0030-1820-0002	the Board of Commissioners has received communication from a number of coastal county governments along with municipal mayors and council members that want definitive answers on the impact of off shore wind energy projects and there are multiple requests to extend the time period for public review and comments on the 6200 page Draft Environmental Impact Statement (DEIS) for the Atlantic Shores South offshore wind project and this Board supports the coastal community's request for a ninety (90) to one-hundred and thirty-five (135) day extension;	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1822-0001	We write you today to support the request made by Mayor Vince Sera of the City of Brigantine to extend to a minimum of a 90 to 135 day public comment period following the release of the Draft Environmental Impact Statement (DEIS) for the Atlantic Shores South offshore wind project. As we are sure you are aware these projects have garnered a great deal of attention from the public. In a continued attempt to show transparency and a desire to work with the communities being effected giving interested parties adequate time to review process and offer substantive comment is essential.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1826-0001	The newly published Atlantic Shores Draft Environmental Impact Statement is a massive 6200 pages. A thorough review is unlikely for most of the public. Accordingly I believe an extension period of at least 90 days is in order to allow time to research and evaluate this document.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1835-0001	However looking at the reference documentation provided on which to comment we find it to be quite unmanageable to achieve reading analyzing and generating our comments and responses in this 45-day window. Just the initial documentation link we find is over 2000 pages contains 13 appendices. And also other ancillary items to review are documents such as a scoping report of 570 pages along with	Please see response to comment BOEM-2023-0030-0045-0001.

Comment No.	Comment	Response
	plans and operational documents and appendices containing another 4000+ pages (as I assessed the links.) There appears to be around 8000 pages for the public to understand and regretfully many of the public may possibly have to first achieve a learning curve of scientific theory apparent empirical conclusions and construction knowledge. In order to attain a semblance of reasonable public comments whether a proponent or opponent stance to the authorities by the upfront 10 day window we respectfully request a 90 (Ninety) day extension to review the voluminous documentation you have formally provided to the public.	
BOEM-2023-0030-1837-0001	I'm requesting a 135 day extension so the public has more time to provide comment on the 6200 pages outlining the biggest scam in American history.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1864-0001	The Draft Environmental Impact Statement is 2282 pages long. It includes 122 pages of cited references. Let's assume each study in the references averages 10 pages long. That's another 1220 pages to read. The report is highly technical information that many of us are unfamiliar with so reading it will require a lot of concentration and focus. Add in 10 days of writing your thoughts down on paper throughout your review. Responses are due July 3rd! If you want to speak at the public input session in AC you must be ready by June 21. If you spent 8 hours every day from May 15 until the June 22 meeting in AC you would need to read and understand over 100 pages of technical information/ day 7 days a week. Only allowing this short amount of time for the public to read and digest this report is an assault to our democratic society.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1928-0002	The 45-day time period for comment must be extended for at least 90 days to 135 days.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1930-0001	We request a 90-135 day extension for the public comment period. The DEIS is a whopping 6200 pages 4 times longer than Ocean Wind 1 DEIS. We need adequate time to research	Please see response to comment BOEM-2023-0030-0045-0001.

Comment No.	Comment	Response
	this massive industrialization of our treasured coast and provide valuable comments.	
BOEM-2023-0030-1973-0001	am respectfully requesting that additional time be afforded stakeholders for the comment period due to end July 3rd. Since the 45 day period consisted of major Federal and State Holidays.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1991-0001	I am a New Jersey shore homeowner who is respectfully requesting that you significantly extend the public comment period for the Atlantic Shores South OSW project as given the plethora of material requiring review totaling more than 6200 pages the current 45 day deadline is highly unreasonable. With all due respect and in the name of fairness please extend the comment period a minimum of four additional months allowing adequate time for a thoughtfully prepared response.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-1997-0004	In addition 45 days is not enough time to read a 6000 page document. Provide at least another 45 for affected residents and business owners to read and respond!	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-2009-0001	The EIS comment period be extended for one month to give second home summer residents a voice.	Please see response to comment BOEM-2023-0030-0045-0001.
BOEM-2023-0030-2014-0001	I am writing initially to request that BOEM extend the official comment time period for the above referenced Atlantic Shores South Wind Project for an additional substantial period of time. The proposed project involves a massive industrial wind farm turbine construction which is proposed to be permanently installed on the ocean floor at many locations a mere nine (9) miles off of the beaches of Ocean County New Jersey. Additionally the Bureau of Ocean Energy Management (BOEM) has established the original official comment period to the Draft Environmental Impact Statement (DEIS) to be forty-five (45) days. The document itself with the various attachments is in excess of 2000 pages long! Accordingly it is virtually impossible to engage in a meaningful attempt to read review and digest the	Please see response to comment BOEM-2023-0030-0045-0001.

Comment No.	Comment	Response
	<p>voluminous publication much less to ask substantive questions and/or to forward the giant document and all its exhibits to any appropriate consultant for independent scientific review. I have attached for your ready reference a copy of my own May 22 2023 request for a six (6) month time period to extend the comment period. Said official request had been addressed to the Honorable Deb Haaland Secretary of the U.S. Department of the Interior and the request letter had been copied to Kimberly Sullivan at BOEM via email only. For the reasons underscored herein and initially emphasized in the aforementioned still unanswered May 22 2023 letter it is imperative BOEM extend this comment period for a realistic and adequate time period of at least six (6) month in duration.</p>	

N.7 General Comment Summaries and Responses

N.7.1 Purpose and Need

Table N.7-1. General Comments on Purpose and Need

General Comment Summaries and Responses
<p>Comment Summary 1: Commenters expressed support for clean renewable energy and the end of use of fossil fuels as soon as possible; however, another commenter noted that ocean wind is an aged and antiquated technology.</p>
<p>Response: Thank you for your comments. Offshore wind is a burgeoning renewable energy industry where the technology is evolving to accommodate site-specific constraints and opportunities.</p>
<p>Submission IDs contributing to comment summary: BOEM-2023-0030-0608-0001; BOEM-2023-0030-0620-0001; BOEM-2023-0030-1729-0006</p>
<p>Comment Summary 2: A commenter stated that the DEIS does not state the Project’s expected power output or state what fossil fuel generating capacity would be displaced.</p>
<p>Response: The EIS explains on page 1-1, that the proposed Atlantic Shores South Project (consisting of Project 1 and Project 2) described in the COP and this EIS would be approximately 1,510 megawatts (MW) for Project 1; the number of MW is yet to be determined for Project 2. Atlantic Shores has a goal for Project 2 of 1,327 MW. Section 3.4.1, <i>Air Quality</i>, of the EIS explains that without the proposed Project, the 1,827 MW of electricity would likely be provided by fossil-fueled fired facilities.</p>

General Comment Summaries and Responses

Submission IDs contributing to comment summary: BOEM-2023-0916-0023; BOEM-2023-0030-0916-0024

Comment Summary 3: Commenters stated that BOEM does not present a substantive purpose and need, the broad program objectives are contradicted by statements in other EISs, and BOEM’s purpose is to approve or disprove the Project.

Response: The purpose and need of the proposed Project is described in detail in Section 1.2 of Chapter 1, *Introduction*, of the EIS. The purpose of BOEM’s action (which is distinct from the purpose and need of the proposed Project) is to determine whether to approve, approve with modifications, or disapprove Atlantic Shores’ COP. BOEM’s program objectives are consistent across the EISs BOEM is currently developing.

Submission IDs contributing to comment summary: BOEM-2023-0030-0916-0031; BOEM-2023-0030-0916-0036

Comment Summary 4: Commenter listed potential economic and environmental benefits of the Proposed Action.

Response: Thank you for your comment.

Submission IDs contributing to comment summary: BOEM-2023-0030-1226-0001, BOEM-2023-0030-1226-0005, BOEM-2023-0030-1226-0006

N.7.2 Proposed Action and Alternatives

Table N.7-2. General Comments on the Proposed Action and Alternatives

General Comment Summaries and Responses

Comment Summary 1: Several commenters indicated their support of Alternative A, the No Action Alternative.

Response: The commenters’ support of Alternative A is noted.

Submission IDs contributing to comment summary: BOEM-2023-0030-0213-0014; BOEM-2023-0030-1436-0006; BOEM-2023-0030-1516-0037; BOEM-2023-0030-1571-0005; BOEM-2023-0030-1606-0064; BOEM-2023-0030-1708-0001; BOEM-2023-0030-1723-0007; BOEM-2023-0030-1766-0001

Comment Summary 2: Several commenters indicated their support of Alternative B, the Proposed Action Alternative.

Response: The commenters’ support of Alternative B is noted.

Submission IDs contributing to comment summary: BOEM-2023-0030-1382-0004; BOEM-2023-0030-1392-0001; BOEM-2023-0030-1462-0002; BOEM-2023-0030-1545-0007; BOEM-2023-0030-1574-0003; BOEM-2023-0030-1711-0002; BOEM-2023-0030-1796-0001; BOEM-2023-0030-1821-0011; BOEM-2023-0030-1574-0003; BOEM-2023-0030-1767-0002

Comment Summary 3: Several commenters indicated they did not support Alternative C – Habitat Impact Minimization because of the loss of turbines and subsequent reduced energy production.

Response: The commenters’ opposition to Alternative C is noted.

Submission IDs contributing to comment summary: BOEM-2023-0030-1226-0008; BOEM-2023-0030-1226-0015; BOEM-2023-0030-1226-0016, BOEM-2023-0030-1226-0020

General Comment Summaries and Responses

Comment Summary 4: Several commenters indicated their support for Alternative C – Habitat Impact Minimization because it addresses concerns about the potential impact on fisheries and habitat areas.

Response: The commenters’ support of Alternative C is noted.

Submission IDs contributing to comment summary: BOEM-2023-0030-1382-0005; BOEM-2023-0030-1433-0002; BOEM-2023-0030-1821-0012

Comment Summary 5: Several commenters indicated they did not support Alternative D – No Surface Occupancy at Select Locations to Reduce Visual Impacts because of the loss of turbines and subsequent reduced energy production.

Response: The commenters’ opposition is noted.

Submission IDs contributing to comment summary: BOEM-2023-0030-1226-0025; BOEM-2023-0030-1821-0013

Comment Summary 6: A commenter indicated their general support for Alternative D – No Surface Occupancy at Select Locations to Reduce Visual Impacts.

Response: The commenters’ support of Alternative D is noted.

Submission IDs contributing to comment summary: BOEM-2023-0030-1782-0005

Comment Summary 7: Several commenters indicated their support for Alternative E – Wind Turbine Layout Modification to Establish a Setback between Atlantic Shores South and Ocean Wind 1.

Response: The commenters’ support of Alternative E is noted.

Submission IDs contributing to comment summary: BOEM-2023-0030-0996-0001; BOEM-2023-0030-0996-0005; BOEM-2023-0030-1382-0006; BOEM-2023-0030-1574-0003; BOEM-2023-0030-1578-0008; BOEM-2023-0030-1821-0015

Comment Summary 8: Several commenters indicated their support for Alternative F – Foundation Structures to avoid pile driving and the associated detrimental noise impacts to marine mammals.

Response: The commenters’ support of Alternative F is noted.

Submission IDs contributing to comment summary: BOEM-2023-0030-1257-0005; BOEM-2023-0030-1486-0003; BOEM-2023-0030-1556-0048; BOEM-2023-0030-1556-0088; BOEM-2023-0030-1624-0001

Comment Summary 9: One commenter indicated they do not support the preclusion of pile foundations due to a signed agreement with EEW American Offshore Structures to source monopiles from its Paulsboro New Jersey Plant.

Response: The commenter’s support of pile foundations is noted.

Submission IDs contributing to comment summary: BOEM-2023-0030-1821-0016

Comment Summary 10: Several commenters requested the project be relocated outside the lease area.

Response: The scope of the EIS, per BOEM’s regulations, is to analyze the COP Atlantic Shores Offshore Wind, LLC submitted for Lease Area OCS-A 0499.

General Comment Summaries and Responses

In the EIS (Chapter 2, Table 2-3), BOEM considered but dismissed from further consideration alternatives for alternate locations for the wind energy facility outside of the Lease Area.

Submission IDs contributing to comment summary: BOEM-2023-0030-0550-0002; BOEM-2023-0030-0553-0002; BOEM-2023-0030-0826-0016; BOEM-2023-0030-0916-0058; BOEM-2023-0030-0963-0003; BOEM-2023-0030-1189-0001; BOEM-2023-0030-1201-0001; BOEM-2023-0030-1329-0001; BOEM-2023-0030-1464-0006; BOEM-2023-0030-1644-0001; BOEM-2023-0030-1647-0001; BOEM-2023-0030-1673-0001; BOEM-2023-0030-2003-0003

Comment Summary 11: A commenter requested a pilot project off the New Jersey Coast.

Response: In the EIS, BOEM considered but dismissed (Chapter 2, Table 2-3) from further consideration an alternative to build a much smaller pilot facility to confirm the benefits and impacts before building out the complete Project as proposed.

Submission IDs contributing to comment summary: BOEM-2023-0030-1787-0006

Comment Summary 12: A commenter requested for onshore cable routes to have minimal impact on green or blue acres.

Response: The commenter's request is noted.

Submission IDs contributing to comment summary: BOEM-2023-0030-1486-0004

Comment Summary 13: A few commenters felt the EIS did not fairly analyze the alternatives and underestimated impacts.

Response: BOEM believes the analysis in the EIS provided appropriate level of detail and comparative analysis among alternatives in order for the public and decision maker to distinguish the impacts between alternatives. The level of analysis and detail by alternatives is commensurate with other BOEM offshore wind EISs.

Submission IDs contributing to comment summary: BOEM-2023-0030-1516-0074; BOEM-2023-0030-1523-0004; BOEM-2023-0030-1797-0003

N.7.3 Air Quality

Table N.7-3. General Comments on Air Quality

General Comment Summaries and Responses

Comment Summary 1: Commenters generally affirmed the purpose and need for the Project, noting that the Project is an opportunity for New Jersey to transition away from the use of fossil fuels and towards the generation and use of renewable, clean offshore wind energy to meet energy demand while reducing GHG emissions. Commenters noted the essential role of this transition in preventing worsening impacts of climate change, including extreme weather events and destruction of coastal communities and ecosystems. Some commenters highlighted the effects of climate change on wildlife, commercial fisheries, agriculture, and recreation. Other commenters noted the potential for offshore wind to provide additional jobs and promote energy security and independence while reducing GHG emissions.

General Comment Summaries and Responses

Response: Thank you for your comment. EIS Section 3.4.1, *Air Quality*, outlines the Project’s anticipated GHG emissions and impact on climate change. As discussed in EIS Section 3.4.1.5, the Proposed Action would have an overall net beneficial impact GHG emissions, compared to a similarly sized fossil-fueled power plant or to the generation of the same amount of energy by the existing grid.

Please refer to Chapter 1, *Introduction*, regarding the purpose and need for the Project, including to provide two commercially viable offshore wind energy facilities within Lease Area OCS-A 0499 to meet New Jersey’s need for clean energy, as outlined by Executive Order (EO) 14008, “Tackling the Climate Crisis at Home and Abroad,” issued January 27, 2021.

Please refer to EIS Section 3.6, *Socioeconomic Conditions and Cultural Resources*, regarding impacts on land use and coastal infrastructure, commercial fisheries, economics, etc., and EIS Section 3.5, *Biological Resources*, regarding impacts on coastal habitat and fauna, marine mammals, fish, wetlands, etc.

Submission IDs contributing to comment summary: BOEM-2023-0030-0610-0002; BOEM-2023-0030-0618-0001; BOEM-2023-0030-1320-0002; BOEM-2023-0030-1545-0002; BOEM-2023-0030-1609-0001; BOEM-2023-0030-1732-0006; BOEM-2023-0030-1782-0002; BOEM-2023-0030-1821-0004; BOEM-2023-0030-0616-0001; BOEM-2023-0030-0628-0001; BOEM-2023-0030-0924-0001; BOEM-2023-0030-0996-0003; BOEM-2023-0030-1061-0001; BOEM-2023-0030-1433-0005; BOEM-2023-0030-1730-0002; BOEM-2023-0030-1758-0003; BOEM-2023-0030-1759-0003; BOEM-2023-0030-1759-0004; BOEM-2023-0030-1759-0006; BOEM-2023-0030-1766-0002; BOEM-2023-0030-1776-0002; BOEM-2023-0030-1784-0002; BOEM-2023-0030-1785-0004; BOEM-2023-0030-0616-0002; BOEM-2023-0030-1757-0002; BOEM-2023-0030-1782-0001; BOEM-2023-0030-1785-0005.

Comment Summary 2: Commenters generally affirmed the purpose and need for the Project, noting that the Project is an opportunity for New Jersey to transition away from the use of fossil fuels to reduce air pollutant emissions and public health impacts from fossil fuel combustion. Some commenters noted that poor air quality and public health impacts from fossil fuel combustion disproportionately impact environmental justice communities. Other commenters highlighted the water quality benefits of transitioning towards the use of clean, renewable energy.

Response: Thank you for your comment. EIS Section 3.4.1, *Air Quality*, outlines the Project’s anticipated air pollutant emissions, including criteria pollutants and precursors, hazardous air pollutants (HAPs), and GHGs, and resulting air quality impacts. As discussed in EIS Section 3.4.1.5, there would be a minor beneficial impact on air quality in the region overall to the extent that energy produced by the Project would displace energy produced by fossil-fueled power plants. Due to the reduction in emissions associated with fossil-fueled energy generation, the Proposed Action would result in air quality–related health effects avoided in the region.

Please refer to Chapter 1, *Introduction*, regarding the need for the Proposed Action, including to provide two commercially viable offshore wind energy facilities within Lease Area OCS-A 0499 to meet New Jersey’s need for clean energy, as outlined by Executive Order (EO) 14008, “Tackling the Climate Crisis at Home and Abroad,” issued January 27, 2021.

Please refer to EIS Section 3.6, *Socioeconomic Conditions and Cultural Resources*, regarding impacts on environmental justice, and EIS Section 3.5, *Biological Resources*, regarding impacts on water quality.

General Comment Summaries and Responses

Submission IDs contributing to comment summary: BOEM-2023-0030-0610-0002; BOEM-2023-0030-0618-0001; BOEM-2023-0030-1320-0002; BOEM-2023-0030-1545-0002; BOEM-2023-0030-1609-0001; BOEM-2023-0030-1732-0006; BOEM-2023-0030-1782-0002; BOEM-2023-0030-1821-0004; BOEM-2023-0030-0616-0002; BOEM-2023-0030-1757-0002; BOEM-2023-0030-1782-0001; BOEM-2023-0030-1785-0005.

Comment Summary 3: Commenters questioned whether the Project would reduce criteria pollutant and GHG emissions, noting that Project construction, operation, and maintenance activities would generate emissions. Some commenters questioned whether the Project would address climate change in an effective and economically efficient manner. Other commenters asserted that offshore wind projects adversely impact the ocean, marine life, air quality, and climate change.

Response: Thank you for your comment. EIS Section 3.4.1, *Air Quality*, outlines the Project’s anticipated air pollutant emissions, including criteria pollutants and precursors, hazardous air pollutants (HAPs), and GHGs, and resulting air quality impacts. As discussed in EIS Section 3.4.1.5, although some air quality impacts would result from various activities associated with construction, O&M, and eventual decommissioning, including fugitive dust emissions from construction, emissions from equipment operation, and potential emissions from accidental releases, these emissions would be relatively small and limited in duration. The Proposed Action would also produce GHG emissions, primarily from O&M activities, including vessel and equipment operation, and leakage of SF6 from SF6-containing electrical equipment that contributes to climate change; however, its contribution would be less than the emissions displaced during operation of the Project.

Moreover, as discussed in EIS Section 3.4.1.5, Atlantic Shores has committed to EPMs that would reduce potential impacts through complying with applicable emissions standards (AQ-01, AQ-02, and AQ-03), potential use of alternative fuels where feasible (AQ-03), complying with applicable fuel sulfur content standards (AQ-04), implementing BMPs to reduce emissions (e.g., optimizing construction and O&M activities to minimize vessel operating times and loads) (AQ-05), development of fugitive dust-control plans for onshore construction areas (AQ-05), and complying with all air quality permit conditions (AQ-06 and AQ-07).

As described in EIS Section 3.4.1.5, the Proposed Action would have an overall net beneficial impact on criteria pollutant and ozone precursor emissions as well as GHGs, compared to a similarly sized fossil-fueled power plant or to the generation of the same amount of energy by the existing grid. Note that no single project can reduce GHG emissions enough to have a measurable impact by itself on climate change. The GHG emission reductions from the proposed action would contribute incrementally, in combination with all other GHG reductions, toward slowing the rate of climate change. Moreover, as shown in Table 3.4.1-5, the Proposed Action would result in air quality–related health effects avoided in the region due to the reduction in emissions associated with fossil-fueled energy generation.

Please refer to Chapter 1, *Introduction*, regarding the need for the Proposed Action, including to provide two commercially viable offshore wind energy facilities within Lease Area OCS-A 0499 to meet New Jersey’s need for clean energy, as outlined by Executive Order (EO) 14008, “Tackling the Climate Crisis at Home and Abroad,” issued January 27, 2021. As described in Chapter 1, the Project is intended to contribute substantially to the region's electrical reliability and help New Jersey achieve its renewable energy goals. Regardless of the energy sources powering the New Jersey grid, it is the responsibility of the ISO to reliably deliver power to customers.

General Comment Summaries and Responses

Please refer to EIS Section 3.6, *Socioeconomic Conditions and Cultural Resources*, regarding impacts on land use, coastal infrastructure, demographics, employment, and economics. Please refer to EIS Section 3.5, *Biological Resources*, regarding impacts on benthic resources, coastal habitat and fauna, marine mammals, and fish.

Submission IDs contributing to comment summary: BOEM-2023-0030-0100-0002; BOEM-2023-0030-1755-0010; BOEM-2023-0030-1734-0004; BOEM-2023-0030-0413-0004; BOEM-2023-0030-0600-0002; BOEM-2023-0030-1451-0006; BOEM-2023-0030-1488-0011; BOEM-2023-0030-1516-0079; BOEM-2023-0030-1688-0001; BOEM-2023-0030-1706-0002; BOEM-2023-0030-1708-0002; BOEM-2023-0030-1710-0001; BOEM-2023-0030-1714-0001; BOEM-2023-0030-1729-0002; BOEM-2023-0030-1749-0003; BOEM-2023-0030-1751-0005; BOEM-2023-0030-1755-0008; BOEM-2023-0030-1975-0006; BOEM-2023-0030-1993-0018; BOEM-2023-0030-1790-0001.

Comment Summary 4: Commenters asserted that offshore wind infrastructure will result in locally elevated surface air temperatures. Some commenters contend that offshore wind infrastructure discharges warm water, increasing nearby water temperatures.

Response: Thank you for your comment. EIS Section 3.4.2, *Water Quality*, outlines the Project's impacts on water quality. As described in EIS Section 3.4.2.5, the proposed WTGs and OSSs are self-contained and do not generate discharges under normal operating conditions.

Wind turbines extract kinetic energy from the atmosphere and can thus reduce wind speeds downwind of the turbine. Wind turbines increase vertical mixing in the atmosphere and can thus increase (or decrease) air temperatures downwind depending on local meteorological conditions. However, these effects dissipate with distance downwind. Because of the distance between the Project and the New Jersey shoreline (approximately 16 miles from the center of the WTG array), substantial effects on wind speed and temperature are unlikely to occur over land.

EIS Section 3.4.1, *Air Quality*, outlines the Project's potential to generate GHGs, or gases that trap heat in the atmosphere and contribute to global climate change by retaining heat.

Please refer to EIS Section 3.5, *Biological Resources*, regarding impacts on coastal habitat and fauna, marine mammals, fish, etc.

Submission IDs contributing to comment summary: BOEM-2023-0030-1755-0010; BOEM-2023-0030-1773-0006; BOEM-2023-0030-0584-0002; BOEM-2023-0030-1404-0014; BOEM-2023-0030-1734-0004

N.7.4 Water Quality

Table N.7-4. General Comments on Water Quality

General Comment Summaries and Responses

Comment Summary 1: Five comments expressed concern with potential impacts to water quality from releases of oils, diesel fuel and other chemicals as a result of the Proposed Action.

Response: The WTGs and OSSs are generally self-contained and do not generate discharges under normal operating conditions. In the event of a spill related to an allision or other unexpected or low-probability event, impacts on water quality from discharges from the WTGs or OSSs during operation would be

General Comment Summaries and Responses

short term. Atlantic Shores has developed and would implement its OSRP that meets USCG and 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 plan was written to comply with all federal, state, and local oil spill response regulations.

Submission IDs contributing to comment summary: BOEM-2023-0030-0353-0002; BOEM-2023-0030-1720-0002; BOEM-2023-0030-1756-0003; BOEM-2023-0030-1773-0003; 1954-0007

Comment Summary 2: One comment expressed concern that water pollution from erosion is possible long term

Response: As described in Section 3.4.2.5 under *Land Disturbance*, Atlantic Shores plans to utilize existing roads, paths, and ROWs to minimize potential disturbance to onshore waterbodies and impacts on water quality. Also described in the same section, Atlantic Shores would implement appropriate BMPs such as silt fence, filter socks, inlet protection, dust abatement, and other approved BMPs in accordance with the approved Soil Erosion and Sediment Control Plan to properly contain excavated soils and sediments and stabilize disturbed land areas, to avoid erosion and sediment runoff into waterbodies and impacts on water quality. Additionally, the Project would be constructed in accordance with an approved New Jersey Division of Land Resource Protection Stormwater Management Control Plan (NJPDES and SWPPP) and County Soil Conservation District BMPs to avoid and minimize Project-related water quality impacts on nearby aquatic habitats.

With regards to offshore activities, EIS Section 3.4.2.5 under *Cable Emplacement and Maintenance*, sediments disturbed during construction activities are not expected to contain contaminants considering sediments are predominantly sandy and known sources of anthropogenic contaminants such as ocean disposal sites would be avoided. If sediments are contaminated, sediment plume modeling conducted indicates that any resuspension of contaminated sediment would be temporary and no long-term effects on water quality are expected.

Submission IDs contributing to comment summary: BOEM-2023-0030-0626-0004

Comment Summary 3: One comment stated that chemicals contained in the turbines are very dangerous and that it's unknown what will happen if a Category 4 or 4 hurricane occurs in the offshore wind farm.

Response: The WTGs and OSSs are generally self-contained and do not generate discharges under normal operating conditions. In the event of a spill related to an allision or other unexpected or low-probability event, impacts on water quality from discharges from the WTGs or OSSs during operation would be short term. Atlantic Shores has developed and would implement its OSRP that meets USCG and 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 plan was written to comply with all federal, state, and local oil spill response regulations.

The wind turbines and project facilities are designed to withstand weather conditions according to design codes and standards. As hurricanes are a reality along the New Jersey coast, developers are required to consider these and other storm events in their design. Standard design methodology includes a 50 to 100-year storm design check with standard safety factors typical to designs across all industries. Because of the variability in the meteorological and oceanographic conditions, additional robustness checks ensure survival of the foundations, support structures, and towers to the 500 to 1000-year storm level.

Submission IDs contributing to comment summary: BOEM-2023-0030-1993-0017

General Comment Summaries and Responses

Comment Summary 4: Two comments expressed concern that project activities will discharge warm water from substation cooling that will result in impacts to water quality from an increase in ocean temperature.

Response: As described in EIS Section 3.4.2.3 under *Discharges/Intakes*, substations that are cooled by an open-loop system intake cool sea water and discharge warmer water back into the ocean. The warm water discharged is generally considered to have a minimal effect as it would be absorbed by the surrounding water and returned to ambient temperatures. Additionally, potential impacts on water quality to surrounding sea water would require permits through the USEPA National Pollutant Discharge Elimination System (NPDES).

Submission IDs contributing to comment summary: BOEM-2023-0030-1565-0004; BOEM-2023-0030-1773-0007

N.7.5 Bats

Table N.7-5. General Comments on Bats

General Comment Summaries and Responses

Comment Summary 1: One commenter noted that an assessment for bats was not included in the Draft EIS.

Response: An assessment of potential effects of the proposed Project on bat species that occur within the geographic analysis area is provided in Section 3.5.1, *Bats* of the EIS. A more detailed assessment for ESA-listed bat species is provided in the Biological Assessment that was prepared by BOEM to facilitate ESA Section 7 consultation with USFWS. At the conclusion of consultation, USFWS issued a Biological Opinion describing its own assessment and conservation measures to avoid, minimize, and mitigate impacts to ESA-listed bat species. Please refer to Table N.6-7 for an additional response to this comment.

Submission IDs contributing to comment summary: BOEM-2023-0030-1698-0003

Comment Summary 2: One commenter expressed concern that offshore wind turbines can pose risks to birds and bats. They may collide with the turbine blades especially during migration or in areas where there are high concentrations of birds. The commenter noted that studies are being conducted to develop mitigation strategies and identify locations with lower bird and bat populations.

Response: Given the relatively low numbers of bats in the offshore environment, the wide spacing of the wind turbines, and the patchiness of projects, the likelihood of collisions is expected to be low; therefore, impacts on bats would be expected to be negligible. Mitigation measures would be implemented to minimize the potential for any light-driven attraction of bats or their insect prey, which would reduce the effects of light on potential collisions of bats. Additionally, any conservation measures related to minimizing the risk of bat collisions with structures and included by USFWS in its Biological Opinion would be required conditions of BOEM's approval of the Project. Please refer to Table N.6-7 for an additional response to this comment.

Submission IDs contributing to comment summary: BOEM-2023-0030-0443-0002

N.7.6 Benthic Resources

Table N.7-6. General Comments on Benthic Resources

General Comment Summaries and Responses
<p>Comment Summary 1: Several commenters expressed general concerns about the Proposed Action and the potential threat it poses to the benthic environment.</p>
<p>Response: In evaluating the Proposed Action in the EIS, BOEM has identified physical displacement, scour, loss of soft-bottom habitat, opportunities for the establishment and dispersal of invasive species, cable heat and EMF, accidental discharges, altered wind-wake characteristics and corresponding water column mixing, and changes in primary productivity as potential impact producing factors on benthic resources. Each of those factors has been evaluated in section 3.5.2 Benthic Resources in the EIS. Activities associated with the Planned Action would result in negligible to moderate adverse impacts, with some moderate beneficial impacts on benthic resources in the geographic analysis area. A full description of IPFs and their impact determinations is located under the <i>Conclusions</i> subheading of Section 3.5.2.6, <i>Cumulative Impacts of Alternative B – Proposed Action</i>.</p>
<p>Submission IDs contributing to comment summary: BOEM-2023-0030-0120-0001; BOEM-2023-0030-0385-0004; BOEM-2023-0030-1695-0008</p>
<p>Comment Summary 2: The commenter is concerned about WTGs collapsing into the sea as a result of hurricanes and resting on the ocean bottom.</p>
<p>Response: Wind turbines are engineered, designed, fabricated, installed, maintained, and inspected to ensure their structural integrity for the life of the structure. These structures are built with a safety factor providing a conservative design to mitigate against any stresses, loads, or fatigue. The WTGs come with safety functions and control systems in-built to enhance their structural reliability. Critical parameters such as wind speed and wind direction changes, WTG vibrations, etc. are continuously monitored to keep the WTG either in an idle or an operational mode and to maintain the blade pitch and/or the turbine yaw within the designed limits. Additionally, the WTGs will be designed in accordance with IEC 61400 which includes specific load cases corresponding to typical hurricanes for the project area. When wind speeds exceed the operational threshold, the turbines will automatically enter into a safe mode in which the blades are pitched and the nacelle is rotated to minimize wind loading on the turbine. The WTGs are equipped with batteries and other features to ensure that the function of critical equipment is maintained during severe weather such as a hurricane, even if connection to the grid is lost.</p>
<p>Submission IDs contributing to comment summary: BOEM-2023-0030-1607-0003</p>

N.7.7 Birds

Table N.7-7. General Comments on Birds

General Comment Summaries and Responses
<p>Comment Summary 1: A number of commenters expressed concerns about collision risk for birds.</p>
<p>Response: The primary hazard proposed to ESA-listed birds from offshore wind energy development would be collision associated with the turbine structures and moving blades. BOEM has followed the parameterized Band Model (Band 2012) to evaluate the risk of bird collision with operating WTGs. BOEM has also used the Stochastic Collision Risk Assessment for Movement (SCRAM) to estimate the likelihood of “take” or fatality due to collision with a rotating turbine blade. Detailed information on seasonal migrations, Band and SCRAM models as well as outputs from the models for ESA-listed bird species can be found in</p>

General Comment Summaries and Responses

the USFWS Biological Assessment (BA) for Atlantic Shores South in Section 5.2.6. Please refer to Table N.6-5 for an additional response to comment BOEM-2023-0030-0443-0002. Please refer to Table N.6-9 for an additional response to comment BOEM-2023-0030-0513-0005.

Submission IDs contributing to comment summary: BOEM-2023-0030-0443-0002; BOEM-2023-0030-0513-0005; BOEM-2023-0030-0626-0003; BOEM-2023-0030-0904-0003; BOEM-2023-0030-1607-0006; BOEM-2023-0030-1668-0001; BOEM-2023-0030-1734-0015; BOEM-2023-0030-1954-0004; BOEM-2023-0030-1993-0008; BOEM-2023-0030-1732-0010

Comment Summary 2: Commenters raised concerns regarding the Piping Plover and Red Knot/Endangered Species

Response: Bird species detected within the WTA and federally listed species that may occur in the Project area are included in the *Section 3.5.3 Birds*, where IPFs were evaluated. In addition, specific details of the potential impacts on ESA listed species, including the piping plover and red knot, can be found in the USFWS Biological Assessment (BA) for Atlantic Shores South. The USFWS deemed the Atlantic Shores South BA complete on July 19, 2023, and it is available here: www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/AtlanticShoresSouth_USFWS_BA.pdf.

Results of the consultation will be presented in the Final EIS. Please refer to Table N.7-5 for an additional response to Comment BOEM-2023-0030-1698-0003.

Submission IDs contributing to comment summary: BOEM-2023-0030-1698-0003; BOEM-2023-0030-0584-0004; BOEM-2023-0030-1451-0003; BOEM-2023-0030-1464-0005; BOEM-2023-0030-1692-0002

Comment Summary 3: Commenters asked about the Mitigation Plan for ESA-Listed Birds

Response: Information on avoidance, minimization, and mitigation measures for ESA-listed birds can be found in the USFWS Biological Assessment (BA) for Atlantic Shores South under Section 5.2.7. USFWS deemed the Atlantic Shores South BA complete on July 19, 2023, and it is available here: www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/AtlanticShoresSouth_USFWS_BA.pdf.

Results of the consultation will be presented in the Final EIS.

Submission IDs contributing to comment summary: BOEM-2023-0030-0631-0003; BOEM-2023-0030-0616-0005

Comment Summary 4: Several commented on the potential effects of the Project on birds.

Response: Section 3.5.3, *Birds* includes discussion of the IPFs on bird resources associated with the proposed Project, alternatives, and ongoing and planned activities in the geographic analysis area for birds. Potential effects of the proposed Project on bird species listed as threatened or endangered under the Endangered Species Act are further evaluated in greater detail in the Biological Assessment prepared for consultation with USFWS. USFWS deemed the Atlantic Shores South BA complete on July 19, 2023, and it is available here: www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/AtlanticShoresSouth_USFWS_BA.pdf. Results of the consultation are presented in the Final EIS.

Measures to avoid, minimize, or mitigate impacts to birds will be specified by BOEM in the Record of Decision and will be a condition of approval for the Project to proceed.

Please refer to Tables N.7-9, N.7-10, and N.7-11 for additional responses to comment BOEM-2023-0030-1751-0001.

General Comment Summaries and Responses

Submission IDs contributing to comment summary: BOEM-2023-0030-1707-0007; BOEM-2023-0030-1751-0001

N.7.8 Coastal Habitat and Fauna

Table N.7-8. General Comments on Coastal Habitat and Fauna

General Comment Summaries and Responses

Comment Summary 1: A commenter noted that wildlife protection and habitat conservation should occur through project lifecycle

Response: The potential impacts of the Proposed Action on coastal habitats and fauna are disclosed in EIS Section 3.5.4, *Coastal Habitat and Fauna* and is inclusive of construction, operations and maintenance and decommissioning, as planned proposed by the Applicant. Avoidance, minimization and mitigation measures for any unavoidable impacts are defined in order to protect wildlife and conserve habitat to the maximum extent practicable.

Submission IDs contributing to comment summary: BOEM-2023-0030-1257-0003

N.7.9 Finfish, Invertebrates, and Essential Fish Habitat

Table N.7-9. General Comments on Finfish, Invertebrates, and Essential Fish Habitat

General Comment Summaries and Responses

Comment Summary 1: Many commenters stated that offshore wind development is not a “green” method to produce energy and that finfish resources will be affected by noise, including blasting, and EMFs.

Response: Offshore wind development may result in any or all of the impacts identified in the EIS. Discussions on impacts include how resources including finfish, invertebrates, and EFH may be impacted by the Impact Producing Factors discussed in each resource section. These impacts were evaluated based on the best available scientific research. There is a detailed discussion on impacts of EMFs. BOEM acknowledges that research on EMF impacts is currently developing. Though, initial studies suggest that while some species are affected by EMFs, others are not (e.g., sturgeons). Blasting noise from seismic surveys are evaluated in the EIS. Based on the scientific literature, behavioral responses to noise are possible. Noise impacts on fish migrations have not been studied specifically.

Submission IDs contributing to comment summary: BOEM-2023-0030-0097-0001; BOEM-2023-0030-0386-0002; BOEM-2023-0030-0620-0002; BOEM-2023-0030-0620-0003; BOEM-2023-0030-1182-0002; BOEM-2023-0030-1432-0002; BOEM-2023-0030-1499-0010; BOEM-2023-0030-1532-0001; BOEM-2023-0030-1565-0002; BOEM-2023-0030-1668-0002; BOEM-2023-0030-1682-0001; BOEM-2023-0030-1668-0002; BOEM-2023-0030-1682-0001; BOEM-2023-0030-1698-0002; BOEM-2023-0030-1720-0002; BOEM-2023-0030-1729-0004; BOEM-2023-0030-1737-0004; BOEM-2023-0030-1751-0001; BOEM-2023-0030-1954-0008; BOEM-2023-0030-1975-0002; BOEM-2023-0030-1993-0012

Comment Summary 2: Several commenters asked why horseshoe crab is not included in analysis.

General Comment Summaries and Responses

Response: A discussion on the horseshoe crab population in the mid-Atlantic was added to Section 3.5.5.5. The protected Carl N. Shuster Jr. reserve does not overlap with the Offshore Project area. Larval and adult horseshoe crab may occur along ECCs near landfall sites. Beaches at landfall sites may have horseshoe crab eggs.

Submission IDs contributing to comment summary: BOEM-2023-0030-0105-0003; BOEM-2023-0030-0109-0004; BOEM-2023-0030-1734-0007

Comment Summary 3: One commenter suggested that more studies are needed to fully understand impacts.

Response: BOEM acknowledges that the effects of some impact factors need to be researched further to address outstanding questions. BOEM coordinates and sponsors ongoing research addressing many of these topics and makes the results publicly available as studies are completed or reach interim milestones. The analyses presented by BOEM in the EIS are based on the best available science. As new information is available, BOEM will continue to include the relevant results in future assessments.

Submission IDs contributing to comment summary: BOEM-2023-0030-0372-0009

Comment Summary 4: Several commenters noted that artificial reef effects from wind turbines will impact distribution and behavior of fish and invertebrates and that the artificial reef effect could benefit fisherman including if Project structures are carefully designed for reef enhancement and preserved after decommissioning.

Response: The EIS includes a discussion in Section 3.5.5.3 on the artificial reef affect from the presence of offshore wind structures. The section includes a discussion on the potential redistribution of existing fish populations due to attraction to complex reef habitats. Attraction to structures could affect predator-prey interactions and food webs. One hypothesis of the reef effect is that eventual production of fish due to the reef effect may lead to potential benefits in the form of increased population size (initial colonization of artificial structures is likely due to redistribution of fish from surrounding habitats). Potential benefits for recreational fishing are discussed in Section 3.6.1. Designing structures and habitat changes with reef-enhancement considerations is noted.

Submission IDs contributing to comment summary: BOEM-2023-0030-0443-0006; BOEM-2023-0030-0616-0003; BOEM-2023-0030-0618-0003; BOEM-2023-0030-1320-0005; BOEM-2023-0030-1956-0004; BOEM-2023-0030-1257-0014

Comment Summary 5: Several commenters asked what steps are being taken to mitigate/protect the Mid-Atlantic Cold Pool.

Response: Review studies by Rutgers University discuss potential impacts to local stratification that defines the Cold Pool. Most of these studies are from the North Sea however, and the results may not be applicable to the mid-Atlantic. The level of stratification experienced in the North Sea is weaker than that of the Mid-Atlantic Cold Pool. The level of stratification in the North Sea is comparable to the summer formation and fall dissipation of the Mid-Atlantic Cold Pool (see Miles et al. 2021).

Submission IDs contributing to comment summary: BOEM-2023-0030-0443-0006; BOEM-2023-0030-0616-0003; BOEM-2023-0030-0618-0003; BOEM-2023-0030-1320-0005

Comment Summary 6: One commenter asked how the introduction or spread of invasive species will be controlled, prevented, or mitigated.

General Comment Summaries and Responses

Response: Risks of discharges of ballast water from vessels related to the Proposed Action that can introduce non-native species are expected to be low. The spread of invasive species such as lionfish may be facilitated by the presence of offshore wind structures. Atlantic Shores has planned or proposed monitoring surveys to evaluate biological communities before and after installation of offshore structures that will serve to monitor the occurrence of invasive species.

Submission IDs contributing to comment summary: BOEM-2023-0030-1404-0016

Comment Summary 7: One commenter expressed concerns for injury or death to marine organisms.

Response: Injury or death of marine organisms including marine mammals, sea turtles, and fish was assessed by BOEM in the EIS and through Endangered Species Act consultation with NMFS. Atlantic Shores will be required to implement mitigation measures specified in the Biological Opinion issued by NMFS and the Record of Decision issued by BOEM for the Project as a condition of COP approval.

Submission IDs contributing to comment summary: BOEM-2023-0030-1786-0004

N.7.10 Marine Mammals

Table N.7-10. General Comments on Marine Mammals

General Comment Summaries and Responses

Comment Summary 1: The Project will result in adverse impacts on marine mammals that BOEM must consider before authorizing the Projects. These impacts will result in takes of marine mammals.

Response: The impact assessment for the Proposed Action, presented in Section 3.5.6.5 of the EIS, included an evaluation of adverse impacts on marine mammals. These impacts were considered in making the effects determinations for marine mammals presented in Section 3.5.6.5 of the EIS. As noted in Table N.6-10, the EIS is not intended to be a take assessment. Takes of NARW are authorized and managed by NMFS through take authorizations and Biological Opinions. If NMFS determines too many takes have been authorized, no further takes will be issued. However, it is not the purpose of the EIS to rule on this topic.

Submission IDs contributing to comment summary: BOEM-2023-0030-0004-0002; BOEM-2023-0030-0012-0002; BOEM-2023-0030-0012-0003; BOEM-2023-0030-0016-0001; BOEM-2023-0030-0016-0002; BOEM-2023-0030-0030-0002; BOEM-2023-0030-0096-0002; BOEM-2023-0030-0096-0003; BOEM-2023-0030-0099-0003; BOEM-2023-0030-0109-0002; BOEM-2023-0030-0165-0001; BOEM-2023-0030-0181-0001; BOEM-2023-0030-0372-0003; BOEM-2023-0030-0372-0004; BOEM-2023-0030-0372-0008; BOEM-2023-0030-0385-0003; BOEM-2023-0030-0425-0001; BOEM-2023-0030-0453-0005; BOEM-2023-0030-0489-0004; BOEM-2023-0030-0513-0001; BOEM-2023-0030-0577-0002; BOEM-2023-0030-0625-0002; BOEM-2023-0030-0626-0002; BOEM-2023-0030-0904-0002; BOEM-2023-0030-0916-0016; BOEM-2023-0030-1439-0004; BOEM-2023-0030-1478-0002; BOEM-2023-0030-1485-0001; BOEM-2023-0030-1488-0002; BOEM-2023-0030-1492-0001; BOEM-2023-0030-1518-0008; BOEM-2023-0030-1523-0015; BOEM-2023-0030-1523-0016; BOEM-2023-0030-1556-0017; BOEM-2023-0030-1565-0001; BOEM-2023-0030-1567-0001; BOEM-2023-0030-1571-0002; BOEM-2023-0030-1572-0004; BOEM-2023-0030-1592-0003; BOEM-2023-0030-1606-0056; BOEM-2023-0030-1606-0057; BOEM-2023-0030-1606-0065; BOEM-2023-0030-1698-0002; BOEM-2023-0030-1695-0004; BOEM-2023-0030-1707-0004; BOEM-2023-0030-1734-0006; BOEM-2023-0030-1756-0004; BOEM-2023-0030-1715-0007; BOEM-2023-0030-1758-0001; BOEM-2023-0030-1751-0001; BOEM-2023-0030-1786-0004; BOEM-2023-0030-1798-0003; BOEM-2023-0030-1762-0005;

General Comment Summaries and Responses

BOEM-2023-0030-1723-0005; BOEM-2023-0030-1993-0009; BOEM-2023-0030-1955-0002; BOEM-2023-0030-1967-0005; BOEM-2023-0030-1756-0002; BOEM-2023-0030-1993-0010; BOEM-2023-0030-1457-0001; BOEM-2023-0030-1993-0012; BOEM-2023-0030-1565-0005; BOEM-2023-0030-1607-0007

Comment Summary 2: The Project will result in adverse impacts on critically endangered NARWs.

Response: The impact assessment for the Proposed Action, presented in Section 3.5.6.5 of the EIS, included an evaluation of adverse impacts on NARWs. These impacts were considered in making the impact determinations for NARWs presented in Section 3.5.6.5 of the EIS. Additionally, as this species is listed under the ESA, impacts on NARW and critical habitat for this species were assessed in the BA for the Project.

Submission IDs contributing to comment summary: BOEM-2023-0030-0034-0002; BOEM-2023-0030-0096-0004; BOEM-2023-0030-0372-0001; BOEM-2023-0030-0379-0001; BOEM-2023-0030-0413-0002; BOEM-2023-0030-0493-0002; BOEM-2023-0030-0584-0005; BOEM-2023-0030-0916-0121; BOEM-2023-0030-1404-0005; BOEM-2023-0030-1464-0004; BOEM-2023-0030-1490-0004; BOEM-2023-0030-1492-0006; BOEM-2023-0030-1518-0025; BOEM-2023-0030-1518-0027; BOEM-2023-0030-1520-0005; BOEM-2023-0030-1523-0014; BOEM-2023-0030-1523-0008; BOEM-2023-0030-1566-0001; BOEM-2023-0030-1569-0004; BOEM-2023-0030-1606-0049; BOEM-2023-0030-1625-0002; BOEM-2023-0030-1660-0001; BOEM-2023-0030-1692-0001; BOEM-2023-0030-2014-0002; BOEM-2023-0030-1969-0001

Comment Summary 3: The number of marine mammals deaths off of New York and New Jersey is concerning, and these deaths need to be studied. Some commenters attributed these deaths to ongoing offshore wind activities off New York and New Jersey and called for a stop to such activities until these deaths are understood and an Environmental Impact Statement needs to be prepared to address these activities.

Response: Ongoing activities off New York and New Jersey are currently limited to HRG surveys, which were evaluated in BOEM's 2012 *Commercial Wind Lease Issuance and Site Assessment Activities on the Atlantic Outer Continental Shelf Offshore New Jersey, Delaware, Maryland, and Virginia Final Environmental Assessment* and 2016 *Commercial Wind Lease Issuance and Site Assessment Activities on the Atlantic Outer Continental Shelf Offshore New York Environmental Assessment*. BOEM and NMFS have assessed the potential effects of HRG surveys associated with offshore wind development in the Atlantic. Following a rigorous assessment, NMFS has concluded that these types of surveys are not likely to harm whales or other endangered species. BOEM requires developers to use protective measures, such as protective species observers, exclusion zones, and independent reporting, to avoid whales during these survey activities. Both the Marine Mammal Commission and NJDEP have issued their independent statements on this topic making similar determinations.

NMFS is the lead for determining causes of whale strandings and is working with its partnerships to continue to gather data to help determine the cause of death for these mortality events. BOEM will not speculate on the cause of death of these whales.

More information regarding offshore wind and whales is provided by NMFS at <https://www.fisheries.noaa.gov/new-england-mid-atlantic/marine-life-distress/frequent-questions-offshore-wind-and-whales> and by BOEM at https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/Offshore%20Wind%20Activities%20and%20Marine%20Mammal%20Protection_1.pdf.

Submission IDs contributing to comment summary: BOEM-2023-0030-0026-0001; BOEM-2023-0030-0034-0003; BOEM-2023-0030-0105-0001; BOEM-2023-0030-0106-0001; BOEM-2023-0030-0111-0001; BOEM-2023-0030-0116-0003; BOEM-2023-0030-0134-0002; BOEM-2023-0030-0158-0001; BOEM-2023-0030-0351-0001; BOEM-2023-0030-0353-0001; BOEM-2023-0030-0355-0004; BOEM-2023-0030-0372-0011; BOEM-2023-0030-0385-0002; BOEM-2023-0030-0372-0006; BOEM-2023-0030-0393-0001; BOEM-2023-0030-0456-0001; BOEM-2023-0030-0471-0001; BOEM-2023-0030-0481-0002; BOEM-2023-0030-0513-0004; BOEM-2023-0030-0580-0001; BOEM-2023-0030-0710-0001; BOEM-2023-0030-0710-0003; BOEM-2023-0030-0755-0001; BOEM-2023-0030-0826-0010; BOEM-2023-0030-0849-0001; BOEM-2023-0030-0872-0001; BOEM-2023-0030-0916-0153; BOEM-2023-0030-0916-0154; BOEM-2023-

General Comment Summaries and Responses

0030-0916-0155; BOEM-2023-0030-0916-0038; BOEM-2023-0030-1255-0001; BOEM-2023-0030-1346-0004; BOEM-2023-0030-1404-0002; BOEM-2023-0030-1451-0002; BOEM-2023-0030-1457-0007; BOEM-2023-0030-1485-0006; BOEM-2023-0030-1488-0009; BOEM-2023-0030-1494-0002; BOEM-2023-0030-1501-0009; BOEM-2023-0030-1511-0001; BOEM-2023-0030-1516-0057; BOEM-2023-0030-1518-0028; BOEM-2023-0030-1523-0013; BOEM-2023-0030-1531-0001; BOEM-2023-0030-1570-0001; BOEM-2023-0030-1572-0002; BOEM-2023-0030-1575-0002; BOEM-2023-0030-1635-0003; BOEM-2023-0030-1678-0001; BOEM-2023-0030-1695-0002; BOEM-2023-0030-1684-0003; BOEM-2023-0030-1685-0001; BOEM-2023-0030-1700-0002; BOEM-2023-0030-2014-0005; BOEM-2023-0030-1734-0016; BOEM-2023-0030-1753-0002; BOEM-2023-0030-1781-0003; BOEM-2023-0030-1715-0004; BOEM-2023-0030-1724-0002; BOEM-2023-0030-1755-0005; BOEM-2023-0030-1754-0002; BOEM-2023-0030-1749-0001; BOEM-2023-0030-1793-0002; BOEM-2023-0030-1793-0003; BOEM-2023-0030-1787-0004; BOEM-2023-0030-1762-0006; BOEM-2023-0030-1925-0001; BOEM-2023-0030-1975-0001; BOEM-2023-0030-1959-0002; BOEM-2023-0030-1967-0002; BOEM-2023-0030-1963-0001; BOEM-2023-0030-1808-0002; BOEM-2023-0030-1820-0001; BOEM-2023-0030-2003-0002; BOEM-2023-0030-1456-0001; BOEM-2023-0030-1492-0009; BOEM-2023-0030-0006-0001; BOEM-2023-0030-1541-0002

Comment Summary 4: Available studies and information on marine mammals and the potential impacts of offshore wind projects are inadequate to determine impacts of the Projects.

Response: The impact assessment for the Proposed Action, presented in Section 3.5.6.5 of the EIS, is based on the best available science and information. Although data gaps exist, the available information is sufficient to support sound scientific judgments to inform decision-making for the Projects, as discussed in Appendix E, *Analysis of Incomplete and Unavailable Information* of the EIS.

Submission IDs contributing to comment summary: BOEM-2023-0030-0181-0001; BOEM-2023-0030-0213-0025; BOEM-2023-0030-0422-0001; BOEM-2023-0030-0574-0002; BOEM-2023-0030-0600-0003; BOEM-2023-0030-0859-0002; BOEM-2023-0030-1404-0007; BOEM-2023-0030-1499-0008; BOEM-2023-0030-1606-0060; BOEM-2023-0030-1606-0061; BOEM-2023-0030-1638-0001; BOEM-2023-0030-1695-0007; BOEM-2023-0030-1787-0003; BOEM-2023-0030-0473-0001

Comment Summary 5: Existing mitigation measures for ongoing activities are ineffective. Adverse impacts from the Proposed Action on marine mammals must also be monitored and mitigated.

Response: Mitigation measures, as described in Section 3.5.6.9 of the EIS, are recommended for inclusion in the Preferred Alternative. These measures were developed with NMFS through consultation under the ESA and MMPA and include mitigation for impacts of underwater noise and vessel strikes on marine mammals. A more detailed evaluation of these mitigation measures is provided in the Biological Assessment for the Project.

Submission IDs contributing to comment summary: BOEM-2023-0030-0355-0001; BOEM-2023-0030-0355-0009; BOEM-2023-0030-0916-0066; BOEM-2023-0030-0924-0004; BOEM-2023-0030-1556-0004; BOEM-2023-0030-1606-0036; BOEM-2023-0030-1606-0059; BOEM-2023-0030-1606-0097; BOEM-2023-0030-1606-0098; BOEM-2023-0030-1606-0099; BOEM-2023-0030-1732-0011; BOEM-2023-0030-1795-0002; BOEM-2023-0030-1795-0004

Comment Summary 6: Projects such as the Atlantic Shores South project will benefit marine mammals.

Response: The EIS identifies potential beneficial impacts to marine mammals in Section 3.5.6, *Marine Mammals*. This section does not attempt to evaluate benefits of the Proposed Action due to reductions in carbon emissions associated with transitioning to green energy, but mitigating the effects of climate change would be expected to benefit marine mammals.

General Comment Summaries and Responses

Submission IDs contributing to comment summary: BOEM-2023-0030-0617-0002; BOEM-2023-0030-0924-0004; BOEM-2023-0030-1779-0002; BOEM-2023-0030-1741-0003

Comment Summary 7: There is no evidence that offshore wind projects are responsible for the cetacean deaths off of New York and New Jersey.

Response: As described above, BOEM and NMFS have assessed the potential effects of the ongoing HRG surveys associated with offshore wind development in the Atlantic and concluded that these types of surveys are not likely to harm whales or other endangered species. NMFS is the lead for determining causes of whale strandings and is working with its partnerships to continue to gather data to help determine the cause of death for these mortality events.

Submission IDs contributing to comment summary: BOEM-2023-0030-0617-0002; BOEM-2023-0030-0924-0002; BOEM-2023-0030-0924-0003; BOEM-2023-0030-1061-0004; BOEM-2023-0030-1320-0003; BOEM-2023-0030-1785-0007; BOEM-2023-0030-1759-0002; BOEM-2023-0030-1799-0002; BOEM-2023-0030-1956-0003

Comment Summary 8: Atlantic Shores will implement mitigation measures to reduce impacts to marine mammals during construction of the Project.

Response: As described in Section 3.5.6.9 and Appendix G, *Mitigation and Monitoring* of the EIS, and in the Biological Assessment for the Project, the Proposed Action includes mitigation measures to reduce impacts of the Project on marine mammals.

Submission IDs contributing to comment summary: BOEM-2023-0030-0619-0001; BOEM-2023-0030-1599-0007

Comment Summary 9: This Draft EIS makes impact determinations for individual marine mammal taxa (i.e., NARW, mysticetes other than NARW, odontocetes, and pinnipeds) rather than single determinations for marine mammals as a whole. BOEM should continue this approach for future EISs.

Response: This differentiation was requested by NMFS and BOEM intends to implement this approach going forward.

Submission IDs contributing to comment summary: BOEM-2023-0030-1556-0022

Comment Summary 10: This Draft EIS presents the most recent population estimate for NARW. BOEM should continue to update population information.

Response: EISs for offshore wind projects present the best available scientific information on marine mammal species that may be affected by the projects. Therefore, the EIS for each proposed project will present the most up to date information at the time of EIS publication (e.g., population estimates from the most recent stock assessment reports).

Submission IDs contributing to comment summary: BOEM-2023-0030-1556-0036

N.7.11 Sea Turtles

Table N.7-11. General Comments on Sea Turtles

General Comment Summaries and Responses

Comment Summary 1: Commenters expressed concerns that sounds from surveying and pile driving and turbines leaking oil are going to be detrimental to sea turtles and noted that we have thousands of turtles that hatch here every year.

General Comment Summaries and Responses

Response: Information regarding the potential Project effects on sea turtles in the geographic analysis area is available in EIS Section 3.5.7.5. Included in this section are an assessment of potential impacts of accidental releases (e.g., oil leaks from turbines) and noise (e.g., geotechnical and geophysical survey noise and pile driving noise). Of the five ESA-listed species of sea turtles in the geographic analysis area, only loggerhead sea turtle has been documented to nest on beaches in New Jersey. However, this single nest was outside the known nesting range. As discussed in the EIS, sea turtle nesting is generally restricted to the southeastern U.S., the Gulf of Mexico, and the Caribbean.

Submission IDs contributing to comment summary: BOEM-2023-0030-1729-0004; BOEM-2023-0030-1720-0002

Comment Summary 2: Commenters stated that the negative impacts of the proposed Project will outweigh the beneficial effects.

Response: BOEM acknowledges that minor beneficial impacts resulting from the presence of structures included as part of the proposed action may be offset by the risk of entanglement due to derelict fishing gear on structures, as discussed in section 3.5.7.5. However, BOEM anticipates that the cumulative impacts on sea turtles would be minor and would not result in population-level impacts. More details on the impacts of the Proposed Action on sea turtles are provided in EIS Section 3.5.7.5.

Submission IDs contributing to comment summary: BOEM-2023-0030-1606-0046; BOEM-2023-0030-1606-0042

Comment Summary 3: Additional information was requested on scheduling of the annual meetings during Project operations to be held by BOEM and BSEE to review sea turtle observations and incidental take and on what actions will be taken if incidental take is exceeded.

Response: The schedule for annual meetings will be determined prior to the date of the first meeting. As required by federal regulations, consultation between BOEM and NMFS will be reinitiated if the amount or extent of taking specified in the incidental take statement is exceeded.

Submission IDs contributing to comment summary: BOEM-2023-0030-1606-0043

Comment Summary 4: Additional information was requested regarding vessels with restricted ability to maneuver and the applicability of vessel strike avoidance procedures to these vessels.

Response: All Project vessels will be required to implement vessel strike avoidance procedures in accordance with the mitigation measures described in Section 3.5.7.9 and Appendix G of the EIS and in the Biological Assessment for the Project, as well as any requirements set forth by NMFS in the Biological Opinion for the Project.

Submission IDs contributing to comment summary: BOEM-2023-0030-1606-0097

Comment Summary 5: Marine life off the coast of New Jersey will be impacted by the construction and operation of the proposed Project.

Response: Section 3.5.7.5 of the EIS includes discussion of the potential impacts on sea turtles as a result of the proposed Project. Potential effects of the proposed Project on sea turtles, which are all listed as threatened or endangered under the Endangered Species Act, are evaluated in greater detail in the Biological Assessment prepared for consultation with the NMFS. Measures to avoid, minimize, or mitigate impacts to sea turtles are identified in Section 3.5.7 and Appendix G of the EIS, as well as the Biological Assessment for the Project. These measures, as well as any additional measures required by NMFS in its Biological Opinion for the Project, issued December 18, 2023, will be included in BOEM's Record of Decision and will be a condition of COP approval.

Submission IDs contributing to comment summary: BOEM-2023-0030-1751-0001

N.7.12 Wetlands

Table N.7-12. General Comments on Wetlands

General Comment Summaries and Responses
<p>Comment Summary 1: A commenter expressed concern with potential impacts on wetlands and advised avoidance and minimization measures to protect wetlands. This comment does not raise any specific concern regarding the conclusions or adequacy of the Draft EIS.</p>
<p>Response: Thank you for your comment. EIS Section 3.5.8.5, <i>Impacts of Alternative B – Proposed Action on Wetlands</i>, explains how Project areas have been sited to maximize the use of existing linear infrastructure, such as roadway, electric utility, pedestrian/bike lane ROWs, and are located in disturbed or developed areas to avoid and minimize potential impacts on wetlands. The onshore interconnection cables would be installed underground using trenchless construction techniques such as jack-and-bore and HDD at all wetland and waterbody crossings, where feasible, to further avoid impacts on these resources.</p>
<p>Submission IDs contributing to comment summary: BOEM-2023-0030-0631-0009</p>

N.7.13 Commercial Fisheries and For-Hire Recreational Fishing

Table N.7-13. General Comments on Commercial Fisheries and For-Hire Recreational Fishing

General Comment Summaries and Responses
<p>Comment Summary 1: Several comments raised general concerns regarding adverse effects on the fishing industry from the Proposed Action. Some of the concerns related to the decimation of fisheries, including crab, lobster, clam, and scallop fisheries; declines in food availability resulting from reduced commercial fisheries landings; reduced access to historical commercial fishing grounds; increased port and vessel traffic congestion; gear entanglement; inadequate spacing of WTGs; navigational safety; impacts on ship radar; impacts on the fisheries independent surveys; habitat loss; and changes in fish behavior.</p>
<p>Response: Section 3.6.1 of the EIS, <i>Commercial Fisheries and For-Hire Recreational Fishing</i>, discusses potential impacts on commercial fisheries and recreational fishing from the Proposed Action, alternatives, and ongoing and planned activities in the geographic analysis area. Impacts that are discussed in this section include loss of access to fishing grounds, loss of fisheries revenue, vessel traffic, navigational hazards, gear entanglement, disruptions to fisheries independent surveys, habitat loss, and changes in fish behavior. More detailed discussion of impacts on marine fish and invertebrates are provided in Section 3.5.5 of the EIS, <i>Finfish, Invertebrates, and Essential Fish Habitat</i>. More detailed discussion of navigational impacts is provided in Section 3.6.6 of the EIS, <i>Navigation and Vessel Traffic</i>.</p> <p>Included in the analysis for the Proposed Action are Applicant Proposed Measures (APMs) intended to avoid and minimize impacts on commercial fisheries and for-hire recreational fishing. A table summarizing all APMs is provided in Appendix G, <i>Mitigation and Monitoring</i>, of the EIS. Additional mitigation measures identified by BOEM and cooperating agencies as a condition of state and federal permitting, or through agency-to-agency negotiations, are described in Section 3.6.1.8. These measures include an artificial reef buffer for turbines, cable maintenance plan, incident reporting for property or equipment damage, an analysis of shoreside seafood businesses, a fisheries compensation fund, and a boulder relocation plan.</p>

General Comment Summaries and Responses

Submission IDs contributing to comment summary: BOEM-2023-0030-0099-0002; BOEM-2023-0030-0105-0002; BOEM-2023-0030-0386-0003; BOEM-2023-0030-0443-0004; BOEM-2023-0030-0563-0002; BOEM-2023-0030-0584-0009; BOEM-2023-0030-0625-0003; BOEM-2023-0030-0710-0007; BOEM-2023-0030-0755-0002; BOEM-2023-0030-1257-0015; BOEM-2023-0030-1346-0002; BOEM-2023-0030-1353-0003; BOEM-2023-0030-1357-0001; BOEM-2023-0030-1451-0005; BOEM-2023-0030-1455-0002; BOEM-2023-0030-1567-0002; BOEM-2023-0030-1572-0001; BOEM-2023-0030-1581-0001; BOEM-2023-0030-1581-0005; BOEM-2023-0030-1590-0003; BOEM-2023-0030-1591-0001; BOEM-2023-0030-1684-0004; BOEM-2023-0030-1689-0009; BOEM-2023-0030-1707-0006; BOEM-2023-0030-1715-0005; BOEM-2023-0030-1723-0002; BOEM-2023-0030-1732-0012; BOEM-2023-0030-1734-0008; BOEM-2023-0030-1737-0003; BOEM-2023-0030-1741-0002; BOEM-2023-0030-1755-0002; BOEM-2023-0030-1768-0001; BOEM-2023-0030-1797-0001; BOEM-2023-0030-1797-0004; BOEM-2023-0030-1815-0022; BOEM-2023-0030-1954-0012; BOEM-2023-0030-1954-0014; BOEM-2023-0030-1967-0004; BOEM-2023-0030-1993-0011; BOEM-2023-0030-1993-0014

Comment Summary 2: Several comments expressed concern that offshore wind is being developed in the Greater Atlantic Region in advance of understanding its cumulative and long-term impacts on marine ecosystems and fisheries.

Response: Section 3.5.5, *Finfish, Invertebrates, and Essential Fish Habitat* and Section 3.6.1, *Commercial Fisheries and For-Hire Recreational Fishing* of the EIS rely on the best available science to evaluate impacts of the Proposed Action on marine fish and invertebrate species and fisheries. Much of the analysis of impacts on marine fish and invertebrate species relies on studies conducted at European OSW facilities and at the Block Island Wind Farm. As current and future studies at OSW facilities in the Greater Atlantic Region are conducted, BOEM will incorporate relevant observations into EISs for future OSW projects.

Surveys of important fish and invertebrate species have been proposed by developers of OSW projects in the Greater Atlantic Region. Results from these surveys will contribute to our knowledge of impacts of OSW on marine species that are targeted in fisheries. For example, Atlantic Shores will conduct several surveys to evaluate impacts of the Proposed Action on important fish and invertebrate species, including a demersal bottom trawl survey, hydraulic clam dredge survey, and trap survey. These surveys will be conducted one year before the beginning of construction, during construction, and three years after construction and will be designed to detect impacts resulting from construction of the Proposed Action. Detailed information on these surveys is provided in the Fisheries Monitoring Plan, available at:

https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/Appendix%20II-K_Fisheries%20Monitoring%20Plan.pdf.

BOEM is conducting a study that evaluates the potential cumulative impacts on physical oceanography, transport processes, and associated larval advection patterns from commercial scale development of offshore wind. This research will use hydrodynamic models to examine oceanographic conditions prior to OSW construction, post-installation of a single facility, and post full build-out of all current offshore lease areas, using representative turbine array layouts. A full description of this research is available at:

<https://www.boem.gov/sites/default/files/documents/environment/environmental-studies/Offshore-Wind-Impacts-Oceanographic-Processes-North-Carolina-New-York.pdf>.

Submission IDs contributing to comment summary: BOEM-2023-0030-0570-0002; BOEM-2023-0030-1404-0009; BOEM-2023-0030-1432-0003; BOEM-2023-0030-1436-0004; BOEM-2023-0030-1688-0006; BOEM-2023-0030-1721-0001; BOEM-2023-0030-1768-0002; BOEM-2023-0030-1768-0003; BOEM-2023-0030-1975-0008

General Comment Summaries and Responses

Comment Summary 3: Several comments suggest that BOEM has not adequately considered the impacts of the Proposed Action on commercial fisheries, has failed to consider the cumulative impacts of OSW in the Greater Atlantic Region, or has misrepresented the true impacts.

Response: Section 3.6.1 of the EIS, *Commercial Fisheries and For-Hire Recreational Fishing*, provides an analysis of impacts of the Proposed Action on commercial fisheries and for-hire recreational fishing, including a quantitative analysis of commercial revenue exposure of GARFO-permitted vessels in the Lease Area, a qualitative analysis of commercial revenue intensity along the export cable corridors, and a quantitative analysis of for-hire recreational fishing effort in the Lease Area. As summarized in Section 3.6.1.5, BOEM expects that the impacts resulting from the Proposed Action would range from moderate to major on commercial fisheries and minor to moderate on for-hire recreational fisheries, depending on the fishery and fishing vessel. This impact rating is driven mostly by long-term impacts from the presence of structures (e.g., cable protection measures and foundations), including navigational hazards, gear loss and damage, and space use conflicts, which are expected to result in revenue loss for some commercial and recreational fishermen. Additionally, Section 3.6.1.3 of the EIS provides an analysis of the cumulative impacts of all planned OSW projects in the Greater Atlantic Region.

Submission IDs contributing to comment summary: BOEM-2023-0030-0421-0002; BOEM-2023-0030-0540-0003; BOEM-2023-0030-1357-0001; BOEM-2023-0030-1464-0003; BOEM-2023-0030-1520-0004; BOEM-2023-0030-1536-0012; BOEM-2023-0030-1588-0003; BOEM-2023-0030-1622-0004; BOEM-2023-0030-1689-0010; BOEM-2023-0030-1768-0002

Comment Summary 4: Several commenters expressed support for the Proposed Action, indicating that it would benefit structure-oriented species and for-hire recreational fisheries that target those species. One comment suggested that the coordinates of the WTGs could be shared with the fishing community and recommended that the foundations should not be completely removed.

Response: BOEM acknowledges your support for the Proposed Action. Section 3.6.1 of the EIS, *Commercial Fisheries and For-Hire Recreational Fishing*, describes the potential beneficial effects of the Proposed Action and action alternatives on for-hire recreational fishing. The locations of the WTGs and OSSs would be depicted on publicly available nautical charts. Decommissioning activities would involve removing WTG, OSS, and met tower foundations 15 feet below the mudline. Associated scour protection would either be removed or retired in place, depending on the habitat value it provides.

Submission IDs contributing to comment summary: BOEM-2023-0030-0616-0003; BOEM-2023-0030-0619-0004; BOEM-2023-0030-0631-0004; BOEM-2023-0030-1718-0005; BOEM-2023-0030-1741-0001

Comment Summary 5: This comment expresses support for the inclusion of an analysis of impacts to shoreside seafood businesses.

Response: BOEM acknowledges your support for the inclusion of an analysis of impacts to shoreside seafood businesses.

Submission IDs contributing to comment summary: BOEM-2023-0030-1038-0004

Comment Summary 6: This comment describes the role of the MAFMC in managing fisheries and notes the importance of both domestic energy development and marine fisheries.

Response: BOEM recognizes the importance of both developing offshore wind and minimizing the impacts of this emerging industry on marine fisheries. Section 3.6.1 of the EIS, *Commercial Fisheries and For-Hire Recreational Fishing*, discusses Applicant Proposed Measures (APMs) intended to avoid and minimize impacts on commercial fisheries and for-hire recreational fishing. Additional mitigation measures identified by BOEM and cooperating agencies as a condition of state and federal permitting, or through agency-to-agency negotiations, are described in Section 3.6.1.8. These measures include an artificial

General Comment Summaries and Responses

reef buffer for turbines, cable maintenance plan, incident reporting for property or equipment damage, an analysis of impacts on shoreside seafood businesses, a fisheries compensation fund, and a boulder relocation plan.

Submission IDs contributing to comment summary: BOEM-2023-0030-1223-0001

Comment Summary 7: This comment states that BOEM has not offered a suitable plan for collaboration with the fishing industry.

Response: BOEM’s Guidelines for Mitigating Impacts to Commercial and Recreational Fisheries on the Outer Continental Shelf Pursuant to 30 CFR Part 585 recommend that OSW developers engage with commercial and recreational fishing communities as part of the development of their mitigation plan. Developers of OSW projects that have been approved by BOEM have submitted fisheries communication plans as part of their COP, which include a description of efforts to collaborate with the fishing industry. Examples of these plans are provided at the links below.

<https://www.mvcommission.org/sites/default/files/docs/Vineyard%20Wind%20-%20Fisheries%20Communications%20Plan%202020.pdf>.

https://www.boem.gov/sites/default/files/renewable-energy-program/State-Activities/NY/App-B_Fisheries-Communication-Plan_2018-09-26.pdf.

Submission IDs contributing to comment summary: BOEM-2023-0030-1689-0001

Comment Summary 8: This comment expresses concern that vessels would not be allowed to fish near the WTGs.

Response: Once construction of the Proposed Action has been completed, vessels would be allowed to transit and fish within the Lease Area. BOEM anticipates that the Proposed Action will have minor beneficial impacts for some recreational fishing operations because of the increased fishing opportunities around the WTG foundations.

Submission IDs contributing to comment summary: BOEM-2023-0030-1743-0002

N.7.14 Cultural Resources

Table N.7-14. General Comments on Cultural Resources

General Comment Summaries and Responses

Comment Summary 1: N/A

Response:

Submission IDs contributing to comment summary:

N.7.15 Demographics, Employment, and Economics

Table N.7-15. General Comments on Demographics, Employment, and Economics

General Comment Summaries and Responses
<p>Comment Summary 1: Several commenters expressed concern that homeowners and tourism may experience adverse economic impacts, such as a reduction in property values, due to aesthetic effects.</p>
<p>Response: Information on potential impacts to property values has been added to Section 3.6.3, <i>Demographics, Employment, and Economics</i>. Section 3.6.3 also includes information on potential impacts to rents and the tourism economy. Impacts to tourism are addressed in Section 3.6.8, <i>Recreation and Tourism</i>. Section 3.6.9, <i>Scenic and Visual Resources</i>, includes information on potential impacts to scenic and visual resources.</p>
<p>Submission IDs contributing to comment summary: BOEM-2023-0030-0009-0002, BOEM-2023-0030-1608-0001, BOEM-2023-0030-1993-0005, BOEM-2023-0030-1404-0004, BOEM-2023-0030-1798-0002, BOEM-2023-0030-1708-0003, BOEM-2023-0030-1970-0009, BOEM-2023-0030-1954-0010, BOEM-2023-0030-0116-0004</p>
<p>Comment Summary 2: Some commenters expressed that offshore wind farms are not cost effective.</p>
<p>Response: Atlantic Shores submitted a cost-benefit analysis (CBA) as part of its Application as required by N.J.A.C. 14:86.5(a)(11). Levitan & Associates, Inc. (LAI) conducted an independent CBA to ensure that all Projects were compared on a consistent basis. Content provided by the Applicants helped inform LAI's independent CBA. LAI's CBA resulted in a value of 1.246, which meets the eligibility requirements of positive economic and environmental net benefits to the State (State of New Jersey Board of Public Utilities 2022). This information has been added to Section 3.6.3, <i>Demographics, Employment, and Economics</i>.</p>
<p>Submission IDs contributing to comment summary: BOEM-2023-0030-0100-0002, BOEM-2023-0030-1786-0005, BOEM-2023-0030-1716-0002</p>
<p>Comment Summary 3: Some commenters felt that the energy rates would burden ratepayers/taxpayers and that the Project would require substantial subsidies to pay for long-term maintenance and repair, for example.</p>
<p>Response: Information on potential impacts to monthly energy bills has been added to Section 3.6.3, <i>Demographics, Employment and Economics</i>. Developing estimates of federal and state subsidies is outside the scope of the EIS. The scope of the EIS is limited to potential impacts that are reasonably foreseeable. See also Sections 2.1.2.2, <i>Operations and Maintenance</i>, 2.1.2.3 <i>Conceptual Decommissioning</i>, and Section 3.6.5, <i>Land Use and Coastal Infrastructure</i>, for information on proposed Project maintenance and safety considerations.</p>
<p>Submission IDs contributing to comment summary: BOEM-2023-0030-0116-0004, BOEM-2023-0030-0566-0002, BOEM-2023-0030-1699-0005, BOEM-2023-0030-1708-0003, BOEM-2023-0030-1755-0004, BOEM-2023-0030-1993-0006, BOEM-2023-0030-1404-0013, BOEM-2023-0030-1622-0001, BOEM-2023-0030-1707-0005, BOEM-2023-0030-1729-0007</p>
<p>Comment Summary 4: Commenters stated that a cost-benefit analysis over the Project's life cycle should be provided.</p>
<p>Response: As discussed in Section 3.6.3, <i>Demographics, Employment and Economics</i>, Atlantic Shores submitted a cost-benefit analysis (CBA) as part of its Application as required by N.J.A.C. 14:86.5(a)(11). Levitan & Associates, Inc. (LAI) conducted an independent CBA to ensure that all Projects were compared on a consistent basis. Content provided by the Applicants helped inform LAI's independent CBA. LAI's CBA resulted in a value of 1.246, which meets the eligibility requirements of positive economic and environmental net benefits to the State (State of New Jersey Board of Public Utilities 2022). This</p>

General Comment Summaries and Responses

information has been added to the EIS. Conducting a new quantitative cost benefit analysis over the Project's life cycle is not feasible given the available information. In addition, a quantitative cost benefit analysis is not necessary for BOEM to make an informed decision.

Submission IDs contributing to comment summary: BOEM-2023-0030-0461-0001, BOEM-2023-0030-1798-0002

Comment Summary 5: Numerous comments expressed support for the Project because it would create new employment opportunities (including high-paying jobs), diversify the local economy, provide investments in workforce development and training, provide clean energy, and support the State's environmental and economic development goals. Commenters asserted that the Project would provide positive economic benefits to coastal communities in New Jersey and to other regions that support the offshore wind installation and operation supply chain. Other commenters expressed support for the workforce development opportunities that have already been created and will continue to be developed to support offshore wind projects, including an agreement to source monopiles for Project 1 from the Paulsboro foundation facility currently under construction and conducting nacelle assembly activities at the New Jersey Wind Port.

Response: Section 3.6.3, *Demographics, Employment and Economics* discloses the Project's anticipated job creation and other economic benefits and concludes that the Proposed Action would result in beneficial employment and economic impacts related to job creation, local expenditures, and investments in workforce development and training.

Submission IDs contributing to comment summary: BOEM-2023-0030-1169-0002; BOEM-2023-0030-1382-0003; BOEM-2023-0030-1433-0003; BOEM-2023-0030-1782-0003; BOEM-2023-0030-1821-0009; BOEM-2023-0030-1821-0010; BOEM-2023-0030-1821-0018; BOEM-2023-0030-1956-0002; BOEM-2023-0030-1596-0005; BOEM-2023-0030-1719-0002; BOEM-2023-0030-1735-0002; BOEM-2023-0030-1780-0003; BOEM-2023-0030-1817-0002; BOEM-2023-0030-1806-0002; BOEM-2023-0030-1804-0003; BOEM-2023-0030-1804-0005; BOEM-2023-0030-1804-0007; BOEM-2023-0030-1821-0005; BOEM-2023-0030-1821-0007; BOEM-2023-0030-1821-0008

Comment Summary 6: Some commenters expressed support for diverse suppliers and training in marginalized or underserved communities.

Response: Section 3.6.3, *Demographics, Employment, and Economics*, of the EIS discusses potential economic benefits including local employment. As stated in the EIS, "Atlantic Shores is committed to maximizing the hiring and recruiting of its Project workforce from programs targeted at training and providing talent to the offshore wind industry from local New Jersey communities (COP Volume II; Atlantic Shores 2024)." According to the COP, Atlantic Shores is committed to recruiting, training, and hiring a diverse workforce that will enable the needs of New Jersey's offshore wind workforce to be met by local communities. As stated in Section 3.6.3 *Demographics, Employment and Economics*, "The Proposed Action's beneficial impacts on demographics, employment, and economics depend on what proportion of workers, materials, vessels, equipment, and services can be locally sourced. The Proposed Action includes a number of EPMS to this end, including establishment of an O&M facility in Atlantic City, New Jersey, to be staffed primarily with local workers; hiring of a diverse and local workforce recruited from local training programs; and locally sourced construction materials and other supplies, to the extent possible and practical (DEM-01-DEM-09, Appendix G, Table G-1)." Further, COP Volume II indicates that these initiatives are targeted to provide training and opportunities for students from low-income backgrounds, minority and women-owned business enterprises (MWBs), and veterans (see Section 3.6.4, *Environmental Justice*, for additional information on how the Project provides opportunities to directly benefit environmental justice and disadvantaged communities).

Submission IDs contributing to comment summary: BOEM-2023-0030-1517-0006; BOEM-2023-0030-1517-0007; BOEM-2023-0030-1517-0008; BOEM-2023-0030-1719-0002; BOEM-2023-0030-1806-0002

General Comment Summaries and Responses

Comment Summary 7: A commenter stated that the EIS overstates economic benefits while minimizing adverse economic impacts. See also Section 1, “Purpose and Need,” which describes the NEPA process, and Section N.6.26, *National Environmental Policy Act/Public Involvement Process*.

Response: Section 3.6.3 *Demographics, Employment and Economics* discloses the Project’s potential job creation as well as potential adverse impacts on the economy.

Submission IDs contributing to comment summary: BOEM-2023-0030-1523-0009

Comment Summary 8: One commenter expressed concern that homeowners along the coasts may not be able to acquire homeowners insurance once the offshore wind farm is built, along with potential adverse consequences on the environment.

Response: The scope of the EIS is limited to reasonably foreseeable impacts.

Submission IDs contributing to comment summary: BOEM-2023-0030-1743-0001

Comment Summary 9: One commenter asked if BOEM is going to compensate property holders.

Response: Information on potential impacts to property values has been added to Section 3.6.3, *Demographics, Employment, and Economics*. As discussed in the EIS, adverse impacts on property values are expected to be negligible.

Submission IDs contributing to comment summary: BOEM-2023-0030-1798-0002

Comment Summary 10: One commenter objected to the offshore wind developers paying companies and schools to support this technology.

Response: Information on Project costs is proprietary. Refer to Section 3.6.3 *Demographics, Employment and Economics* for information on the Project’s reasonably foreseeable economic impacts and anticipated local investments.

Submission IDs contributing to comment summary: BOEM-2023-0030-1975-0003

N.7.16 Environmental Justice

Table N.7-16. General Comments on Environmental Justice

General Comment Summaries and Responses

Comment Summary 1: A commenter noted that climate justice areas will be near a number of historic properties that will be negatively impacted by the cumulative effects of offshore wind projects.

Response: BOEM acknowledges the comment and notes that the EIS addresses impacts to cultural resources, which historic properties are included in, in Chapter 3.6.2, *Cultural Resources*. BOEM has determined the HRVEA (COP Volume II, Appendices II-O and II-W) and CHRVEA (BOEM 2023) represent a good-faith effort to identify historic properties in the visual APE and analyze potential visual effects of the Project and other offshore wind projects on these historic properties. The Absecon Lighthouse in Atlantic City was identified and assessed for potential effects in the HRVEA; however, in response to this and other consulting party comments, BOEM requested EDR (the preparer of the HRVEA) to revisit its assessment of Project effects on this historic property.

General Comment Summaries and Responses

Based on this reassessment, BOEM found that the Project would have an adverse effect on the Absecon Lighthouse (see Appendix I, *Finding of Adverse Effect*, for additional information). Please refer to the HRVEA report (COP Volume II, Appendix II-O) for the detailed effects assessment for this historic property.

Please refer to the response to comment BOEM-2023-0030-1466-0006 for additional information on BOEM's visual assessments conducted to provide sufficient coverage along the coastline and inland areas of New Jersey.

Submission IDs contributing to comment summary: BOEM-2023-0030-1516-0031

Comment Summary 2: Commenters stated that the Draft EIS fails to address the project's significant and long-lasting impacts on already at-risk minority and underprivileged populations. Specific mention is made to high voltage cable placement, increases to electricity rates, and alternative specific impacts

Response: BOEM discusses the Project's potential construction and installation and O&M impacts and cumulative impacts by alternative on environmental justice communities in Chapter 3.6.4. Information on potential impacts to monthly energy bills, and long-lasting employment impacts has been addressed in Section 3.6.3, *Demographics, Employment and Economics*.

Submission IDs contributing to comment summary: BOEM-2023-0030-1516-0058; BOEM-2023-0030-1516-0098; BOEM-2023-0030-1657-0001; BOEM-2023-0030-1516-0101

Comment Summary 3: A commenter stated that the Draft EIS fails to address the impacts to recreation and tourism for disadvantaged communities.

Response: The potential impacts of the Proposed Action on recreation and tourism is discussed in Section 3.6.8. In addition, Smythe et al. (2020) suggests that wind farms function as tourism attractants, and that there could be beneficial impacts.

Submission IDs contributing to comment summary: BOEM-2023-0030-1516-0100

Comment Summary 4: A commenter provided general comment in support of project.

Response: Thank you for your comment.

Submission IDs contributing to comment summary: BOEM-2023-0030-1806-0003

Comment Summary 5: Commenters noted that BOEM did not publish the Draft EIS in a native language for environmental justice communities.

Response: Thank you for bringing this to our attention. BOEM did offer to provide documents in other languages, however no requests were received. BOEM intends to look into publication languages going forward.

Submission IDs contributing to comment summary: BOEM-2023-0030-1595-0004; BOEM-2023-0030-1592-0006; BOEM-2023-0030-1516-0100

N.7.17 Land Use and Coastal Infrastructure

Table N.7-17. General Comments on Land Use and Coastal Infrastructure

General Comment Summaries and Responses
<p>Comment Summary 1: One commenter raised concerns that offshore maintenance is more dangerous and costly than from land.</p>
<p>Response: Comment noted. Thank you for your comment.</p>
<p>Submission IDs contributing to comment summary: BOEM-2023-0030-0574-0003</p>
<p>Comment Summary 2: A commenter stated concern for adverse effects from mining carbon emissions exceeding overall project benefit.</p>
<p>Response: Section ES. 2, <i>Purpose and Need for the Proposed Action</i>, discusses the Project’s basic purpose, which is to meet New Jersey’s need for clean energy.</p>
<p>Submission IDs contributing to comment summary: BOEM-2023-0030-0159-0002</p>
<p>Comment Summary 3: Commenter expressed concern for the amount of testing conducted on the extent of impact for marine life.</p>
<p>Response: The potential effects on marine life are discussed throughout Section 3.5, <i>Biological Resources</i> of the EIS.</p>
<p>Submission IDs contributing to comment summary: BOEM-2023-0030-1432-0001</p>
<p>Comment Summary 4: Several commenters stated concerns regarding pollutant releases from the Project, including concerns over recyclability.</p>
<p>Response: In the case of a spill, Atlantic Shores has developed an Oil Spill Response Plan (OSRP) which can be found in Atlantic Shores’ COP Appendix I-D and is discussed in Section 3.4.2, <i>Water Quality</i>, of the EIS. Additionally, decommissioning of the Project will follow Atlantic Shores’ conceptual decommissioning plan as part of the COP. Prior to commencing decommissioning activities, Atlantic Shores is required to submit a decommissioning application that will undergo Federal technical and environmental reviews, including an opportunity for public and municipal, state, and federal management agency comments. Accidental releases are also evaluated in Section 3.4.1, <i>Air Quality</i>, and Section 3.4.2.</p>
<p>Submission IDs contributing to comment summary: BOEM-2023-0030-1733-0003; BOEM-2023-0030-1954-0006; BOEM-2023-0030-1567-0003; BOEM-2023-0030-1734-0013; BOEM-2023-0030-0563-0003</p>
<p>Comment Summary 5: Several commenters stated concerns regarding the decommissioning process.</p>
<p>Response: Atlantic Shores has submitted a conceptual decommissioning plan as part of the COP. Prior to commencing decommissioning activities, Atlantic Shores is required to submit a decommissioning application that will undergo Federal technical and environmental reviews, including an opportunity for public and municipal, state, and federal management agency comments.</p>
<p>Submission IDs contributing to comment summary: BOEM-2023-0030-0710-0002; BOEM-2023-0030-1432-0005; BOEM-2023-0030-1488-0008; BOEM-2023-0030-1639-0001; BOEM-2023-0030-1718-0003; BOEM-2023-0030-1433-0007</p>
<p>Comment Summary 6: One commenter stated concern that the materials used in WTGs are nonrecyclable and pose a danger to our ocean environment if they were damaged during a storm. The commenter stated that sufficient testing should be done and that decisions to move forward are not predicated on results from other areas of the globe.</p>

General Comment Summaries and Responses

Response: Comment noted. Thank you for your comment.

Submission IDs contributing to comment summary: BOEM-2023-0030-0570-0001

Comment Summary 7: Commenter stated concerns regarding lack of knowledge surrounding early site survey and decommissioning and expressed concern that decommissioning could be detrimental to recreational and commercial fisheries.

Response: Section 3.6.1, *Commercial Fisheries*, includes information on potential impacts to commercial fisheries throughout the project lifetime. Section 3.6.8, *Recreation and Tourism*, includes information on potential impacts to recreation, including recreational fisheries throughout the project lifetime. Prior to commencing decommissioning activities, Atlantic Shores is required to submit a decommissioning application that will undergo Federal technical and environmental reviews, including an opportunity for public and municipal, state, and federal management agency comments.

Submission IDs contributing to comment summary: BOEM-2023-0030-1432-0005

Comment Summary 8: Commenter stated concern that hurricane force winds would damage WTGs and result in oil spills.

Response: In the case of an oil spill, Atlantic Shores has developed an Oil Spill Response Plan (OSRP) which can be found in Atlantic Shores' COP Appendix I-D and discussed in Section 3.4.2, *Water Quality*, of the EIS.

Submission IDs contributing to comment summary: BOEM-2023-0030-1451-0004

Comment Summary 9: Commenter urged BOEM to require Atlantic Shores cut down the foundation and related reef structure to a safe height.

Response: Comment noted. Thank you for your comment.

Submission IDs contributing to comment summary: BOEM-2023-0030-1486-0001

Comment Summary 10: Commenter stated concerns regarding sulfur hexafluoride.

Response: Section 3.4.1, *Air Quality*, includes information on potential impacts to air quality. Section 3.4.2, *Water Quality*, includes information on potential impacts to water quality. Both sections assess the Project's potential impacts from sulfur hexafluoride (SF₆).

Submission IDs contributing to comment summary: BOEM-2023-0030-1733-0001

Comment Summary 11: Several commenters stated concern over the "greenness" of offshore wind turbines related to chemical spills.

Response: In the case of an oil spill, Atlantic Shores has developed an Oil Spill Response Plan (OSRP) which can be found in Atlantic Shores' COP Appendix I-D. Additionally, Section 3.4.2, *Water Quality*, includes information on potential impacts to water quality from potential spills.

Submission IDs contributing to comment summary: BOEM-2023-0030-1729-0009; BOEM-2023-0030-1734-0005

Comment Summary 12: Several commenters stated concerns regarding turbine noise.

Response: The cumulative impacts of the Proposed Action in combination with other ongoing and planned offshore wind activities are described in throughout Chapter 3 resource sections, including Project noise, under *Cumulative Impacts of the Proposed Action*.

General Comment Summaries and Responses

Submission IDs contributing to comment summary: BOEM-2023-0030-0584-0006; BOEM-2023-0030-1404-0006; BOEM-2023-0030-1712-0002; BOEM-2023-0030-1798-0008; BOEM-2023-0030-1993-0007

Comment Summary 13: Several commenters stated concerns regarding pollutant releases from the Project, including concerns over recyclability.

Response: Section 3.4.1, *Air Quality*, includes information on potential impacts to air quality from potential pollutant releases. Section 3.4.2, *Water Quality*, includes information on potential impacts to water quality from potential pollutant releases. Information has been added to Section 3.4.1 describing life-cycle considerations and providing references to recent life-cycle analyses of offshore wind.

Submission IDs contributing to comment summary: BOEM-2023-0030-1733-0003; BOEM-2023-0030-1954-0006; BOEM-2023-0030-1734-0013; BOEM-2023-0030-0563-0003

Comment Summary 14: One commenter noted that turbines should be recycled to ensure a cradle to cradle system

Response: Comment noted. Thank you for your comment. Information has been added to Section 3.4.1 describing life-cycle considerations and providing references to recent life-cycle analyses of offshore wind.

Submission IDs contributing to comment summary: BOEM-2023-0030-1777-0003

N.7.18 Navigation and Vessel Traffic

Table N.7-18. General Comments on Navigation and Vessel Traffic

General Comment Summaries and Responses

Comment Summary 1: Several commenters expressed concern regarding the interference of Offshore Wind Farms with ship radar and navigation

Response: The EIS addresses the adverse impacts of WTG structures on marine vessel radars in Section 3.6.6.3 and 3.6.6.5, *Presence of structures*. As part of its assessment, BOEM considered the USCG analysis of WTG array impacts on marine vessel radar included as part of *The Areas Offshore of Massachusetts and Rhode Island Port Access Route Study (MARIPARS, USCG 2019-0131)*, published May 14, 2020 and the National Academies of Sciences, Engineering, and Medicine 2022 study published by the National Academies Press (2022) titled: *Wind Turbine Generator Impacts to Marine Vessel Radar*. This latter reference is already incorporated in the EIS.

BOEM will continue to engage with the fishing community, offshore wind developers, and other stakeholders regarding the issue of marine vessel radar interference. However, BOEM cannot delay the approval of the Project for an indefinite amount of time for new technological solutions to be tested as doing so would jeopardize the economic viability of the Project and would not meet the purpose and need. BOEM expects that certain technology-based measures and non-technology-based measures will be used to reduce impacts on marine radar such as greater use of AIS and electronic charting systems, new technologies like LiDAR, employing more watch-standers, and avoidance of wind farms altogether. This information has been added to Section 3.6.6.3, *Presence of structures*.

General Comment Summaries and Responses

It is outside the scope of the NEPA process to require additional USCG analyses or studies beyond what USCG has relied upon for its review and decisions regarding the Project. Additionally, cumulative impacts on all marine mammals, including NARW, are evaluated in this EIS (Section 3.5.6.5), as well as the EISs for all other offshore wind projects.

Submission IDs contributing to comment summary: BOEM-2023-0030-0386-0001; BOEM-2023-0030-1684-0005; BOEM-2023-0030-1734-0014

Comment Summary 2: Several commenters expressed concern regarding potential conflicts with navigation routes for ships and boats, including government vessels.

Response: The NSRA conducted a robust analysis of all vessel traffic around the Project area. It is acknowledged that, due to AIS carriage requirements, fishing vessels are not fully captured in the data and the analysis assumes that this category is underrepresented; therefore, a reasonable maximum number of transits of non-AIS commercial fishing vessels was added to the base-case model. Catch-analysis summaries show that commercial fishing vessels encompass 19.6% of vessel traffic in the geographic analysis area but do not indicate significant commercial fishing occurring within the Project area, with the possible exception of surfclam. While vessel traffic is likely to increase during construction and O&M, the traffic is likely to be spread out among several different ports and across time, not all at once, so as to cause minimal disruption to the fishing vessel fleet. All components of the wind farm will be properly marked and navigation charts updated as required. Proper seamanship practices will reduce any risk to mariners, vessels, or equipment. BOEM considers safety and navigation adequately addressed in this EIS, and Spill Response Plans are the responsibility of the container ships and their companies.

Submission IDs contributing to comment summary: BOEM-2023-0030-0443-0003; BOEM-2023-0030-1404-0010; BOEM-2023-0030-1405-0002; BOEM-2023-0030-1405-0003; BOEM-2023-0030-1488-0006; BOEM-2023-0030-1567-0005; BOEM-2023-0030-1607-0008; BOEM-2023-0030-1776-0003

Comment Summary 3: Several commenters expressed concern regarding avoidance of whales during peak migration periods.

Response: EIS Section 3.5.6, *Marine Mammals*, describes the population of the whales as well as the existing threats to its existence, principally from fishing gear entanglement and vessel strikes. This section also identifies that Biologically Important Areas for NARW overlap with the Project area.

Submission IDs contributing to comment summary: BOEM-2023-0030-0916-0068; BOEM-2023-0030-1488-0006

Comment Summary 4: A commenter expressed concern regarding the noise that service vessels will add to the noise from the wind turbines.

Response: BOEM believes this report adequately addresses issues related to the noise production of wind turbines, and believes that the additional noise produced by servicing vessels will be short-term and negligible. No changes were made to the report.

Submission IDs contributing to comment summary: BOEM-2023-0030-1432-0006

N.7.19 Other Uses (Marine Minerals, Military Use, Aviation, and Scientific Research and Surveys)

Table N.7-19. General Comments on Other Uses

General Comment Summaries and Responses
<p>Comment Summary 1: Commenters expressed concerns regarding national security and communication among the armed forces.</p>
<p>Response: BOEM and Atlantic Shores are continuing to work with DoD and the Military Aviation and Installation Assurance Siting Clearinghouse to determine potential conflicts with DoD activities from the Project. As for the impacts to radar, BOEM’s conclusion is that there would be moderate impacts to radar due to the cumulative impacts of the Proposed Action and all alternatives include consideration of all mitigation and monitoring measures in Appendix G of the Final EIS.</p>
<p>Submission IDs contributing to comment summary: BOEM-2023-0030-0710-0006; BOEM-2023-0030-1975-0009; BOEM-2023-0030-1695-0005; BOEM-2023-0030-1715-0008; BOEM-2023-0030-1404-0011</p>
<p>Comment Summary 2: Commenters expressed concerns that an attack on the proposed Project would pose a threat to the energy supply or power grid.</p>
<p>Response: Although extremely unlikely, the Project’s facilities could be targeted by terrorists. The effects of a terrorist attack would depend on the magnitude and location of the attack; given the dispersed nature of the Project offshore facilities, it is unlikely that an attack would affect all offshore structures. The response to such incidents is covered in the Project’s Facility Security Plan and Emergency Response Plan.</p>
<p>Submission IDs contributing to comment summary: BOEM-2023-0030-1731-0004; BOEM-2023-0030-1734-0001; BOEM-2023-0030-1488-0005</p>

N.7.20 Recreation and Tourism

Table N.7-20. General Comments on Recreation and Tourism

General Comment Summaries and Responses
<p>Comment Summary 1: Several commenters expressed concern about potential impacts to tourism, real estate, and vacation rentals as a result of the presence of WTGs and associated visual impacts.</p>
<p>Response: The potential impacts on recreation and tourism as a result of visual changes to the landscape as a result of WTGs and lighting is discussed throughout Section 3.6.8, <i>Recreation and Tourism</i>. Additional information specific to anticipated impacts of the Proposed Action on visual resources can be found in Section 3.6.9, <i>Visual Resources</i>. Information on the Project’s potential impacts on property values has been added to Section 3.6.3, <i>Demographics, Employment, and Economics</i>.</p>
<p>Submission IDs contributing to comment summary: BOEM-2023-0030-0361-0001; BOEM-2023-0030-0425-0002; BOEM-2023-0030-0443-0001; BOEM-2023-0030-0565-0001; BOEM-2023-0030-0584-0008; BOEM-2023-0030-0626-0001; BOEM-2023-0030-0710-0005; BOEM-2023-0030-0755-0004; BOEM-2023-0030-0916-0010; BOEM-2023-0030-0926-0005; BOEM-2023-0030-0927-0002; BOEM-2023-0030-1376-0001; BOEM-2023-0030-1404-0003; BOEM-2023-0030-1406-0001; BOEM-2023-0030-1456-0002; BOEM-2023-0030-1461-0001; BOEM-2023-0030-1464-0002; BOEM-2023-0030-1466-0009; BOEM-2023-0030-1491-0002; BOEM-2023-0030-1494-0003; BOEM-2023-0030-1501-0003; BOEM-2023-0030-1516-0032; BOEM-2023-0030-1518-0049; BOEM-2023-</p>

General Comment Summaries and Responses

0030-1520-0010; BOEM-2023-0030-1557-0010; BOEM-2023-0030-1557-0018; BOEM-2023-0030-1567-0004; BOEM-2023-0030-1572-0003; BOEM-2023-0030-1688-0004; BOEM-2023-0030-1688-0008; BOEM-2023-0030-1692-0003; BOEM-2023-0030-1706-0003; BOEM-2023-0030-1707-0006; BOEM-2023-0030-1715-0009; BOEM-2023-0030-1729-0003; BOEM-2023-0030-1734-0010; BOEM-2023-0030-1734-0011; BOEM-2023-0030-1755-0003; BOEM-2023-0030-1773-0008; BOEM-2023-0030-1791-0007; BOEM-2023-0030-1798-0006; BOEM-2023-0030-1954-0011; BOEM-2023-0030-1967-0003; BOEM-2023-0030-1975-0004; BOEM-2023-0030-1993-0004

Comment Summary 2: Commenters expressed concern about the health impact of WTGs and cables.

Response: Please refer to Section 3.4.1 for anticipated impacts to Air Quality.

Submission IDs contributing to comment summary: BOEM-2023-0030-0100-0001; BOEM-2023-0030-1734-0012

Comment Summary 3: Commenter expressed concern about the impact on marine mammals and the recreational and commercial fishing stock.

Response: Impacts to fishing are discussed in Section 3.6.1, *Commercial Fisheries and For-Hire Recreational Fishing*; impacts to tourism are discussed in Section 3.6.8, *Recreation and Tourism*.

Submission IDs contributing to comment summary: BOEM-2023-0030-0577-0001; BOEM-2023-0030-1416-0003; BOEM-2023-0030-1432-0005; BOEM-2023-0030-1684-0006; BOEM-2023-0030-1708-0004; BOEM-2023-0030-1743-0002; BOEM-2023-0030-1954-0013

Comment Summary 4: Commenter shared the potential benefits of visitors wanting to take boats to view windmills and understand how they work.

Response: Thank you for your comment.

Submission IDs contributing to comment summary: BOEM-2023-0030-0619-0003

Comment Summary 5: Commenter expressed concern over the impact of reduced wind speeds and increased humidity on the beach experience.

Response: Wind turbines extract kinetic energy from the atmosphere and thus can reduce wind speeds downwind of the turbine. Wind turbines increase vertical mixing in the atmosphere and thus can increase (or decrease) air temperatures and humidity downwind depending on local meteorological conditions. However, these effects dissipate with distance downwind. Because of the distance of the Project from land (approximately 16 miles from the center of the WTG array), substantial effects on wind speed, temperature and humidity are unlikely to occur over land.

Submission IDs contributing to comment summary: BOEM-2023-0030-0916-0008; BOEM-2023-0030-0916-0215

Comment Summary 6: Commenter shared sport divers hope to dive on the wind turbines provided there is no electrical leakage.

Response: Thank you for your comment.

Submission IDs contributing to comment summary: BOEM-2023-0030-1815-0021

N.7.21 Scenic and Visual Resources

Table N.7-21. General Comments on Scenic and Visual Resources

General Comment Summaries and Responses
<p>Comment Summary 1: Several commenters expressed opposition to the Project due to impacts on visual quality based on height, number, blade movement, and proximity to shore. Several commenters were supportive of the concept of wind energy but not at the expense of views or a scenic coastal experience. Their primary concern is that having WTGs within view will destroy the pristine vista and have a detrimental impact on housing values and tourism. One commenter noted that cumulative impacts from proposed wind farms will prevent unobstructed views of sunrises and moonrise along the New Jersey shore. Some also expressed concern about the red blinking aircraft obstruction lighting at night polluting the horizon.</p>
<p>Response: The visibility of the WTGs from coastal areas would be variable depending on meteorological, moonlight, and sunlight conditions. In views seaward from the shoreline there would be periods of high, moderate, low, and no visibility. Please refer to Section 3.6.9.5, <i>Impacts of Alternative B – Proposed Action on Scenic and Visual Resources</i>, and <i>Appendix H, Seascape, landscape, and Visual Impact Assessment</i>, for specific visual impact findings. Turbine blade motion can significantly attract viewer attention and increase wind farm noticeability. A paragraph has been added to Appendix H to address this concern.</p> <p>Alternatives raised during scoping that would relocate the Project outside Lease Area OCS-A 0499 in order to substantially reduce visibility from shore, would not meet BOEM’s purpose and need as explained in EIS Section 2.1.7, <i>Alternatives Considered but not Analyzed in Detail</i> (Table 2-3).</p>
<p>Submission IDs contributing to comment summary: BOEM-2023-0030-0455-0001, BOEM-2023-0030-0565-0002, BOEM-2023-0030-0568-0001, BOEM-2023-0030-0577-0003, BOEM-2023-0030-0584-0007, BOEM-2023-0030-0602-0001, BOEM-2023-0030-0612-0002, BOEM-2023-0030-0916-0176, BOEM-2023-0030-1451-0001, BOEM-2023-0030-1470-0002, BOEM-2023-0030-1488-0012, BOEM-2023-0030-1518-0002, BOEM-2023-0030-1518-0016, BOEM-2023-0030-1565-0005, BOEM-2023-0030-1607-0001, BOEM-2023-0030-1667-0001, BOEM-2023-0030-1697-0002, BOEM-2023-0030-1749-0002, BOEM-2023-0030-1783-0002, BOEM-2023-0030-1933-0001, BOEM-2023-0030-1993-0003</p>
<p>Comment Summary 2: Some commenters are of the opinion that the visual impact will be unaffected at 15 miles offshore.</p>
<p>Response: EIS Section 3.6.9, <i>Scenic and Visual Resources</i>, concludes that the visibility of the WTGs from coastal areas would be variable depending on meteorological, moonlight, and sunlight conditions. In views seaward from the shoreline there would be periods of high, moderate, low, and no visibility.</p>
<p>Submission IDs contributing to comment summary: BOEM-2023-0030-1320-0004</p>

N.7.22 Project Design Envelope

Table N.7-22. General Comments on Project Design Envelope

General Comment Summaries and Responses
<p>Comment Summary 1: Commenters encouraged research and innovation to develop advanced technologies that minimize the negative impacts of offshore wind turbines on marine ecosystems, such as improved noise reduction techniques and bird-friendly designs.</p>

Response: The Office of Renewable Energy Programs (OREP) within the Bureau of Ocean Energy Management oversees the development of offshore renewable energy projects on the Outer Continental Shelf (OCS). OREP depends on science to meet the Agency's responsibilities under environmental laws, regulations, and standards. As such, the Agency funds and manages scientific research to inform the Agency's decision making processes for renewable energy projects on the OCS. These include studies related to measurement, evaluation, and mitigation of impacts of wind turbine installations on migratory birds and the marine environment (<https://www.boem.gov/environment/environmental-studies/renewable-energy-research-ongoing-studies>).

The U.S. Department of Energy (DOE) Wind Energy Technologies Office (WETO) announced on September 21, 2023 the selection of 15 projects for funding to address key deployment challenges for offshore, land-based, and distributed wind. These DOE-funded projects include projects targeted towards technology improvements and reductions of environmental impacts of wind energy deployment. (DOE WETO 2023; Windpower Engineering and Development, 2023_

<https://www.energy.gov/eere/wind/articles/doe-wind-energy-technologies-office-selects-15-projects-totaling-27-million>
https://www.windpowerengineering.com/doe-sets-aside-72-million-to-advance-wind-energy-technology-developments/?utm_medium=email&utm_source=rasa_io&utm_campaign=newsletter

Submission IDs contributing to comment summary: BOEM-2023-0030-1954-0019

Comment Summary 2: Commenters noted considerations for cabling construction techniques, including horizontal directional drilling (HDD), and suggested that disruption for cable installations will have a negative impact on people and wildlife.

Response: The Atlantic Shores South EIS analyzed the impact of the Proposed Action and action alternatives including impacts related to offshore, near shore, and onshore cable emplacement and maintenance. Impacts due to cable emplacement and maintenance are discussed under the Cable Emplacement and Maintenance Impact Producing Factor (IPF) in EIS Chapter 3, Table 3.1 1. Primary IPFs are addressed in this analysis, because the cables themselves would be buried or covered with protective materials. Impacts of cable emplacement and maintenance on specific resource areas are described in EIS Chapter 3. EIS Section 3.4.2.5 under the Cable Emplacement and Maintenance heading describes water quality impacts related to cable emplacement and maintenance, and EIS Section 3.5.2.3 describes benthic resources impacts related to cable emplacement and maintenance.

Submission IDs contributing to comment summary: BOEM-2023-0030-0594-0002; BOEM-2023-0030-0616-0004; BOEM-2023-0030-0631-0002; BOEM-2023-0030-1993-0013

N.7.23 Mitigation and Monitoring

General Comment Summaries and Responses

Comment Summary 1: Commenters expressed support for employing adaptive ecosystem-based management approach and mitigation measures to support the health of marine mammals and the marine ecosystem.

Response: Many best practices are described in Appendix G, *Mitigation and Monitoring*, regarding benthic and shellfish, fish and invertebrates, wetlands and waterbodies, coastal habitats, and sea turtles, among others.

Submission IDs contributing to comment summary: BOEM-2023-0030-1732-0008; BOEM-2023-0030-1732-0009; BOEM-2023-0030-0924-0005; BOEM-2023-0030-0484-0001; BOEM-2023-0030-0616-0004; BOEM-2023-0030-1436-0005; BOEM-2023-0030-1462-0003

N.7.24 Cumulative Impacts

Table N.7-24. General Comments on Cumulative Impacts

General Comment Summaries and Responses
<p>Comment Summary 1: Commenters noted the importance of the marine ecosystem and stated that offshore wind could detrimentally impact marine life and habitat, as well as migratory birds, bats, tourism, recreation, and the commercial fishing industry. More research is needed and BOEM should not prioritize the implementation of offshore wind projects over its administrative duty to safeguard the environment.</p>
<p>Response: BOEM acknowledges the importance of the natural environment and its mission is to manage the development of the U.S. Outer Continental Shelf in an environmentally and economically responsible way. Environmental protection, informed by the best available science, is a priority for BOEM. BOEM also acknowledges that offshore wind is a growing industry and further research is needed, as described in Appendix E, <i>Analysis of Incomplete and Unavailable Information</i>, of the EIS. BOEM coordinates and sponsors ongoing research addressing many of these topics and makes the results publicly available as studies are completed or reach interim milestones. The analyses presented by BOEM in the EIS are based on the best available science. As new information is available, BOEM will continue to include the relevant results in future assessments.</p>
<p>Submission IDs contributing to comment summary: BOEM-2023-0030-0372-0010; BOEM-2023-0030-0385-001; BOEM-2023-0030-0710-004; BOEM-2023-0030-1306-0001; BOEM-2023-0030-1518-0004; BOEM-2023-0030-1688-0003; BOEM-2023-0030-1688-0007; BOEM-2023-0030-1699-0007; BOEM-2023-0030-1707-0003; BOEM-2023-0030-1731-0002</p>

N.7.25 Connected Action

Table N.7-25. General Comments on Connected Action

General Comment Summaries and Responses
<p>Comment Summary 1: N/A</p>
<p>Response:</p>
<p>Submission IDs contributing to comment summary:</p>

N.7.26 National Environmental Policy Act/Public Involvement Process

Table N.7-26. General Comments on National Environmental Policy Act/Public Involvement Process

General Comment Summaries and Responses
Comment Summary 1: N/A
Response:
Submission IDs contributing to comment summary:

N.7.27 General Support or Opposition

Table N.7-27. Responses to General Support or Opposition Comments

General Comment Summaries and Responses
<p>Comment Summary 1: Commenters expressed opposition to the Project due to visual impacts; adverse impacts on property values, quality of life, resident health and safety, and tourism; potential for accidental releases from turbines; impacts on benthic and pelagic habitats, finfish, crustaceans, insects, birds, bats, and marine mammals including the North Atlantic right whale; expected space-use conflicts with other ocean uses including commercial and recreational fishing, radar navigation, and search and rescue; national security concerns and concern that the reliability, cost-effectiveness, sustainability, and safety of offshore wind energy is unproven and/or not adequately justified. Commenters expressed distrust in the financial motivations of the Project, their backers both domestic and abroad, the environmental review process, and the governmental decision-making process given the lack of direct public vote on the Project. Commenters expressed that current data regarding the effects of similar projects on the marine environment are inadequate given the scale of the Project and turbines and that a pilot project should be completed to better understand impacts. Commenters also expressed concern that other carbon-free energy sources such as nuclear and solar solutions as well as inland wind turbines were not adequately considered for implementation.</p>
<p>Response: Thank you for your comments. More detailed and specific comments were provided on many of these topics and are addressed by topic area in Section N.6 and Section N.7.</p>
<p>Submission IDs contributing to comment summary: BOEM-2023-0030-0002-0001; BOEM-2023-0030-0004-0001; BOEM-2023-0030-0005-0001; BOEM-2023-0030-0007-0001; BOEM-2023-0030-0008-0001; BOEM-2023-0030-0008-0002; BOEM-2023-0030-0009-0001; BOEM-2023-0030-0010-0001; BOEM-2023-0030-0011-0001; BOEM-2023-0030-0012-0001; BOEM-2023-0030-0013-0001; BOEM-2023-0030-0014-0001; BOEM-2023-0030-0015-0001; BOEM-2023-0030-0016-0003; BOEM-2023-0030-0016-0005; BOEM-2023-0030-0016-0006; BOEM-2023-0030-0017-0001; BOEM-2023-0030-0018-0001; BOEM-2023-0030-0019-0001; BOEM-2023-0030-0020-0001; BOEM-2023-0030-0021-0001; BOEM-2023-0030-0022-0001; BOEM-2023-0030-0023-0001; BOEM-2023-0030-0024-0001; BOEM-2023-0030-0025-0001; BOEM-2023-0030-0027-0001; BOEM-2023-0030-0028-0001; BOEM-2023-0030-0029-0001; BOEM-2023-0030-0030-0001; BOEM-2023-0030-0031-0001; BOEM-2023-0030-0032-0001; BOEM-2023-0030-0033-0001; BOEM-2023-0030-0034-0001; BOEM-2023-0030-0034-0004; BOEM-2023-0030-0035-0001; BOEM-2023-0030-0036-0001; BOEM-2023-0030-0037-0001; BOEM-2023-0030-0038-0001; BOEM-2023-0030-0039-0001; BOEM-2023-0030-0040-0001; BOEM-2023-0030-0041-0001; BOEM-2023-0030-0042-0001; BOEM-2023-0030-0043-0001; BOEM-2023-0030-0044-0001; BOEM-2023-0030-0054-0001; BOEM-2023-0030-0055-0001; BOEM-2023-0030-0056-0001; BOEM-2023-0030-0061-0001; BOEM-2023-</p>

General Comment Summaries and Responses

0030-0583-0001; BOEM-2023-0030-0584-0003; BOEM-2023-0030-0585-0001; BOEM-2023-0030-0592-0001; BOEM-2023-0030-0600-0001; BOEM-2023-0030-0604-0001; BOEM-2023-0030-0611-0001; BOEM-2023-0030-0612-0001; BOEM-2023-0030-0614-0001; BOEM-2023-0030-0624-0001; BOEM-2023-0030-0625-0001; BOEM-2023-0030-0627-0001; BOEM-2023-0030-0630-0001; BOEM-2023-0030-0634-0001; BOEM-2023-0030-0675-0001; BOEM-2023-0030-0748-0001; BOEM-2023-0030-0749-0001; BOEM-2023-0030-0750-0001; BOEM-2023-0030-0753-0001; BOEM-2023-0030-0756-0001; BOEM-2023-0030-0756-0002; BOEM-2023-0030-0776-0001; BOEM-2023-0030-0807-0001; BOEM-2023-0030-0808-0001; BOEM-2023-0030-0810-0001; BOEM-2023-0030-0811-0001; BOEM-2023-0030-0812-0001; BOEM-2023-0030-0824-0001; BOEM-2023-0030-0825-0001; BOEM-2023-0030-0826-0003; BOEM-2023-0030-0835-0001; BOEM-2023-0030-0836-0001; BOEM-2023-0030-0838-0001; BOEM-2023-0030-0841-0001; BOEM-2023-0030-0842-0001; BOEM-2023-0030-0850-0001; BOEM-2023-0030-0851-0001; BOEM-2023-0030-0852-0001; BOEM-2023-0030-0854-0001; BOEM-2023-0030-0855-0001; BOEM-2023-0030-0859-0001; BOEM-2023-0030-0860-0002; BOEM-2023-0030-0861-0001; BOEM-2023-0030-0861-0002; BOEM-2023-0030-0863-0001; BOEM-2023-0030-0865-0001; BOEM-2023-0030-0866-0001; BOEM-2023-0030-0867-0002; BOEM-2023-0030-0868-0001; BOEM-2023-0030-0869-0001; BOEM-2023-0030-0870-0001; BOEM-2023-0030-0871-0001; BOEM-2023-0030-0875-0001; BOEM-2023-0030-0877-0001; BOEM-2023-0030-0880-0001; BOEM-2023-0030-0904-0001; BOEM-2023-0030-0904-0004; BOEM-2023-0030-0912-0001; BOEM-2023-0030-0917-0001; BOEM-2023-0030-0919-0001; BOEM-2023-0030-0919-0004; BOEM-2023-0030-0920-0001; BOEM-2023-0030-0923-0001; BOEM-2023-0030-0926-0007; BOEM-2023-0030-0927-0001; BOEM-2023-0030-0928-0002; BOEM-2023-0030-0939-0001; BOEM-2023-0030-0963-0001; BOEM-2023-0030-0971-0001; BOEM-2023-0030-0972-0001; BOEM-2023-0030-0985-0001; BOEM-2023-0030-0985-0002; BOEM-2023-0030-1106-0001; BOEM-2023-0030-1111-0001; BOEM-2023-0030-1112-0001; BOEM-2023-0030-1125-0001; BOEM-2023-0030-1125-0002; BOEM-2023-0030-1158-0002; BOEM-2023-0030-1182-0001; BOEM-2023-0030-1188-0001; BOEM-2023-0030-1196-0001; BOEM-2023-0030-1213-0001; BOEM-2023-0030-1220-0001; BOEM-2023-0030-1253-0001; BOEM-2023-0030-1256-0001; BOEM-2023-0030-1284-0001; BOEM-2023-0030-1298-0001; BOEM-2023-0030-1353-0001; BOEM-2023-0030-1363-0002; BOEM-2023-0030-1365-0001; BOEM-2023-0030-1369-0001; BOEM-2023-0030-1372-0001; BOEM-2023-0030-1374-0001; BOEM-2023-0030-1376-0002; BOEM-2023-0030-1377-0001; BOEM-2023-0030-1378-0001; BOEM-2023-0030-1380-0001; BOEM-2023-0030-1381-0001; BOEM-2023-0030-1383-0001; BOEM-2023-0030-1399-0001; BOEM-2023-0030-1406-0002; BOEM-2023-0030-1406-0003; BOEM-2023-0030-1413-0001; BOEM-2023-0030-1417-0001; BOEM-2023-0030-1418-0001; BOEM-2023-0030-1435-0001; BOEM-2023-0030-1435-0002; BOEM-2023-0030-1435-0003; BOEM-2023-0030-1450-0002; BOEM-2023-0030-1452-0001; BOEM-2023-0030-1453-0001; BOEM-2023-0030-1454-0001; BOEM-2023-0030-1455-0001; BOEM-2023-0030-1458-0001; BOEM-2023-0030-1460-0001; BOEM-2023-0030-1463-0001; BOEM-2023-0030-1467-0001; BOEM-2023-0030-1468-0001; BOEM-2023-0030-1469-0001; BOEM-2023-0030-1470-0001; BOEM-2023-0030-1491-0001; BOEM-2023-0030-1495-0001; BOEM-2023-0030-1496-0001; BOEM-2023-0030-1498-0001; BOEM-2023-0030-1499-0001; BOEM-2023-0030-1499-0002; BOEM-2023-0030-1502-0001; BOEM-2023-0030-1506-0001; BOEM-2023-0030-1509-0001; BOEM-2023-0030-1513-0001; BOEM-2023-0030-1516-0022; BOEM-2023-0030-1516-0056; BOEM-2023-0030-1516-0062; BOEM-2023-0030-1518-0005; BOEM-2023-0030-1518-0006; BOEM-2023-0030-1519-0001; BOEM-2023-0030-1520-0001; BOEM-2023-0030-1522-0001; BOEM-2023-0030-1523-0003; BOEM-2023-0030-1524-0001; BOEM-2023-0030-1525-0001; BOEM-2023-0030-1526-0001; BOEM-2023-0030-1528-0001; BOEM-2023-0030-1533-0001; BOEM-2023-0030-1534-0001; BOEM-2023-0030-1535-0001; BOEM-2023-0030-1537-0001; BOEM-2023-0030-1539-0001; BOEM-2023-0030-1541-0001; BOEM-2023-0030-1543-0001; BOEM-2023-0030-1544-0001; BOEM-2023-0030-1549-0001; BOEM-2023-0030-1550-0001; BOEM-2023-0030-1552-0001; BOEM-2023-0030-1553-0001; BOEM-2023-0030-1557-0013; BOEM-2023-0030-1558-0001; BOEM-2023-0030-1559-0001; BOEM-2023-0030-1560-0001; BOEM-2023-0030-1563-0002; BOEM-2023-0030-1565-0003; BOEM-2023-0030-1567-0006; BOEM-2023-0030-1575-0001; BOEM-2023-0030-1577-0001; BOEM-2023-0030-1579-0001; BOEM-2023-0030-1581-0012; BOEM-2023-0030-1583-0001; BOEM-2023-0030-1584-0001; BOEM-2023-0030-1586-0001; BOEM-2023-0030-1587-0002; BOEM-2023-0030-1589-0001; BOEM-2023-0030-1590-0001; BOEM-2023-0030-1590-0004; BOEM-2023-0030-1597-0003; BOEM-2023-0030-1606-0011; BOEM-2023-0030-1606-0012; BOEM-2023-0030-1606-0014; BOEM-2023-0030-1610-0001; BOEM-2023-0030-1611-0001; BOEM-2023-0030-1612-0001; BOEM-2023-

General Comment Summaries and Responses

0030-1614-0001; BOEM-2023-0030-1615-0001; BOEM-2023-0030-1616-0001; BOEM-2023-0030-1617-0001; BOEM-2023-0030-1618-0001; BOEM-2023-0030-1619-0001; BOEM-2023-0030-1619-0002; BOEM-2023-0030-1621-0001; BOEM-2023-0030-1622-0006; BOEM-2023-0030-1623-0001; BOEM-2023-0030-1624-0004; BOEM-2023-0030-1624-0005; BOEM-2023-0030-1625-0001; BOEM-2023-0030-1626-0001; BOEM-2023-0030-1627-0001; BOEM-2023-0030-1628-0001; BOEM-2023-0030-1629-0001; BOEM-2023-0030-1630-0001; BOEM-2023-0030-1631-0001; BOEM-2023-0030-1633-0001; BOEM-2023-0030-1634-0001; BOEM-2023-0030-1635-0001; BOEM-2023-0030-1635-0002; BOEM-2023-0030-1635-0004; BOEM-2023-0030-1637-0001; BOEM-2023-0030-1641-0001; BOEM-2023-0030-1642-0001; BOEM-2023-0030-1643-0001; BOEM-2023-0030-1644-0002; BOEM-2023-0030-1645-0001; BOEM-2023-0030-1646-0002; BOEM-2023-0030-1647-0002; BOEM-2023-0030-1648-0001; BOEM-2023-0030-1649-0001; BOEM-2023-0030-1650-0001; BOEM-2023-0030-1651-0001; BOEM-2023-0030-1652-0001; BOEM-2023-0030-1653-0001; BOEM-2023-0030-1654-0002; BOEM-2023-0030-1655-0001; BOEM-2023-0030-1657-0002; BOEM-2023-0030-1657-0003; BOEM-2023-0030-1659-0001; BOEM-2023-0030-1661-0001; BOEM-2023-0030-1662-0001; BOEM-2023-0030-1663-0001; BOEM-2023-0030-1664-0001; BOEM-2023-0030-1665-0001; BOEM-2023-0030-1666-0001; BOEM-2023-0030-1667-0003; BOEM-2023-0030-1668-0003; BOEM-2023-0030-1670-0001; BOEM-2023-0030-1671-0001; BOEM-2023-0030-1672-0001; BOEM-2023-0030-1674-0001; BOEM-2023-0030-1675-0001; BOEM-2023-0030-1676-0001; BOEM-2023-0030-1679-0002; BOEM-2023-0030-1680-0001; BOEM-2023-0030-1682-0002; BOEM-2023-0030-1683-0002; BOEM-2023-0030-1684-0002; BOEM-2023-0030-1687-0001; BOEM-2023-0030-1688-0002; BOEM-2023-0030-1690-0001; BOEM-2023-0030-1691-0001; BOEM-2023-0030-1691-0002; BOEM-2023-0030-1691-0003; BOEM-2023-0030-1692-0004; BOEM-2023-0030-1693-0001; BOEM-2023-0030-1693-0002; BOEM-2023-0030-1693-0003; BOEM-2023-0030-1695-0003; BOEM-2023-0030-1695-0006; BOEM-2023-0030-1695-0009; BOEM-2023-0030-1695-0010; BOEM-2023-0030-1696-0001; BOEM-2023-0030-1696-0002; BOEM-2023-0030-1698-0001; BOEM-2023-0030-1698-0004; BOEM-2023-0030-1699-0002; BOEM-2023-0030-1700-0001; BOEM-2023-0030-1700-0003; BOEM-2023-0030-1701-0001; BOEM-2023-0030-1701-0003; BOEM-2023-0030-1702-0001; BOEM-2023-0030-1703-0001; BOEM-2023-0030-1703-0002; BOEM-2023-0030-1704-0001; BOEM-2023-0030-1704-0002; BOEM-2023-0030-1705-0001; BOEM-2023-0030-1706-0001; BOEM-2023-0030-1706-0004; BOEM-2023-0030-1707-0002; BOEM-2023-0030-1709-0001; BOEM-2023-0030-1710-0002; BOEM-2023-0030-1710-0003; BOEM-2023-0030-1713-0003; BOEM-2023-0030-1713-0005; BOEM-2023-0030-1716-0001; BOEM-2023-0030-1716-0002; BOEM-2023-0030-1717-0001; BOEM-2023-0030-1720-0001; BOEM-2023-0030-1721-0002; BOEM-2023-0030-1722-0001; BOEM-2023-0030-1724-0001; BOEM-2023-0030-1725-0001; BOEM-2023-0030-1725-0003; BOEM-2023-0030-1728-0003; BOEM-2023-0030-1729-0001; BOEM-2023-0030-1729-0011; BOEM-2023-0030-1731-0003; BOEM-2023-0030-1734-0002; BOEM-2023-0030-1734-0003; BOEM-2023-0030-1737-0002; BOEM-2023-0030-1737-0005; BOEM-2023-0030-1742-0001; BOEM-2023-0030-1748-0002; BOEM-2023-0030-1752-0001; BOEM-2023-0030-1755-0011; BOEM-2023-0030-1761-0001; BOEM-2023-0030-1762-0001; BOEM-2023-0030-1762-0002; BOEM-2023-0030-1763-0001; BOEM-2023-0030-1764-0002; BOEM-2023-0030-1764-0003; BOEM-2023-0030-1769-0001; BOEM-2023-0030-1771-0001; BOEM-2023-0030-1772-0002; BOEM-2023-0030-1773-0002; BOEM-2023-0030-1783-0001; BOEM-2023-0030-1783-0004; BOEM-2023-0030-1786-0003; BOEM-2023-0030-1789-0001; BOEM-2023-0030-1790-0003; BOEM-2023-0030-1793-0005; BOEM-2023-0030-1798-0001; BOEM-2023-0030-1807-0002; BOEM-2023-0030-1808-0001; BOEM-2023-0030-1814-0001; BOEM-2023-0030-1818-0002; BOEM-2023-0030-1824-0001; BOEM-2023-0030-1926-0001; BOEM-2023-0030-1927-0001; BOEM-2023-0030-1927-0002; BOEM-2023-0030-1928-0001; BOEM-2023-0030-1929-0001; BOEM-2023-0030-1931-0001; BOEM-2023-0030-1936-0001; BOEM-2023-0030-1938-0001; BOEM-2023-0030-1944-0001; BOEM-2023-0030-1945-0001; BOEM-2023-0030-1946-0001; BOEM-2023-0030-1947-0001; BOEM-2023-0030-1949-0001; BOEM-2023-0030-1950-0001; BOEM-2023-0030-1952-0001; BOEM-2023-0030-1954-0016; BOEM-2023-0030-1954-0017; BOEM-2023-0030-1957-0001; BOEM-2023-0030-1958-0001; BOEM-2023-0030-1959-0001; BOEM-2023-0030-1961-0001; BOEM-2023-0030-1965-0001; BOEM-2023-0030-1965-0002; BOEM-2023-0030-1965-0003; BOEM-2023-0030-1966-0001; BOEM-2023-0030-1967-0001; BOEM-2023-0030-1969-0002; BOEM-2023-0030-1970-0001; BOEM-2023-0030-1975-0007; BOEM-2023-0030-1977-0001; BOEM-2023-0030-1981-0001; BOEM-2023-0030-1982-0001; BOEM-2023-0030-1984-0001; BOEM-2023-0030-1985-0005; BOEM-2023-0030-1987-0002; BOEM-2023-0030-1992-0001; BOEM-2023-0030-1993-0015; BOEM-2023-0030-1995-0001; BOEM-2023-

General Comment Summaries and Responses

0030-1996-0001; BOEM-2023-0030-1997-0003; BOEM-2023-0030-1998-0002; BOEM-2023-0030-2001-0001; BOEM-2023-0030-2002-0001; BOEM-2023-0030-2003-0001; BOEM-2023-0030-2003-0005; BOEM-2023-0030-2004-0001; BOEM-2023-0030-2005-0001; BOEM-2023-0030-2007-0001; BOEM-2023-0030-2008-0001; BOEM-2023-0030-2009-0002; and BOEM-2023-0030-2012-0001.

Comment Summary 2: Commenters expressed support for the Project to reduce GHG emissions, meet New Jersey clean energy goals, preserve the natural environment for future generations, and move toward a carbon-free future through the transition to renewable energy. Commenters identified the direct, indirect, and induced socioeconomic benefits of the Project, which would be achieved while reducing harmful effects of future climate change. Commenters also noted the health benefits associated with reduced reliance on fossil fuels, reduced air emissions, and increased water quality. Commenters noted that adverse impacts to marine mammals and wildlife associated with other energy sources, commercial and recreational fishing, and maritime shipping do not garner the same attention as those associated with offshore wind energy and that existing offshore wind installations can stimulate biodiversity through the creation of artificial reef habitat and reduction of fishing pressure. Commenters in support of the Project expressed that visibility of WTGs would not have an adverse effect.

Response: Thank you for your comment. BOEM acknowledges your support for the Project.

Submission IDs contributing to comment summary: BOEM-2023-0030-0297-0001; BOEM-2023-0030-0384-0001; BOEM-2023-0030-0392-0001; BOEM-2023-0030-0457-0001; BOEM-2023-0030-0457-0002; BOEM-2023-0030-0483-0001; BOEM-2023-0030-0484-0002; BOEM-2023-0030-0494-0001; BOEM-2023-0030-0496-0001; BOEM-2023-0030-0503-0001; BOEM-2023-0030-0511-0001; BOEM-2023-0030-0517-0001; BOEM-2023-0030-0526-0001; BOEM-2023-0030-0526-0002; BOEM-2023-0030-0528-0001; BOEM-2023-0030-0530-0002; BOEM-2023-0030-0533-0001; BOEM-2023-0030-0541-0001; BOEM-2023-0030-0543-0001; BOEM-2023-0030-0548-0001; BOEM-2023-0030-0549-0001; BOEM-2023-0030-0550-0001; BOEM-2023-0030-0552-0001; BOEM-2023-0030-0557-0001; BOEM-2023-0030-0571-0001; BOEM-2023-0030-0581-0001; BOEM-2023-0030-0589-0001; BOEM-2023-0030-0593-0001; BOEM-2023-0030-0595-0001; BOEM-2023-0030-0597-0001; BOEM-2023-0030-0598-0001; BOEM-2023-0030-0599-0001; BOEM-2023-0030-0603-0001; BOEM-2023-0030-0605-0001; BOEM-2023-0030-0606-0001; BOEM-2023-0030-0607-0001; BOEM-2023-0030-0609-0001; BOEM-2023-0030-0610-0001; BOEM-2023-0030-0613-0001; BOEM-2023-0030-0615-0001; BOEM-2023-0030-0617-0001; BOEM-2023-0030-0622-0001; BOEM-2023-0030-0629-0001; BOEM-2023-0030-0631-0001; BOEM-2023-0030-0632-0001; BOEM-2023-0030-0632-0002; BOEM-2023-0030-0632-0003; BOEM-2023-0030-0674-0001; BOEM-2023-0030-0679-0001; BOEM-2023-0030-0683-0001; BOEM-2023-0030-0700-0001; BOEM-2023-0030-0723-0001; BOEM-2023-0030-0751-0001; BOEM-2023-0030-0751-0002; BOEM-2023-0030-0752-0001; BOEM-2023-0030-0754-0001; BOEM-2023-0030-0862-0001; BOEM-2023-0030-0864-0001; BOEM-2023-0030-0886-0001; BOEM-2023-0030-0887-0001; BOEM-2023-0030-0996-0004; BOEM-2023-0030-1012-0001; BOEM-2023-0030-1020-0001; BOEM-2023-0030-1061-0002; BOEM-2023-0030-1061-0003; BOEM-2023-0030-1061-0005; BOEM-2023-0030-1061-0006; BOEM-2023-0030-1096-0001; BOEM-2023-0030-1135-0001; BOEM-2023-0030-1152-0001; BOEM-2023-0030-1152-0002; BOEM-2023-0030-1163-0001; BOEM-2023-0030-1186-0001; BOEM-2023-0030-1194-0001; BOEM-2023-0030-1215-0001; BOEM-2023-0030-1215-0006; BOEM-2023-0030-1215-0007; BOEM-2023-0030-1223-0049; BOEM-2023-0030-1251-0001; BOEM-2023-0030-1252-0001; BOEM-2023-0030-1257-0001; BOEM-2023-0030-1320-0001; BOEM-2023-0030-1335-0001; BOEM-2023-0030-1371-0001; BOEM-2023-0030-1371-0002; BOEM-2023-0030-1382-0001; BOEM-2023-0030-1382-0002; BOEM-2023-0030-1382-0007; BOEM-2023-0030-1382-0008; BOEM-2023-0030-1405-0001; BOEM-2023-0030-1408-0001; BOEM-2023-0030-1423-0001; BOEM-2023-0030-1433-0001; BOEM-2023-0030-1433-0004; BOEM-2023-0030-1462-0001; BOEM-2023-0030-1475-0001; BOEM-2023-0030-1477-0001; BOEM-2023-0030-1477-0002; BOEM-2023-0030-1477-0003; BOEM-2023-0030-1480-0001; BOEM-2023-0030-1484-0001; BOEM-2023-0030-1489-0001; BOEM-2023-0030-1493-0001; BOEM-2023-0030-1500-0001; BOEM-2023-0030-1504-0001; BOEM-2023-0030-1505-0001; BOEM-2023-0030-1508-0001; BOEM-2023-0030-1510-0001; BOEM-2023-0030-1515-0001; BOEM-2023-0030-1521-0001; BOEM-2023-0030-1527-0001; BOEM-2023-0030-1529-0001; BOEM-2023-0030-1540-0001; BOEM-2023-

General Comment Summaries and Responses

0030-1545-0001; BOEM-2023-0030-1545-0007; BOEM-2023-0030-1556-0008; BOEM-2023-0030-1574-0001; BOEM-2023-0030-1596-0002; BOEM-2023-0030-1598-0001; BOEM-2023-0030-1601-0001; BOEM-2023-0030-1604-0001; BOEM-2023-0030-1613-0001; BOEM-2023-0030-1658-0001; BOEM-2023-0030-1711-0001; BOEM-2023-0030-1718-0001; BOEM-2023-0030-1718-0004; BOEM-2023-0030-1719-0001; BOEM-2023-0030-1719-0003; BOEM-2023-0030-1726-0001; BOEM-2023-0030-1730-0001; BOEM-2023-0030-1732-0001; BOEM-2023-0030-1735-0001; BOEM-2023-0030-1735-0002; BOEM-2023-0030-1739-0001; BOEM-2023-0030-1739-0002; BOEM-2023-0030-1740-0001; BOEM-2023-0030-1740-0002; BOEM-2023-0030-1744-0001; BOEM-2023-0030-1745-0001; BOEM-2023-0030-1747-0001; BOEM-2023-0030-1747-0002; BOEM-2023-0030-1757-0001; BOEM-2023-0030-1759-0001; BOEM-2023-0030-1759-0005; BOEM-2023-0030-1760-0001; BOEM-2023-0030-1770-0001; BOEM-2023-0030-1776-0001; BOEM-2023-0030-1777-0001; BOEM-2023-0030-1778-0001; BOEM-2023-0030-1778-0004; BOEM-2023-0030-1779-0001; BOEM-2023-0030-1780-0001; BOEM-2023-0030-1782-0004; BOEM-2023-0030-1784-0001; BOEM-2023-0030-1785-0008; BOEM-2023-0030-1788-0001; BOEM-2023-0030-1792-0001; BOEM-2023-0030-1794-0001; BOEM-2023-0030-1795-0001; BOEM-2023-0030-1795-0006; BOEM-2023-0030-1796-0002; BOEM-2023-0030-1799-0001; BOEM-2023-0030-1799-0003; BOEM-2023-0030-1800-0001; BOEM-2023-0030-1800-0002; BOEM-2023-0030-1801-0001; BOEM-2023-0030-1801-0002; BOEM-2023-0030-1803-0001; BOEM-2023-0030-1804-0003; BOEM-2023-0030-1804-0005; BOEM-2023-0030-1806-0001; BOEM-2023-0030-1806-0002; BOEM-2023-0030-1809-0005; BOEM-2023-0030-1817-0001; BOEM-2023-0030-1821-0001; BOEM-2023-0030-1821-0002; BOEM-2023-0030-1821-0003; BOEM-2023-0030-1821-0006; BOEM-2023-0030-1821-0017; BOEM-2023-0030-1821-0019; BOEM-2023-0030-1956-0001.

N.8 Form Letters

Table N.8-1. Form Letter 1

Form Letter 1
<p>Dear Program Chief: STOP the NEW JERSEY OFFSHORE WIND FARM PROJECTS IMMEDIATELY! We, the citizens of New Jersey, do not want our tax money spent on these horrible wind farms. Wind Turbines are killing wildlife and their habitats. Wind Turbines will destroy the Cold Pool. Wind Turbines will destroy professional and recreational fishing. Wind Turbines will destroy NJ tourism. Wind Turbines will destroy NJ Coastal economies. Wind Turbines will negatively affect navigational safety. Wind Turbines will negatively USCG search and rescue. Wind Turbines are not GREEN! Offshore Wind Farms will cause irreparable harm to the ocean, marine life, and the lives of New Jersey citizens. STOP the WIND FARM PROJECTS IMMEDIATELY!</p>
<p>Response: More detailed and specific comments were provided on these topics and are addressed by topic area in Section N.6 and Section N.7.</p>
<p>Submission IDs associated with Form Letter 1: BOEM-2023-0030-1995; BOEM-2023-0030-1940; BOEM-2023-0030-1942; BOEM-2023-0030-1968; BOEM-2023-0030-1960.</p>

Table N.8-2. Form Letter 2

Form Letter 2
<p>Dear Program Chief: STOP the NEW JERSEY OFFSHORE WIND FARM PROJECTS IMMEDIATELY! We, the citizens of New Jersey, do not want our tax money spent on these horrible wind farms. Wind Turbines are killing whales, dolphins, other marine mammals, fish, and birds. Wind Turbines are an environmental disaster. Wind Turbines will destroy the Cold Pool. Wind Turbines will blight the NJ Coast. Wind Turbines will destroy the shore economy and our renowned way of life. Wind Turbines will not provide the electricity that is needed; causing an unreliable electric grid. Wind Turbines will not work during major hurricanes. Wind Turbines will endanger our National Security. Offshore Wind Farms will cause irreparable harm to the ocean, marine life, and the lives of New Jersey citizens. STOP the WIND FARM PROJECTS IMMEDIATELY!</p>
<p>Response: More detailed and specific comments were provided on these topics and are addressed by topic area in Section N.6 and Section N.7.</p>
<p>Submission IDs associated with Form Letter 2: BOEM-2023-0030-1926; BOEM-2023-0030-1971; BOEM-2023-0030-1964; BOEM-2023-0030-2011.</p>

Table N.8-3. Form Letter 3

Form Letter 3
<p>We are writing on behalf of the Greater Toms River Chamber of Commerce (GTRCC) in support of Atlantic Shores Offshore Wind, who is seeking approval to construct, own, operate and maintain the Project, which would consist of two wind energy facilities (Project 1 and Project 2) and their associated export cables on the Outer Continental Shelf (OCS) off the shore of New Jersey. Approvals of these projects would produce 1,510 MW and up to 1,327 MW respectively, resulting in delivering nearly 2.5 GW to communities of New Jersey. In 2021, Atlantic Shores was awarded an OREC for 1,510 MW from the New Jersey Board of Public Utilities and Atlantic Shores intends to bid Project 2 into an upcoming solicitation. Both proposed – awarded and future – projects are critical to reaching New Jersey’s target of 11 GW by 2040, setting New Jersey on the path to 100% clean energy by 2050. In addition, these projects represent critical components of New Jersey’s new clean energy industry and efforts to create good-paying jobs and ensure accessible-to-all economic opportunities, while providing sustainable and secure energy.</p>
<p>The GTRCC represents almost 450 organizations in the greater Toms River community and it is our mission to leverage the coastal beauty and rich history to drive economic innovation and growth. In order for us to achieve our goals, our involvement and participation in activities that create jobs and promote the development of existing businesses is essential. Though recent events, public opinion, and legislative/regulatory action has questioned the environmental protection of successful offshore projects, GTRCC believes that environmental partnerships to secure clean energy and address climate change, while providing good-paying jobs in our community are vital for our long-term economic development and security.</p>
<p>GTRCC believes Atlantic Shores has sited the projects’ facilities and utilized a Project Design Envelope (PDE) to maximize renewable energy production, minimize environmental effects, minimize cost to ratepayers, and address stakeholder concerns. The PDE provided by Atlantic Shores will not exceed an unreasonable level of effects to the environment, ocean users or the communities in the proposed project footprint.</p>
<p>GTRCC recommends that BOEM advance (to Final EIS) and ultimately adopt the following alternatives in its Record of Decision:</p>
<ul style="list-style-type: none">• Alternative B – Proposed Action. This alternative realizes the full clean energy potential that can be generated from Atlantic Shores Project 1 and Project 2.• Alternative C4. This alternative significantly avoids impacts to benthic habitat without turbine loss.• Alternative E. This alternative should move forward with a 1500m setback that results in a clear delineation between Atlantic Shores and Orsted projects to minimize effects on mariners and increases navigational safety with minimal impact to Atlantic Shores’ renewable energy production. A 1500m setback provides sufficient spacing to achieve this goal with minimal turbine loss.
<p>We believe that Atlantic Shores has completed responsible siting and design and has proposed reasonable and necessary measures to avoid, minimize, or mitigate potential effects or impacts to the environment, communities, and coastal and ocean users. Advancing these Alternatives allows construction to begin in 2024 and with that brings several essential investments and initiatives, including an agreement to train and hire local workers for the construction and maintenance of the wind project, an innovative 10 MW green hydrogen pilot with South Jersey</p>
<p>Industries and a turbine nacelle assembly facility at the New Jersey wind port. We believe, over its lifetime, these two projects will create thousands of good-paying jobs and provide more than 20% of clean and secure energy New Jersey’s target for reaching 11GW by 2040.</p>
<p>Response: BOEM acknowledges your support for the Project and support for Alternatives C4 and E.</p>
<p>Submission IDs associated with Form Letter 3: BOEM-2023-0030-1574; BOEM-2023-0030-1809; BOEM-2023-0030-1169; BOEM-2023-0030-1517; BOEM-2023-0030-1576; BOEM-2023-0030-1285; BOEM-2023-0030-1224; BOEM-2023-0030-1551; BOEM-2023-0030-1487; BOEM-2023-0030-2013; BOEM-2023-0030-1497.</p>

Table N.8-4. Form Letter 4

Form Letter 4
<p>I am writing on behalf of the [Organization/Group Name] in support of Atlantic Shores Offshore Wind, who is seeking approval to construct, own, operate, and maintain the Project, which would consist of two wind energy facilities (Project 1 and Project 2) and their associated export cables on the Outer Continental Shelf (OCS) offshore New Jersey.</p> <p>Approvals of these projects would produce 1,510 MW and up to 1,327 MW respectively, resulting in delivering nearly 2.5 GW to the communities of New Jersey. In 2021, Atlantic Shores was awarded an OREC for 1,510MW from the New Jersey Board of Public Utilities and Atlantic Shores intends to bid Project 2 into an upcoming solicitation. Both proposed awarded and future - projects are critical to reaching New Jerseys target of 11 GW by 2040, setting New Jersey on the path to 100% clean energy by 2050. In addition, these projects represent critical components of New Jerseys new clean energy industry and efforts to create good-paying jobs and ensure accessible-to-all economic opportunities, while providing sustainable and secure energy.</p>
<p>Response: BOEM acknowledges your support for the Project.</p>
<p>Submission IDs associated with Form Letter 4: BOEM-2023-0030-0683; BOEM-2023-0030-0694; BOEM-2023-0030-0840; BOEM-2023-0030-1804; BOEM-2023-0030-0697; BOEM-2023-0030-0693; BOEM-2023-0030-0687; BOEM-2023-0030-1254; BOEM-2023-0030-0684; BOEM-2023-0030-0689; BOEM-2023-0030-0688; BOEM-2023-0030-0691; BOEM-2023-0030-1817; BOEM-2023-0030-0690; BOEM-2023-0030-0685; BOEM-2023-0030-0695; BOEM-2023-0030-0696; BOEM-2023-0030-1596; BOEM-2023-0030-0698; BOEM-2023-0030-0692; BOEM-2023-0030-0588; BOEM-2023-0030-0686.</p>

Table N.8-5. Form Letter 5

Form Letter 5
<p>I support responsibly sited offshore wind. It will not only help reduce our massive carbon footprint, but it also represents economic opportunity and community benefits. The Atlantic Shores project can drive both New Jersey and the nation’s clean energy future – and will contribute significantly to the state’s renewable energy goals by providing enough clean energy to power an average of half a million homes annually.</p> <p>The Atlantic Shores project is the culmination of exhaustive study and analysis by scientific experts and relevant federal and state agencies, as well as extensive public consultation and collaboration with local communities. As highlighted in the Draft Environmental Impact Statement, the majority of the impacts of the Atlantic Shores project will have negligible, minor adverse, or even beneficial impacts on resources.</p> <p>Atlantic Shores will also help New Jersey reduce its reliance on polluting fossil fuels while providing clean and reliable energy and infrastructure enhancements to the Garden State. Responsible offshore wind development projects like Atlantic Shores should be moved forward with the urgency that the climate crisis demands. I urge BOEM to stick to its published schedule for Atlantic Shores and make this project a reality.</p>
<p>Response: BOEM acknowledges your support for the Project.</p>
<p>Submission IDs associated with Form Letter 5: BOEM-2023-0030-0632; BOEM-2023-0030-1047; BOEM-2023-0030-0881; BOEM-2023-0030-1027; BOEM-2023-0030-0932; BOEM-2023-0030-0716; BOEM-2023-0030-1272; BOEM-2023-0030-0661; BOEM-2023-0030-0907; BOEM-2023-0030-0671; BOEM-2023-0030-0931; BOEM-2023-0030-0777; BOEM-2023-0030-1398; BOEM-2023-0030-1319; BOEM-2023-0030-1171; BOEM-2023-0030-1234; BOEM-2023-0030-1114; BOEM-2023-0030-0729; BOEM-2023-0030-1057; BOEM-2023-0030-0638; BOEM-2023-0030-1448; BOEM-2023-0030-0534; BOEM-2023-0030-0646; BOEM-2023-0030-0736; BOEM-2023-0030-1103; BOEM-2023-0030-0819; BOEM-2023-0030-0834; BOEM-2023-0030-1144; BOEM-2023-0030-0770; BOEM-2023-0030-0651; BOEM-2023-0030-0760; BOEM-2023-0030-0787; BOEM-2023-0030-0992; BOEM-2023-0030-0633; BOEM-2023-0030-0703; BOEM-2023-0030-1388; BOEM-2023-0030-1198; BOEM-2023-0030-0833; BOEM-2023-</p>

Form Letter 5

0030-1348; BOEM-2023-0030-0953; BOEM-2023-0030-0959; BOEM-2023-0030-0718; BOEM-2023-0030-0967; BOEM-2023-0030-0846; BOEM-2023-0030-1349; BOEM-2023-0030-0980; BOEM-2023-0030-0791; BOEM-2023-0030-1159; BOEM-2023-0030-1219; BOEM-2023-0030-1218; BOEM-2023-0030-0940; BOEM-2023-0030-0636; BOEM-2023-0030-0772; BOEM-2023-0030-0949; BOEM-2023-0030-0831; BOEM-2023-0030-1225; BOEM-2023-0030-1077; BOEM-2023-0030-1060; BOEM-2023-0030-1069; BOEM-2023-0030-1222; BOEM-2023-0030-0951; BOEM-2023-0030-1001; BOEM-2023-0030-0650; BOEM-2023-0030-1397; BOEM-2023-0030-1146; BOEM-2023-0030-1364; BOEM-2023-0030-1286; BOEM-2023-0030-1300; BOEM-2023-0030-1168; BOEM-2023-0030-1033; BOEM-2023-0030-1145; BOEM-2023-0030-1097; BOEM-2023-0030-1473; BOEM-2023-0030-0758; BOEM-2023-0030-1045; BOEM-2023-0030-1479; BOEM-2023-0030-0898; BOEM-2023-0030-1079; BOEM-2023-0030-1187; BOEM-2023-0030-0739; BOEM-2023-0030-1167; BOEM-2023-0030-1239; BOEM-2023-0030-1310; BOEM-2023-0030-0774; BOEM-2023-0030-0798; BOEM-2023-0030-0954; BOEM-2023-0030-0763; BOEM-2023-0030-1015; BOEM-2023-0030-1202; BOEM-2023-0030-1064; BOEM-2023-0030-1115; BOEM-2023-0030-0934; BOEM-2023-0030-0656; BOEM-2023-0030-1313; BOEM-2023-0030-1443; BOEM-2023-0030-0947; BOEM-2023-0030-0711; BOEM-2023-0030-0644; BOEM-2023-0030-1412; BOEM-2023-0030-0680; BOEM-2023-0030-1129; BOEM-2023-0030-1173; BOEM-2023-0030-1304; BOEM-2023-0030-0995; BOEM-2023-0030-1056; BOEM-2023-0030-1291; BOEM-2023-0030-1113; BOEM-2023-0030-1358; BOEM-2023-0030-0780; BOEM-2023-0030-1040; BOEM-2023-0030-1403; BOEM-2023-0030-1099; BOEM-2023-0030-0830; BOEM-2023-0030-1065; BOEM-2023-0030-1184; BOEM-2023-0030-1104; BOEM-2023-0030-1072; BOEM-2023-0030-0966; BOEM-2023-0030-1073; BOEM-2023-0030-0765; BOEM-2023-0030-0775; BOEM-2023-0030-1232; BOEM-2023-0030-1078; BOEM-2023-0030-0822; BOEM-2023-0030-1354; BOEM-2023-0030-0761; BOEM-2023-0030-1017; BOEM-2023-0030-0933; BOEM-2023-0030-1136; BOEM-2023-0030-1437; BOEM-2023-0030-1147; BOEM-2023-0030-1401; BOEM-2023-0030-1143; BOEM-2023-0030-0734; BOEM-2023-0030-1006; BOEM-2023-0030-1153; BOEM-2023-0030-0960; BOEM-2023-0030-1297; BOEM-2023-0030-0778; BOEM-2023-0030-0883; BOEM-2023-0030-1351; BOEM-2023-0030-0713; BOEM-2023-0030-1211; BOEM-2023-0030-0724; BOEM-2023-0030-1200; BOEM-2023-0030-0744; BOEM-2023-0030-0771; BOEM-2023-0030-0884; BOEM-2023-0030-1368; BOEM-2023-0030-1119; BOEM-2023-0030-0991; BOEM-2023-0030-1032; BOEM-2023-0030-1026; BOEM-2023-0030-0965; BOEM-2023-0030-1262; BOEM-2023-0030-1217; BOEM-2023-0030-0660; BOEM-2023-0030-1123; BOEM-2023-0030-1395; BOEM-2023-0030-0827; BOEM-2023-0030-0818; BOEM-2023-0030-1389; BOEM-2023-0030-1280; BOEM-2023-0030-1314; BOEM-2023-0030-0941; BOEM-2023-0030-1276; BOEM-2023-0030-0712; BOEM-2023-0030-1130; BOEM-2023-0030-1035; BOEM-2023-0030-0976; BOEM-2023-0030-1067; BOEM-2023-0030-0911; BOEM-2023-0030-1128; BOEM-2023-0030-0740; BOEM-2023-0030-0978; BOEM-2023-0030-0635; BOEM-2023-0030-0719; BOEM-2023-0030-0955; BOEM-2023-0030-1318; BOEM-2023-0030-1422; BOEM-2023-0030-1350; BOEM-2023-0030-0793; BOEM-2023-0030-1148; BOEM-2023-0030-1391; BOEM-2023-0030-1308; BOEM-2023-0030-1274; BOEM-2023-0030-0783; BOEM-2023-0030-0664; BOEM-2023-0030-1471; BOEM-2023-0030-1472; BOEM-2023-0030-1176; BOEM-2023-0030-1476; BOEM-2023-0030-0704; BOEM-2023-0030-0973; BOEM-2023-0030-1289; BOEM-2023-0030-0789; BOEM-2023-0030-0738; BOEM-2023-0030-1058; BOEM-2023-0030-1086; BOEM-2023-0030-1165; BOEM-2023-0030-0796; BOEM-2023-0030-1151; BOEM-2023-0030-1142; BOEM-2023-0030-1441; BOEM-2023-0030-1160; BOEM-2023-0030-0893; BOEM-2023-0030-0726; BOEM-2023-0030-0823; BOEM-2023-0030-1206; BOEM-2023-0030-1109; BOEM-2023-0030-0906; BOEM-2023-0030-1400; BOEM-2023-0030-0669; BOEM-2023-0030-0707; BOEM-2023-0030-1014; BOEM-2023-0030-0779; BOEM-2023-0030-1438; BOEM-2023-0030-1264; BOEM-2023-0030-1324; BOEM-2023-0030-0728; BOEM-2023-0030-1384; BOEM-2023-0030-1227; BOEM-2023-0030-1407; BOEM-2023-0030-1179; BOEM-2023-0030-1051; BOEM-2023-0030-0788; BOEM-2023-0030-0665; BOEM-2023-0030-0764; BOEM-2023-0030-1062; BOEM-2023-0030-1053; BOEM-2023-0030-1037; BOEM-2023-0030-1082; BOEM-2023-0030-0708; BOEM-2023-0030-1022; BOEM-2023-0030-1156; BOEM-2023-0030-1162; BOEM-2023-0030-0737; BOEM-2023-0030-0792; BOEM-2023-0030-0640; BOEM-2023-0030-1005; BOEM-2023-0030-0901; BOEM-2023-0030-1425; BOEM-2023-0030-0655; BOEM-2023-0030-1029; BOEM-2023-0030-1316; BOEM-2023-0030-1154; BOEM-2023-0030-1205; BOEM-2023-0030-0784; BOEM-2023-0030-0637; BOEM-2023-0030-0843; BOEM-2023-0030-0989; BOEM-2023-0030-0746; BOEM-2023-0030-1041; BOEM-2023-0030-1131; BOEM-2023-0030-0938; BOEM-2023-0030-1366; BOEM-2023-0030-0909; BOEM-2023-0030-1028; BOEM-2023-0030-0943; BOEM-2023-0030-1208; BOEM-2023-0030-1390; BOEM-2023-0030-0717; BOEM-2023-0030-1117; BOEM-2023-0030-0673; BOEM-2023-0030-0757; BOEM-2023-0030-0936; BOEM-2023-0030-1003; BOEM-2023-0030-0993;

Form Letter 5

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Form Letter 5

2023-0030-1212; BOEM-2023-0030-1094; BOEM-2023-0030-1059; BOEM-2023-0030-1004; BOEM-2023-0030-1034; BOEM-2023-0030-0832; BOEM-2023-0030-1132; BOEM-2023-0030-1120; BOEM-2023-0030-1126; BOEM-2023-0030-1020; BOEM-2023-0030-1084; BOEM-2023-0030-0668; BOEM-2023-0030-0785; BOEM-2023-0030-1013; BOEM-2023-0030-1098; BOEM-2023-0030-0986; BOEM-2023-0030-1166; BOEM-2023-0030-1190; BOEM-2023-0030-1185; BOEM-2023-0030-0742; BOEM-2023-0030-1076; BOEM-2023-0030-1326; BOEM-2023-0030-0733; BOEM-2023-0030-0975; BOEM-2023-0030-1164; BOEM-2023-0030-0945; BOEM-2023-0030-0821; BOEM-2023-0030-1410; BOEM-2023-0030-0902; BOEM-2023-0030-1070; BOEM-2023-0030-0648; BOEM-2023-0030-1002; BOEM-2023-0030-1195; BOEM-2023-0030-0974; BOEM-2023-0030-1100; BOEM-2023-0030-1236; BOEM-2023-0030-1009; BOEM-2023-0030-1209; BOEM-2023-0030-1275; BOEM-2023-0030-1191; BOEM-2023-0030-1323; BOEM-2023-0030-1054; BOEM-2023-0030-0946; BOEM-2023-0030-0882; BOEM-2023-0030-0676; BOEM-2023-0030-1071; BOEM-2023-0030-1183; BOEM-2023-0030-0639; BOEM-2023-0030-1108; BOEM-2023-0030-1042; BOEM-2023-0030-0956; BOEM-2023-0030-0997; BOEM-2023-0030-1317; BOEM-2023-0030-0988; BOEM-2023-0030-1025; BOEM-2023-0030-0845; BOEM-2023-0030-0896; BOEM-2023-0030-0705; BOEM-2023-0030-0820; BOEM-2023-0030-1370; BOEM-2023-0030-0800; BOEM-2023-0030-0984; BOEM-2023-0030-0682; BOEM-2023-0030-0670; BOEM-2023-0030-1278; BOEM-2023-0030-0672; BOEM-2023-0030-1309; BOEM-2023-0030-1087; BOEM-2023-0030-1430; BOEM-2023-0030-1445; BOEM-2023-0030-0829; BOEM-2023-0030-0657; BOEM-2023-0030-0735; BOEM-2023-0030-0948; BOEM-2023-0030-1093; BOEM-2023-0030-1074; BOEM-2023-0030-1161; BOEM-2023-0030-1270; BOEM-2023-0030-1197; BOEM-2023-0030-1031; BOEM-2023-0030-0957; BOEM-2023-0030-0663; BOEM-2023-0030-0721; BOEM-2023-0030-1231; BOEM-2023-0030-1118; BOEM-2023-0030-1411; BOEM-2023-0030-0658; BOEM-2023-0030-0762; BOEM-2023-0030-1303; BOEM-2023-0030-1427; BOEM-2023-0030-1311; BOEM-2023-0030-0999; BOEM-2023-0030-1387; BOEM-2023-0030-0905; BOEM-2023-0030-0702; BOEM-2023-0030-1840; BOEM-2023-0030-0922; BOEM-2023-0030-0720; BOEM-2023-0030-1426; BOEM-2023-0030-0970; BOEM-2023-0030-1155; BOEM-2023-0030-1447; BOEM-2023-0030-0667; BOEM-2023-0030-1157; BOEM-2023-0030-1092; BOEM-2023-0030-1386; BOEM-2023-0030-1229; BOEM-2023-0030-1105; BOEM-2023-0030-0662.

Table N.8-6. Form Letter 6

Form Letter 6

Specific Pros for the Atlantic Shores DEIS:
Mitigating Climate Change: Offshore wind will significantly curb our greenhouse gas emissions, which will mitigate climate change.

Atlantic Shores has the potential to avoid 5,882,155 metric tons of CO₂ emissions per year, that is the equivalent to 1,279,000 additional passenger vehicles per year, and provide us with total lifetime net emissions of negative (-) 175,032,895 metric tons of CO₂ (Table 3.4.1-7).

Improved Air/Water Quality: BOEM has found that the Atlantic Shores project will have beneficial impacts to overall air and water quality for New Jersey, allowing our communities to breathe easier.

Construction Considerations:

Cabling: Techniques including horizontal directional drilling (HDD), pipe jacking, jack-and-bore methodologies would be utilized to avoid direct surface disturbance. The majority of onshore cable routes are in already developed areas like roads to avoid further impacts to wildlife and vegetation, and are underground to avoid sensitive habitat.

"Cable emplacement impacts would be further minimized by seasonal work window restrictions that avoid construction during periods when sensitive species and life stages would be present in the Project area, as feasible; by using cable installation tools that minimize the area and duration of sediment suspension, as

Form Letter 6

feasible; and by using HDD at the export cable landfall sites to minimize physical disturbance of coastal habitats” (3.5.5-38).

Noise: expected to be short term and localized

"Atlantic Shores would implement 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” (3.5.5-42).

Protections to Wildlife:

Protected and endangered species observers will be onboard all vessels during construction.

Considerations for birds: the turbines are sited to account for the migratory movement of most bird species, and the onshore limit was established to cover onshore habitats used by the species that may be affected by the Project (3.5.3-1). The turbines are beyond the range of the majority of bird species.

Tree clearing is only expected to occur in “urbanized, fragmented landscapes” and have a small footprint. No “major habitat disturbance” is expected from operations and maintenance (pg. 3.5.1-15).

Atlantic Shores will employ a minimization of night-time activities for birds and bats, and the limiting of light to the minimum required for safety during construction (pg. 3.5.1-16).

Ecosystem benefits:

The presence of structures as a result of the turbines will “moderately benefit” many species and can even serve as an artificial reef, bringing in new predators and species to diversify the local area. This is also beneficial to fishermen.

Areas to be Strengthened:

Reducing construction impacts onshore

Cable installation: Construction for the onshore cables include previously environmentally disturbed areas, Allaire State Park, sensitive wetlands and waterway crossings.

Avoid trenching, drilling near sensitive areas, and reroute.

Alternatives to HDD Drilling near environmentally sensitive areas.

Further wetland protections.

Reduction in Onshore & Offshore Emissions from Construction

It's critical that Atlantic Shores reduces its emissions during construction by employing the best available technology for controlling emissions in addition to transportation equipment (vessels) and the “cleanest” sources of energy (least dirty oils).

* Reduction in impacts to The Brigantine National Wilderness Area

Response: BOEM acknowledges your support for responsibly sited and planned offshore wind development. Appendix G, *Mitigation and Monitoring*, Table G-1 details the environmental protection measures that Atlantic

Form Letter 6

Shores has committed to implement. Appendix G, Tables G-2 through G-4 describe additional mitigation and monitoring measures which may result from reviews under environmental statutes. If BOEM decides to approve the COP, the ROD will state which of the additional mitigation and monitoring measures identified in Tables G-2 through G-4 have been adopted and if not, why they were not.

Additional responses to comments within the letter can be found in Sections N.7.3, *Air Quality*, N.7.7, *Birds*, N.7.9, *Finfish Invertebrates, and Essential Fish Habitat*, N.7.13, *Commercial Fisheries and For-Hire Recreational Fishing*, N.7.22, *Project Design Envelope*, and N.7.23, *Mitigation and Monitoring*.

Submission IDs associated with Form Letter 6: BOEM-2023-0030-0616; BOEM-2023-0030-0601; BOEM-2023-0030-0594; BOEM-2023-0030-0878; BOEM-2023-0030-0596; BOEM-2023-0030-0606.

Table N.8-7. Form Letter 7

Form Letter 7

We support responsibly developed offshore wind. We are encouraged to see that research shows that offshore wind supports the conservation of our beloved coast and the animals that call it their home. We want to continue to see research on this topic so we can make sure that offshore wind works for us and all the other creatures that live there.

We need offshore wind to work for our communities, not rich corporations. The Jersey Shore is unique and special. Some of us call it home, some of us visit it frequently. All of us benefit from the tourism and fishing economies and we should continue to benefit when offshore wind comes to our coast.

Some folks are reasonably concerned that the light from the turbines will disturb the local community and the animals that live on the coast. Here's the solution: the Aircraft Detection Lighting Systems (ADLS) can actually minimize light pollution! Turbine lights will still come on at night when an aircraft comes within a certain distance of them, but other than that, we're in the clear.

Response: BOEM acknowledges your support for the Project.

Submission IDs associated with Form Letter 7: BOEM-2023-0030-0517; BOEM-2023-0030-0515; BOEM-2023-0030-0518; BOEM-2023-0030-0506; BOEM-2023-0030-0505; BOEM-2023-0030-0522; BOEM-2023-0030-0519; BOEM-2023-0030-0520; BOEM-2023-0030-0504; BOEM-2023-0030-0507; BOEM-2023-0030-0508; BOEM-2023-0030-0514; BOEM-2023-0030-0523; BOEM-2023-0030-0524; BOEM-2023-0030-0525; BOEM-2023-0030-0509; BOEM-2023-0030-0516; BOEM-2023-0030-0521.

Table N.8-8. Form Letter 8

Form Letter 8

I object to the offshore windmills turbines project on the NJ coast because:

Environmental Impact: The installation and operation of offshore wind farms can have environmental impacts. The construction process involves activities such as seabed preparation, piling, and cable installation, which can disrupt marine ecosystems. The noise generated during construction and operation may also affect marine life, including marine mammals and fish.

Visual Impact: Offshore wind farms are often visible from the coast, and some people consider them visually intrusive. The presence of large turbines in the sea can impact the aesthetics of coastal landscapes, potentially affecting tourism and recreational activities.

Form Letter 8

Bird and Bat Collisions: Offshore wind turbines can pose risks to birds and bats. They may collide with the turbine blades, especially during migration or in areas where there are high concentrations of birds. Studies are being conducted to develop mitigation strategies and identify locations with lower bird and bat populations.

Fishing and Navigation Interference: Offshore wind farms can affect fishing activities and navigation routes. Fishermen may be restricted from accessing certain areas due to the presence of wind turbines, impacting their livelihoods. Additionally, navigation routes for ships and boats may need to be altered, which can result in increased costs and potential conflicts.

Underwater Noise: The construction and operation of offshore wind farms can generate underwater noise that may disturb marine organisms, particularly those that rely on sound for communication or navigation.

Impact on Marine Ecosystems: The physical presence of wind turbine structures and associated infrastructure can create artificial reefs, potentially altering local marine ecosystems. These changes can affect the distribution and behavior of marine species, including fish and invertebrates.

I strongly oppose Off Shore Wind

Response:

More detailed and specific responses to the comments within this letter were addressed by within Sections N.7.5, *Bat*, N.7.7, *Birds*, N.7.9, *Finfish*, *Invertebrates*, and *Essential Fish Habitat*, N.7.10, *Marine Mammals*, N.7.13, *Commercial Fisheries and For-Hire Recreational Fishing*, N.7.18, *Navigation and Vessel Traffic*, and N.7.20, *Recreation and Tourism*.

Submission IDs associated with Form Letter 8: BOEM-2023-0030-0443; BOEM-2023-0030-0414; BOEM-2023-0030-0400; BOEM-2023-0030-0444; BOEM-2023-0030-1934; BOEM-2023-0030-0453.

Table N.8-9. Form Letter 9

Form Letter 9

I request a 90-135 day extension for the public comment period. The DEIS is a whopping 6,200 pages, 4 times longer than Ocean Wind 1 DEIS. We need adequate time to research this massive industrialization of our treasured coast and provide valuable comments.

Response: Publication of the Draft EIS initiated a 45-day comment period, after which BOEM assessed and considered all the comments received in preparation of the Final EIS. BOEM believes that the 45-day comment period provided ample opportunity for public comments. During the comment period BOEM held 4 public meetings. Two meetings were held in person in New Jersey and two were held virtually. The efficiency of the NEPA process is dependent on completing the analysis and making the document available to the public in a timely manner. As described in the NEPA regulations, an agency should commence preparation of an EIS as close as practicable to the time the agency received a proposal so that the Final EIS can contribute to the decision-making process (40 CFR 1502.5).

Submission IDs associated with Form Letter 9: BOEM-2023-0030-0069; BOEM-2023-0030-0091; BOEM-2023-0030-0245; BOEM-2023-0030-0093; BOEM-2023-0030-0340; BOEM-2023-0030-1844; BOEM-2023-0030-1874; BOEM-2023-0030-0082; BOEM-2023-0030-0077; BOEM-2023-0030-0359; BOEM-2023-0030-0357; BOEM-2023-0030-1846; BOEM-2023-0030-0358; BOEM-2023-0030-0080; BOEM-2023-0030-1832; BOEM-2023-0030-0121; BOEM-2023-0030-0119; BOEM-2023-0030-0081; BOEM-2023-0030-0074; BOEM-2023-0030-0338; BOEM-2023-0030-0090; BOEM-2023-0030-0101; BOEM-2023-0030-0348; BOEM-2023-0030-0104; BOEM-2023-0030-0078; BOEM-2023-0030-0368; BOEM-2023-0030-0108; BOEM-2023-0030-0071; BOEM-2023-0030-0354; BOEM-2023-0030-0075; BOEM-2023-0030-0117; BOEM-2023-0030-0342; BOEM-2023-0030-0307.

Table N.8-10. Form Letter 10

Form Letter 10
<p>I am writing on behalf of Save The East Coast, which is comprised of numerous individuals impacted by the Atlantic Shores South offshore wind project.</p>
<p>Due to the sheer size of the Draft Environmental Impact Statement (DEIS) for the Atlantic Shores South offshore wind project, we are respectfully requesting a minimum of a 90-day to 135-day extension of the public comment period so that we can thoroughly review the information and provide valuable comments. The DEIS and its appendices, including the COP itself, total more than 6,200 pages. This amounts to a 4x increase over the length of the DEIS for Ocean Wind 1, which was granted only a minimal and insufficient extension in 2022 of 15 days.</p>
<p>In order for our members to properly respond to the DEIS in a meaningful capacity, we must be provided a reasonable amount of time to prepare our comments. Thank you for your consideration of this request.</p>
<p>Response: Publication of the Draft EIS initiated a 45-day comment period, after which BOEM assessed and considered all the comments received in preparation of the Final EIS. BOEM believes that the 45-day comment period provided ample opportunity for public comments. During the comment period BOEM held 4 public meetings. Two meetings were held in person in New Jersey and two were held virtually. The efficiency of the NEPA process is dependent on completing the analysis and making the document available to the public in a timely manner. As described in the NEPA regulations, an agency should commence preparation of an EIS as close as practicable to the time the agency received a proposal so that the Final EIS can contribute to the decision-making process (40 CFR 1502.5).</p>
<p>Submission IDs associated with Form Letter 10: BOEM-2023-0030-0045; BOEM-2023-0030-1935; BOEM-2023-0030-0318; BOEM-2023-0030-1979; BOEM-2023-0030-0228; BOEM-2023-0030-1908; BOEM-2023-0030-1901; BOEM-2023-0030-1914; BOEM-2023-0030-0242; BOEM-2023-0030-0387; BOEM-2023-0030-0222; BOEM-2023-0030-0327; BOEM-2023-0030-1810; BOEM-2023-0030-0160; BOEM-2023-0030-0231; BOEM-2023-0030-0332; BOEM-2023-0030-0060; BOEM-2023-0030-1872; BOEM-2023-0030-0362; BOEM-2023-0030-0319; BOEM-2023-0030-1885; BOEM-2023-0030-1939; BOEM-2023-0030-0272; BOEM-2023-0030-0234; BOEM-2023-0030-0278; BOEM-2023-0030-0220; BOEM-2023-0030-0251; BOEM-2023-0030-0050; BOEM-2023-0030-0203; BOEM-2023-0030-0192; BOEM-2023-0030-0155; BOEM-2023-0030-0260; BOEM-2023-0030-0211; BOEM-2023-0030-1937; BOEM-2023-0030-0202; BOEM-2023-0030-0201; BOEM-2023-0030-0168; BOEM-2023-0030-0241; BOEM-2023-0030-0173; BOEM-2023-0030-0215; BOEM-2023-0030-1866; BOEM-2023-0030-1897; BOEM-2023-0030-0268; BOEM-2023-0030-0360; BOEM-2023-0030-1831; BOEM-2023-0030-1915; BOEM-2023-0030-0223; BOEM-2023-0030-1919; BOEM-2023-0030-1916; BOEM-2023-0030-0063; BOEM-2023-0030-1899; BOEM-2023-0030-1869; BOEM-2023-0030-0317; BOEM-2023-0030-0183; BOEM-2023-0030-1841; BOEM-2023-0030-1807; BOEM-2023-0030-0058; BOEM-2023-0030-1905; BOEM-2023-0030-0189; BOEM-2023-0030-1943; BOEM-2023-0030-0209; BOEM-2023-0030-0301; BOEM-2023-0030-0246; BOEM-2023-0030-0194; BOEM-2023-0030-0244; BOEM-2023-0030-0336; BOEM-2023-0030-0046; BOEM-2023-0030-0296; BOEM-2023-0030-1986; BOEM-2023-0030-0161; BOEM-2023-0030-0261; BOEM-2023-0030-0124; BOEM-2023-0030-1857; BOEM-2023-0030-0186; BOEM-2023-0030-1859; BOEM-2023-0030-2000; BOEM-2023-0030-0240; BOEM-2023-0030-0311; BOEM-2023-0030-0239; BOEM-2023-0030-1886; BOEM-2023-0030-0320; BOEM-2023-0030-0047; BOEM-2023-0030-1972; BOEM-2023-0030-0143; BOEM-2023-0030-0235; BOEM-2023-0030-0142; BOEM-2023-0030-1828; BOEM-2023-0030-0363; BOEM-2023-0030-0127; BOEM-2023-0030-0167; BOEM-2023-0030-0375; BOEM-2023-0030-0302; BOEM-2023-0030-0200; BOEM-2023-0030-0323; BOEM-2023-0030-1892; BOEM-2023-0030-0221; BOEM-2023-0030-1849; BOEM-2023-0030-0249; BOEM-2023-0030-0187; BOEM-2023-0030-0292; BOEM-2023-0030-1907; BOEM-2023-0030-2010; BOEM-2023-0030-0331; BOEM-2023-0030-0326; BOEM-2023-0030-0258; BOEM-2023-0030-1876; BOEM-2023-0030-1860; BOEM-2023-0030-0257; BOEM-2023-0030-1891; BOEM-2023-0030-0206; BOEM-2023-0030-1994; BOEM-2023-0030-1890; BOEM-2023-0030-0303; BOEM-2023-0030-0271; BOEM-2023-0030-0066; BOEM-2023-0030-0176; BOEM-2023-0030-1917; BOEM-2023-0030-0262; BOEM-2023-0030-0130; BOEM-2023-0030-0065; BOEM-2023-0030-0264; BOEM-2023-0030-0286; BOEM-2023-0030-0190; BOEM-2023-0030-0312; BOEM-2023-0030-1855; BOEM-2023-0030-0137; BOEM-2023-0030-1962; BOEM-2023-0030-0133; BOEM-2023-</p>

Form Letter 10

0030-1880; BOEM-2023-0030-0191; BOEM-2023-0030-1976; BOEM-2023-0030-0291; BOEM-2023-0030-0179; BOEM-2023-0030-0057; BOEM-2023-0030-0383; BOEM-2023-0030-0128; BOEM-2023-0030-0250; BOEM-2023-0030-1882; BOEM-2023-0030-0144; BOEM-2023-0030-1879; BOEM-2023-0030-1980; BOEM-2023-0030-0154; BOEM-2023-0030-1836; BOEM-2023-0030-1852; BOEM-2023-0030-0140; BOEM-2023-0030-0188; BOEM-2023-0030-0265; BOEM-2023-0030-0170; BOEM-2023-0030-1989; BOEM-2023-0030-1932; BOEM-2023-0030-0164; BOEM-2023-0030-0266; BOEM-2023-0030-0175; BOEM-2023-0030-1999; BOEM-2023-0030-0218; BOEM-2023-0030-0247; BOEM-2023-0030-1904; BOEM-2023-0030-1838; BOEM-2023-0030-0253; BOEM-2023-0030-0174; BOEM-2023-0030-0287 BOEM-2023-0030-1906; BOEM-2023-0030-0290; BOEM-2023-0030-1913; BOEM-2023-0030-0282; BOEM-2023-0030-0208; BOEM-2023-0030-0299; BOEM-2023-0030-0157; BOEM-2023-0030-0148; BOEM-2023-0030-0284; BOEM-2023-0030-0217; BOEM-2023-0030-1887; BOEM-2023-0030-0232; BOEM-2023-0030-0367; BOEM-2023-0030-0126; BOEM-2023-0030-1900; BOEM-2023-0030-0123; BOEM-2023-0030-0295; BOEM-2023-0030-0229; BOEM-2023-0030-0304; BOEM-2023-0030-1912; BOEM-2023-0030-0254; BOEM-2023-0030-0180; BOEM-2023-0030-1839; BOEM-2023-0030-1877; BOEM-2023-0030-1924; BOEM-2023-0030-0059; BOEM-2023-0030-0172; BOEM-2023-0030-0147; BOEM-2023-0030-0052; BOEM-2023-0030-0243; BOEM-2023-0030-0276; BOEM-2023-0030-1848; BOEM-2023-0030-0193; BOEM-2023-0030-1894; BOEM-2023-0030-0289; BOEM-2023-0030-1867; BOEM-2023-0030-0150; BOEM-2023-0030-1920; BOEM-2023-0030-1845; BOEM-2023-0030-0136; BOEM-2023-0030-1923; BOEM-2023-0030-0270; BOEM-2023-0030-0283; BOEM-2023-0030-0151; BOEM-2023-0030-0273; BOEM-2023-0030-0335; BOEM-2023-0030-0163; BOEM-2023-0030-0333; BOEM-2023-0030-0219; BOEM-2023-0030-0329; BOEM-2023-0030-1854; BOEM-2023-0030-1893; BOEM-2023-0030-0263; BOEM-2023-0030-1873; BOEM-2023-0030-0369; BOEM-2023-0030-1865; BOEM-2023-0030-1850; BOEM-2023-0030-1883; BOEM-2023-0030-1870; BOEM-2023-0030-1842; BOEM-2023-0030-0281; BOEM-2023-0030-1875; BOEM-2023-0030-1884; BOEM-2023-0030-1833; BOEM-2023-0030-1983; BOEM-2023-0030-0294; BOEM-2023-0030-1830; BOEM-2023-0030-1898; BOEM-2023-0030-0048; BOEM-2023-0030-1853; BOEM-2023-0030-0316; BOEM-2023-0030-0256; BOEM-2023-0030-0149; BOEM-2023-0030-0185; BOEM-2023-0030-0195; BOEM-2023-0030-1861; BOEM-2023-0030-1918; BOEM-2023-0030-1988; BOEM-2023-0030-0196; BOEM-2023-0030-0135; BOEM-2023-0030-0064; BOEM-2023-0030-0274; BOEM-2023-0030-1895; BOEM-2023-0030-1903; BOEM-2023-0030-1863; BOEM-2023-0030-0280; BOEM-2023-0030-0212; BOEM-2023-0030-1922; BOEM-2023-0030-0325; BOEM-2023-0030-0062; BOEM-2023-0030-1921; BOEM-2023-0030-1829; BOEM-2023-0030-1948; BOEM-2023-0030-0236; BOEM-2023-0030-1902; BOEM-2023-0030-1816; BOEM-2023-0030-0152; BOEM-2023-0030-0238; BOEM-2023-0030-0210; BOEM-2023-0030-0153; BOEM-2023-0030-1868; BOEM-2023-0030-1847; BOEM-2023-0030-0259; BOEM-2023-0030-0139; BOEM-2023-0030-0131; BOEM-2023-0030-0184; BOEM-2023-0030-1888; BOEM-2023-0030-1871; BOEM-2023-0030-0132; BOEM-2023-0030-1858; BOEM-2023-0030-0178; BOEM-2023-0030-0162; BOEM-2023-0030-1910; BOEM-2023-0030-1827; BOEM-2023-0030-1990; BOEM-2023-0030-1911; BOEM-2023-0030-1862; BOEM-2023-0030-0205; BOEM-2023-0030-0214; BOEM-2023-0030-0141; BOEM-2023-0030-0156; BOEM-2023-0030-1843; BOEM-2023-0030-0328; BOEM-2023-0030-0171; BOEM-2023-0030-0225; BOEM-2023-0030-1941; BOEM-2023-0030-0381; BOEM-2023-0030-0237; BOEM-2023-0030-1909; BOEM-2023-0030-1834; BOEM-2023-0030-0169; BOEM-2023-0030-0277; BOEM-2023-0030-1825; BOEM-2023-0030-0230; BOEM-2023-0030-0300; BOEM-2023-0030-0269; BOEM-2023-0030-1851; BOEM-2023-0030-1878; BOEM-2023-0030-1896; BOEM-2023-0030-0248; BOEM-2023-0030-1951; BOEM-2023-0030-0145; BOEM-2023-0030-0366; BOEM-2023-0030-0324; BOEM-2023-0030-1856; BOEM-2023-0030-2006; BOEM-2023-0030-0279; BOEM-2023-0030-0285; BOEM-2023-0030-1889; BOEM-2023-0030-0315; BOEM-2023-0030-0197; BOEM-2023-0030-0122.

Table N.8-11. Form Letter 11

Form Letter 10

Requesting a 90 extension

The Draft Environmental Impact Statement is 2,282 pages long. It includes 122 pages of cited references. Let's assume each study in the references averages 10 pages long. That's another 1,220 pages to read. The report is highly technical information that many of us are unfamiliar with, so reading it will require a lot of concentration

Form Letter 10

and focus. Add in 10 days of writing your thoughts down on paper throughout your review. Responses are due July 3rd! If you want to speak at the public input session in AC, you must be ready by June 21. If you spent 8 hours every day from May 15 until the June 22 meeting in AC, you would need to read and understand over 100 pages of technical information/ day, 7 days a week.

Only allowing this short amount of time for the public to read and digest this report is an assault to our democratic society.

Response: Publication of the Draft EIS initiated a 45-day comment period, after which BOEM assessed and considered all the comments received in preparation of the Final EIS. BOEM believes that the 45-day comment period provided ample opportunity for public comments. During the comment period BOEM held 4 public meetings. Two meetings were held in person in New Jersey and two were held virtually. The efficiency of the NEPA process is dependent on completing the analysis and making the document available to the public in a timely manner. As described in the NEPA regulations, an agency should commence preparation of an EIS as close as practicable to the time the agency received a proposal so that the Final EIS can contribute to the decision-making process (40 CFR 1502.5).

Submission IDs associated with Form Letter 11: BOEM-2023-0030-1864; BOEM-2023-0030-1840.

Table N.8-12. Form Letter 12

Form Letter 12

As climate change worsens and we continue to feel its effects through wildfires, hazy air, and flooding, New Jersey needs to take the necessary action on climate and transition to clean energy sources like offshore wind. At the same time, we must ensure that the project and New Jersey's clean energy transition is as environmentally responsible and sustainable as possible. We need to hold Atlantic Shores accountable and let them know that although we support wind, it needs to be done correctly and responsibly.

Response: BOEM acknowledges your support of clean energy sources. BOEM has worked diligently to provide as much information as is possible, under current regulatory guidance, using the best available data and information that reflect the state of the science at the time of publication of the EIS. In this way, the decision maker will consider the best available science when weighing whether to approve, approve with modifications, or disapprove the COP. If approved, applicant-proposed and agency proposed mitigation measures incorporated into the Record of Decision for the EIS are enforceable.

Submission IDs associated with Form Letter 12: BOEM-2023-0030-1601; BOEM-2023-0030-1603; BOEM-2023-0030-1602.

Table N.8-13. Form Letter 13

Form Letter 13

I'm Brigantine Resident opposed to wind turbines because:

*Only 9 miles out-negative affects on health due to infrasound

*Opposed to size& #turbines

&concerned w/power cables; light pollution&electromagnetic field all will produce; affect on ship navigation systems; National Security risk if interfere w/this & Air traffic control.

*If made to rely on this for energy will create National security risk as others who wish to invade us can easily take out our power;severe consequences leaving us vulnerable

*Irreversible damage to ecosystem w/pile driving into shelf

*Damages oceanic environment which when healthy contributes to reduction in c02

*Ridiculously expensive, rely on fossil fuel for operations&maint.-uses sf6-worst green house gas known

*Short lifespan of turbines&amt of oil needed for each

Form Letter 13

- *Benefits foreign nations w/subsidies Am.taxes pay for
- *Too many unknowns. Workings of turbines cause warming of water-not clear impact will have to worsen tidal flooding during storms
- *With cables and turbines present this will affect ability to properly replenish beaches jeopardizing human life, property& tourism
- *Destruction of fisheries&livelihood of NJ fishermen
- *Affect on protected Right Whale, other whales, dolphins, sealife-UME of mammals along NJ coast during mapping shouldn't be ignored
- *Gov. Murphy amended the NJ constitution during pandemic while Am. distracted&signed bill forbidding municipalities from fighting it. He has personal financial interest in it
- *Disturbs my peace(walk beaches @sunrise/sunset praying enjoying view which this destroys along with reducing my property value)
- *We pay price while China, India and Russia continue to more than double our carbon emissions. Increase in cost will be passed onto taxpayers. Everyone is afraid to say nuclear-Get a spine!

Stop turbine development now

Choose to:

Protect ecosystem

Protect country from becoming vulnerable to invasion

Protect fish,boating,tourism

Protect health,peace&future of planet Protect God's creatures-clearly dying

Response: More detailed and specific comments were provided on many of these topics and are addressed by topic area in Section N.6 and Section N.7.

Submission IDs associated with Form Letter 13: BOEM-2023-0030-0624; BOEM-2023-0030-0510.

Table N.8-14. Form Letter 14

Form Letter 14 (BOEM-2023-0030-1488)

I strongly oppose the Atlantic Shores Offshore Wind project. Below is a list of concerns that need to be addressed before this project moves forward.

Whales & Underwater Noise.

Based on measured trends of noise vs turbine power, and acoustics company analysis, underwater noise levels from the operation of the new, large gearbox turbines will extend many miles from the wind complex at elevated levels above 130 decibels, carrying a 90% chance that the whales will avoid the noise, likely blocking their migrations. Not addressed in draft

Audible and infrasonic noise to persons at the shore is expected from turbine operation, exceeding the New Jersey night time residential standard of 50 decibels, not addressed in the EIS.

Other Shore Conditions, Reduced breeze, about 26%, wave, and higher temperature and humidity at the shore, are expected based on a BOEM study for NY, no study done for NJ, not addressed in the EIS.

Cumulative Shore Experience: Combined effect of visible and rotating turbines, audible noise, reduced breeze, and higher air temperature on the shore experience and economy not addressed in EIS

Defense Radars in Gibbsboro. No explanation provided in the draft EIS for the DOD "exclusion zone" in the lease area off LBI. Potential interference by the wind turbine complex with our military air radars in Gibbsboro, New

Form Letter 14 (BOEM-2023-0030-1488)

Jersey, that look out over the ocean for unwanted aircraft in support of the NORAD system, not mentioned in EIS.

Navigation Risk, a unique NJ situation- turbines close in and farther out in the NY Bight-will cause the channeling of all commercial and military vessels into a 9-mile- wide strip between the NJ lease area and the Hudson South area, which also happens to be a migration corridor for the endangered right whale. Marine radars potentially compromised by turbines on both sides. Risk analysis in EIS but not for 9-mile-wide concentration.

The Piping Plover, risk of crossing the wind complex to get to nesting grounds in Holgate not addressed in draft EIS.

Hurricane Risk. No analysis in the draft EIS of hurricane risk to turbine structures

Decommissioning. No analysis in the draft EIS of decommissioning impact, even for a single turbine as illustrative, nor even the technical feasibility of doing it, and no binding, enforceable, penalty mechanism for the European companies to actually do it when the time comes.

Recent Whale and Dolphin Deaths, notwithstanding evidence of connection with the vessel surveys being conducted in our recent lawsuit, no analysis in the draft EIS of the recent spike in whale and dolphin deaths.

Climate Change Benefit, often cited but never specified. Based on International Science Reports the only effect on sea level rise from the project will be a 9-day future delay in whatever rise is coming.

Visible Turbine Impact, creates a dominant visual effect on a viewer, amplified by the rotating blades which may cause beach goers to turn away. Rotation not addressed; stationary turbines use inappropriate visibility frequency data from an inland site.

Response: More detailed and specific responses to the comments within this letter were addressed by topic within Sections N.6.17, *Land Use and Coastal Infrastructure* (see BOEM-0030-1488-0003), N.6.20, *Recreation and Tourism* (see BOEM-2023-0030-1488-0004), and N.6.22, *Project Design Envelope* (see comment BOEM-2023-0030-1488-0010), N.7.3, *Air Quality*, N.6.7, *Birds* (see comment BOEM-2023-0030-1488-0007), N.7.10, *Marine Mammals*, N.7.17, *Land Use and Coastal Infrastructure*, N.7.18, *Navigation and Vessel Traffic*, N.7.19, *Other Uses*, and N.7.21, *Scenic and Visual Resources*.

Submission IDs associated with Form Letter 14: BOEM-2023-0030-1488; BOEM-2023-0030-1490; BOEM-2023-0030-1501; BOEM-2023-0030-1457; BOEM-2023-0030-1492.

N.9 List of Commenters by Commenter Type and Submission Number

Table N.9-1. Federal Agencies

Submission No.	Agency
BOEM-2023-0030-0925	U.S. Fish and Wildlife Service
BOEM-2023-0030-1223	Mid-Atlantic and New England Fishery Management Councils
BOEM-2023-0030-1240	U.S. Environmental Protection Agency
BOEM-2023-0030-1811	National Marine Fisheries Service
BOEM-2023-0030-1813	U.S. National Park Service

Table N.9-2. Tribes and Native Organizations

Submission No.	Tribe or Native Organization
BOEM-2023-0030-1819	Wampanoag Tribe of Gay Head (Aquinnah)

Table N.9-3. State Agencies

Submission No.	Agency
BOEM-2023-0030-1477	New Jersey Economic Development Authority
BOEM-2023-0030-1538	New Jersey Department of Environmental Protection
BOEM-2023-0030-2015	New Jersey Department of Environmental Protection, Historic Preservation Office

Table N.9-4. Local Government/Agencies

Submission No.	Government/Agency
BOEM-2023-0030-0391	Long Beach Township
BOEM-2023-0030-1404	City Of Brigantine
BOEM-2023-0030-1466	Cape May County
BOEM-2023-0030-1518	Long Beach Township
BOEM-2023-0030-1523	Cape May County
BOEM-2023-0030-1540	City of Summit Environmental Commission
BOEM-2023-0030-1731	Borough of Point Pleasant Beach
BOEM-2023-0030-1755	Cape May County
BOEM-2023-0030-1764	Borough of Seaside Park
BOEM-2023-0030-1807	Long Beach Township
BOEM-2023-0030-1816	City of Brigantine
BOEM-2023-0030-1818	Borough of Seaside Park
BOEM-2023-0030-1820	Atlantic County Board of Commissioners
BOEM-2023-0030-2014	Borough of Seaside Park

Table N.9-5. Elected Official

Submission No.	Official	Title/Office
BOEM-2023-0030-1245	Christopher Smith	U.S. Congressman, NJ 4 th Congressional District
BOEM-2023-0030-1822	Vince Polistina, Don Guardian, Claire Swift	State Senator, Assemblyman, Assemblywoman, NJ 2 nd Legislative District

Table N.9-6. Lessee

Submission No.	Lessee
BOEM-2023-0030-1226	Atlantic Shores Offshore Wind, LLC

Table N.9-7. Businesses and Organizations

Submission No.	Business or Organization
BOEM-2023-0030-0112	Save Long Beach Island, Inc.
BOEM-2023-0030-0457	NJ Alliance for Action
BOEM-2023-0030-0582	Sandyhook Sealife Foundation
BOEM-2023-0030-0586	Clean Ocean Action
OEM-2023-0030-0587	Clean Ocean Action
BOEM-2023-0030-0752	Sierra Club New Jersey Chapter
BOEM-2023-0030-0887	Middlesex County Democratic Organization
BOEM-2023-0030-0916	Save Long Beach Island, Inc.
BOEM-2023-0030-0924	Sierra Club NJ
BOEM-2023-0030-1169	Chamber of Commerce Southern New Jersey
BOEM-2023-0030-1250	Clean Ocean Action
BOEM-2023-0030-1257	National Wildlife Federation, Environment New Jersey, New Jersey League of Conservation Voters, et al.
BOEM-2023-0030-1339	Responsible Offshore Development Alliance
BOEM-2023-0030-1382	MAREC Action
BOEM-2023-0030-1405	The American Waterways Operators
BOEM-2023-0030-1439	Eastern Diveboat Association
BOEM-2023-0030-1486	New Jersey League of Conservation Voters
BOEM-2023-0030-1516	Defend Brigantine Beach Inc.
BOEM-2023-0030-1527	New Jersey Business & Industry Association
BOEM-2023-0030-1536	Garden State Seafood Association
BOEM-2023-0030-1537	Save LBI, Save the East Coast
BOEM-2023-0030-1542	Surfrider Foundation
BOEM-2023-0030-1556	National Wildlife Federation, National Audubon Society, New Jersey Audubon, et al.
BOEM-2023-0030-1557	Save Long Beach Island, Inc.
BOEM-2023-0030-1574	Greater Toms River Chamber of Commerce
BOEM-2023-0030-1581	Fishermans Dock Co-operative
BOEM-2023-0030-1599	New Jersey Wind Works Coalition
BOEM-2023-0030-1606	Clean Ocean Action
BOEM-2023-0030-1609	Environment New Jersey
BOEM-2023-0030-1611	Protect our Coast
BOEM-2023-0030-1617	Save Our Coast
BOEM-2023-0030-1627	Defend Brigantine Beach Community
BOEM-2023-0030-1660	Sandy Hook Sealife Foundation
BOEM-2023-0030-1671	Sandy Hook Sealife Foundation

Submission No.	Business or Organization
BOEM-2023-0030-1680	Save LBI
BOEM-2023-0030-1689	Responsible Offshore Development Alliance
BOEM-2023-0030-1718	Pinelands Preservation Alliance
BOEM-2023-0030-1719	Unitarian Universalist Faith Action
BOEM-2023-0030-1728	Clean Ocean Action
BOEM-2023-0030-1730	Tri-County Sustainability
BOEM-2023-0030-1732	Sierra Club, New Jersey
BOEM-2023-0030-1735	New Jersey Sustainable Business Council
BOEM-2023-0030-1739	Holgate Tax Payers Association
BOEM-2023-0030-1744	Surfrider Foundation
BOEM-2023-0030-1751	Clean Ocean Action
BOEM-2023-0030-1757	New Jersey League of Conservation Voters
BOEM-2023-0030-1770	Clean Water Action
BOEM-2023-0030-1777	Climate Reality Project, New Jersey Chapter
BOEM-2023-0030-1778	New Jersey League of Conservation Voters
BOEM-2023-0030-1779	Unitarian Universalist Faith Action
BOEM-2023-0030-1785	Consumers Helping Affect Regulation of Gas and Electric (CHARGE)
BOEM-2023-0030-1787	Clean Ocean Action
BOEM-2023-0030-1792	New Jersey Environmental Lobby (NJEL)
BOEM-2023-0030-1795	Sierra Club, New Jersey
BOEM-2023-0030-1796	Business Network For Offshore Wind
BOEM-2023-0030-1799	Association of New Jersey Environmental Commissions
BOEM-2023-0030-1800	Clean Water Action
BOEM-2023-0030-1804	Southern New Jersey Development Council
BOEM-2023-0030-1806	African American Chamber of Commerce of NJ
BOEM-2023-0030-1812	St. Leonard's Association
BOEM-2023-0030-1814	Sandy Hook Sea Life Foundation (SSF)
BOEM-2023-0030-1815	New Jersey Council of Divers and Clubs
BOEM-2023-0030-1817	Metropolitan Business and Citizens Association (MBCA)
BOEM-2023-0030-1821	Business Network for Offshore Wind
BOEM-2023-0030-2002	Brant Beach Taxpayers Association
BOEM-2023-0030-0003	ECONcrete
BOEM-2023-0030-0547	Allied Printing & Graphics Co. Inc., Dom Pascarella
BOEM-2023-0030-0996	Orsted Wind Power North America LLC
BOEM-2023-0030-1038	New Bedford Port Authority

Submission No.	Business or Organization
BOEM-2023-0030-1135	Vestas
BOEM-2023-0030-1215	EDF Renewables
BOEM-2023-0030-1423	Phoenix Power Group
BOEM-2023-0030-1517	Seaway7
BOEM-2023-0030-1545	Shell New Energies US LLC
BOEM-2023-0030-1564	Vacation Rentals Jersey Shore, LLC
BOEM-2023-0030-1578	Surfside Foods, LLC
BOEM-2023-0030-1596	Fugro
BOEM-2023-0030-1640	White Whale Motel
BOEM-2023-0030-1694	Lund's Fisheries
BOEM-2023-0030-1768	New Bedford Port Authority
BOEM-2023-0030-1797	LaMonica Fine Foods
BOEM-2023-0030-1809	Yank Marine Inc.

Table N.9-8. Individuals

Submission No.	Commenter
BOEM-2023-0030-0002	Terri Matthews
BOEM-2023-0030-0004	Susan Kinsella
BOEM-2023-0030-0007	Penelope Campbell
BOEM-2023-0030-0008	Wendy McCrann
BOEM-2023-0030-0009	John Mcgough
BOEM-2023-0030-0010	T H
BOEM-2023-0030-0011	Bee Marinelli
BOEM-2023-0030-0012	Jeff P
BOEM-2023-0030-0013	Mary McGough
BOEM-2023-0030-0014	K Glen
BOEM-2023-0030-0016	Les Zan
BOEM-2023-0030-0017	Joy Brown
BOEM-2023-0030-0018	Patty Shindledecker
BOEM-2023-0030-0019	Ronna Pomykacz
BOEM-2023-0030-0020	Kelly Ann Foster
BOEM-2023-0030-0021	Bernadette Daisey
BOEM-2023-0030-0022	Leonora May
BOEM-2023-0030-0023	Kelan Vorbach
BOEM-2023-0030-0024	Marc Mataloni
BOEM-2023-0030-0025	Alec Wademan

Submission No.	Commenter
BOEM-2023-0030-0026	Michelle Leo
BOEM-2023-0030-0027	Jack Lest
BOEM-2023-0030-0028	Lori Untermeyer
BOEM-2023-0030-0029	Christine Mazzulo
BOEM-2023-0030-0031	Carol Sziklay
BOEM-2023-0030-0032	Roseann Ambrosio
BOEM-2023-0030-0034	Diane Snelson
BOEM-2023-0030-0037	Alison Shumway
BOEM-2023-0030-0038	Michael Edge
BOEM-2023-0030-0039	Dee W
BOEM-2023-0030-0041	Patrice Krivulka
BOEM-2023-0030-0042	Kathleen Allocca
BOEM-2023-0030-0043	Diane Kerrigan
BOEM-2023-0030-0044	Stephanie Harold
BOEM-2023-0030-0045	Marie O'Neill
BOEM-2023-0030-0049	Ian Glennen
BOEM-2023-0030-0051	Robert Maryott
BOEM-2023-0030-0053	Annette Lare
BOEM-2023-0030-0055	Kathleen Miklosey
BOEM-2023-0030-0056	Stacey KrpDiem
BOEM-2023-0030-0061	John Reilly
BOEM-2023-0030-0067	Fred Soper
BOEM-2023-0030-0068	Trevor Doyle
BOEM-2023-0030-0069	Lauren Komanitsky
BOEM-2023-0030-0070	Deb Cramer
BOEM-2023-0030-0072	Penelope Campbell
BOEM-2023-0030-0073	Joanne Andreatch
BOEM-2023-0030-0076	Ronald Brooks
BOEM-2023-0030-0079	Stephen Spagnuola
BOEM-2023-0030-0083	Dana Veronica
BOEM-2023-0030-0084	Dennis Koski
BOEM-2023-0030-0086	Lee Evans
BOEM-2023-0030-0087	Susan Glemser
BOEM-2023-0030-0089	Jacqui Delario
BOEM-2023-0030-0092	Denise Steere

Submission No.	Commenter
BOEM-2023-0030-0094	D Balara
BOEM-2023-0030-0095	Nancy Hollingsworth
BOEM-2023-0030-0096	Leonora May
BOEM-2023-0030-0097	Dennis DeForest
BOEM-2023-0030-0098	Sally Stang
BOEM-2023-0030-0099	Diane Dziedzic
BOEM-2023-0030-0102	Frank Savannah
BOEM-2023-0030-0103	Mary Schaeffer
BOEM-2023-0030-0105	Kathleen Miklosey
BOEM-2023-0030-0107	MaryAnne Reinert
BOEM-2023-0030-0109	Carolyn Collins
BOEM-2023-0030-0110	Susan Zuppardi
BOEM-2023-0030-0111	Donna Jensen
BOEM-2023-0030-0113	Susan Nolan
BOEM-2023-0030-0114	Patti Deroo
BOEM-2023-0030-0116	Carol Cowden
BOEM-2023-0030-0118	Lee Evans
BOEM-2023-0030-0120	Carlo Mucci
BOEM-2023-0030-0125	Jim Horn
BOEM-2023-0030-0129	Richard Bertsch
BOEM-2023-0030-0134	Gwen OConnor
BOEM-2023-0030-0138	MaryAnne Reinert
BOEM-2023-0030-0158	Penelope Penny, Campbell Campbell
BOEM-2023-0030-0159	Henri Douvry
BOEM-2023-0030-0165	Bobbi Carstens
BOEM-2023-0030-0166	Carolyn Bucci
BOEM-2023-0030-0177	Ian Glennen
BOEM-2023-0030-0181	Carmela Addimandi
BOEM-2023-0030-0182	Rita Sanchez
BOEM-2023-0030-0198	Mary Ann Verdeschi
BOEM-2023-0030-0213	James Binder
BOEM-2023-0030-0216	Alfred Campbell
BOEM-2023-0030-0224	Robert Hanley
BOEM-2023-0030-0226	Barbara Mello
BOEM-2023-0030-0227	Barbara Mello

Submission No.	Commenter
BOEM-2023-0030-0233	Kathleen Harper
BOEM-2023-0030-0252	Laura Loetz
BOEM-2023-0030-0255	Anthony Rimikis
BOEM-2023-0030-0267	Michael Dean
BOEM-2023-0030-0275	Cynthia Kondratuk
BOEM-2023-0030-0293	Lawrence Aydelotte
BOEM-2023-0030-0297	Cynthia Roche
BOEM-2023-0030-0305	Nancy Hesser
BOEM-2023-0030-0306	Justin Hallam
BOEM-2023-0030-0308	Kathryn Bizzarro
BOEM-2023-0030-0309	Linda Ciccarelli
BOEM-2023-0030-0310	Kathleen McNamee
BOEM-2023-0030-0314	Stephanie Harold
BOEM-2023-0030-0321	Margaret Bagley
BOEM-2023-0030-0322	Susan Glemser
BOEM-2023-0030-0330	Chris Fretz
BOEM-2023-0030-0334	Dina Hays
BOEM-2023-0030-0337	Laura Hemenway
BOEM-2023-0030-0339	Keri Farley
BOEM-2023-0030-0341	Emily Jackson
BOEM-2023-0030-0344	Margaret Clymer
BOEM-2023-0030-0345	Yvonne Mucci
BOEM-2023-0030-0346	Colleen Black
BOEM-2023-0030-0347	Lee Mann
BOEM-2023-0030-0349	Mary Lou Malone
BOEM-2023-0030-0350	Brenda Cantwell
BOEM-2023-0030-0352	Carlo Mucci
BOEM-2023-0030-0353	Joanne Forman
BOEM-2023-0030-0355	Capt Sukhpal Singh
BOEM-2023-0030-0361	Meghan Potkay
BOEM-2023-0030-0364	Donna Balara
BOEM-2023-0030-0365	Jan Sloat
BOEM-2023-0030-0371	Jamie Steiert
BOEM-2023-0030-0372	Elizabeth Quattrochi
BOEM-2023-0030-0373	Jaime Costanzo

Submission No.	Commenter
BOEM-2023-0030-0374	Robert Colleary
BOEM-2023-0030-0378	Carl van Warmerdam
BOEM-2023-0030-0379	Sue Right
BOEM-2023-0030-0380	Diane Pugliese
BOEM-2023-0030-0382	John McMaster
BOEM-2023-0030-0384	Maria Gerdy
BOEM-2023-0030-0385	Maria Gerdy
BOEM-2023-0030-0386	Maria Gerdy
BOEM-2023-0030-0388	P D
BOEM-2023-0030-0389	Responsible Taxpayer
BOEM-2023-0030-0390	Carolyn Kaschak
BOEM-2023-0030-0392	Scott Bruinooge
BOEM-2023-0030-0393	Donna Rausa
BOEM-2023-0030-0394	Christy Booth
BOEM-2023-0030-0395	Allison Hudak
BOEM-2023-0030-0396	Dena Nunez
BOEM-2023-0030-0398	Patty Shindledecker
BOEM-2023-0030-0399	Janice Manzolillo
BOEM-2023-0030-0401	Carol Perri
BOEM-2023-0030-0402	Patrice Krivulka
BOEM-2023-0030-0403	Rae Powell
BOEM-2023-0030-0404	Summer Kabourakis
BOEM-2023-0030-0405	Darren Holland
BOEM-2023-0030-0407	Mary Moyer
BOEM-2023-0030-0408	AskMrFrisky.Org
BOEM-2023-0030-0409	Lee Evans
BOEM-2023-0030-0410	Trudy Getler
BOEM-2023-0030-0411	Susan Roszak
BOEM-2023-0030-0412	Wendy Carty
BOEM-2023-0030-0413	Linda Ciccarelli
BOEM-2023-0030-0415	Birdie Wiskit
BOEM-2023-0030-0417	Melanie Irving
BOEM-2023-0030-0418	Sharon McNeill
BOEM-2023-0030-0420	Jason Riley
BOEM-2023-0030-0421	Dennis DeForest

Submission No.	Commenter
BOEM-2023-0030-0422	Tim Yu
BOEM-2023-0030-0423	Coreen Onnembo-DiLea
BOEM-2023-0030-0424	Joyce Newland
BOEM-2023-0030-0425	Lorrie Gross
BOEM-2023-0030-0426	Carol Berman
BOEM-2023-0030-0427	Ed Dwyer
BOEM-2023-0030-0428	Steve DeMarco
BOEM-2023-0030-0429	MaryAnna Forman
BOEM-2023-0030-0430	Stephenie Dogan
BOEM-2023-0030-0431	Bonnie Disalvo
BOEM-2023-0030-0432	Keith Gallagher
BOEM-2023-0030-0433	James Swomley
BOEM-2023-0030-0435	Stephanie Benfatti
BOEM-2023-0030-0436	Ann Trethewey
BOEM-2023-0030-0437	Cynthia Hanscom
BOEM-2023-0030-0438	Theresa Dugan
BOEM-2023-0030-0439	Leo Pro
BOEM-2023-0030-0440	Diane Kerrigan
BOEM-2023-0030-0442	Carol Venon-Palino
BOEM-2023-0030-0443	Eddie Brown
BOEM-2023-0030-0445	Linda Germanis
BOEM-2023-0030-0446	ALBERT TORJMAN
BOEM-2023-0030-0448	Brittany DeClementi
BOEM-2023-0030-0448	Brittany DeClementi
BOEM-2023-0030-0449	Sandra Bowman
BOEM-2023-0030-0452	Anna Murdock
BOEM-2023-0030-0454	Dee Med
BOEM-2023-0030-0455	Carol Sziklay
BOEM-2023-0030-0456	Kathleen Miklosey
BOEM-2023-0030-0458	Nadine Bernard
BOEM-2023-0030-0459	LoriAnn DeForest
BOEM-2023-0030-0462	Carolyn Collins
BOEM-2023-0030-0463	Peter B
BOEM-2023-0030-0464	Penelope Campbell
BOEM-2023-0030-0465	Tar P

Submission No.	Commenter
BOEM-2023-0030-0466	Kristin Reichey
BOEM-2023-0030-0467	Lee Evans
BOEM-2023-0030-0468	Thom B
BOEM-2023-0030-0469	Margaret Bagley
BOEM-2023-0030-0470	Carmela Marucci
BOEM-2023-0030-0471	Greg Gerdy
BOEM-2023-0030-0472	Maria Gerdy
BOEM-2023-0030-0473	Maria Gerdy
BOEM-2023-0030-0474	Maria Gerdy
BOEM-2023-0030-0475	Anne Marie Stroup
BOEM-2023-0030-0476	Kelly Ann Foster
BOEM-2023-0030-0477	Patrick McOwen
BOEM-2023-0030-0478	Colleen Speer
BOEM-2023-0030-0479	Keith Wyckoff
BOEM-2023-0030-0480	Cheryl Brown
BOEM-2023-0030-0483	Annette Lofft
BOEM-2023-0030-0484	Maria Gerdy
BOEM-2023-0030-0485	Maria Gerdy
BOEM-2023-0030-0486	L Sellers
BOEM-2023-0030-0487	Leslie Phillips
BOEM-2023-0030-0488	John Dupnock
BOEM-2023-0030-0489	Jason Riley
BOEM-2023-0030-0490	Rose Serowatka
BOEM-2023-0030-0491	Rob McNamara
BOEM-2023-0030-0493	Kelly Hulihan
BOEM-2023-0030-0494	Mary Ann Kozack
BOEM-2023-0030-0496	Marilyn Anthony
BOEM-2023-0030-0497	Jeff Straton
BOEM-2023-0030-0498	Esmerelda Taylor
BOEM-2023-0030-0499	Julie Bliss
BOEM-2023-0030-0500	Jennifer Wimsatt
BOEM-2023-0030-0501	Marjie Bershada
BOEM-2023-0030-0502	EARL WAGNER
BOEM-2023-0030-0503	Alejandro Meseguer
BOEM-2023-0030-0511	Michele Ochsner

Submission No.	Commenter
BOEM-2023-0030-0512	Joseph Kinslow
BOEM-2023-0030-0513	Annette Conticchio
BOEM-2023-0030-0526	Philip Pepe
BOEM-2023-0030-0527	Jeffrey Cameron
BOEM-2023-0030-0528	Lorraine Pilla
BOEM-2023-0030-0529	M Ryan
BOEM-2023-0030-0530	R Tarditi
BOEM-2023-0030-0531	D. Hays
BOEM-2023-0030-0532	S O
BOEM-2023-0030-0533	David Dolan
BOEM-2023-0030-0535	Linda Bonvie
BOEM-2023-0030-0536	Robert Van Norman
BOEM-2023-0030-0537	Joe Pahlow
BOEM-2023-0030-0538	Lauren Racano
BOEM-2023-0030-0540	David Fielding
BOEM-2023-0030-0541	Ellen Pedersen
BOEM-2023-0030-0542	Eleanor Hill
BOEM-2023-0030-0543	Dan Preston
BOEM-2023-0030-0544	Pamela Sloves
BOEM-2023-0030-0548	Paul Tarlowe
BOEM-2023-0030-0549	MARGARET MCELYNN
BOEM-2023-0030-0550	Claudia Shaughnessy
BOEM-2023-0030-0551	Carol Miller
BOEM-2023-0030-0552	Margaret Duerr
BOEM-2023-0030-0553	Chris Corbett
BOEM-2023-0030-0554	Christine Murray
BOEM-2023-0030-0555	Kristi Nelson
BOEM-2023-0030-0557	Christopher Farschon
BOEM-2023-0030-0558	Cynthia Resch
BOEM-2023-0030-0559	Bob English
BOEM-2023-0030-0561	Kathleen Harper
BOEM-2023-0030-0562	James Brnich
BOEM-2023-0030-0564	Leslie Long
BOEM-2023-0030-0567	Sherri Lilienfeld
BOEM-2023-0030-0568	C T

Submission No.	Commenter
BOEM-2023-0030-0569	Joshua Moyer
BOEM-2023-0030-0570	Joan Gill
BOEM-2023-0030-0571	Evan Duerr
BOEM-2023-0030-0572	Calvin Wasdyke
BOEM-2023-0030-0573	Elizabeth Wasdyke
BOEM-2023-0030-0574	Tom Nelson
BOEM-2023-0030-0575	Eileen Barker
BOEM-2023-0030-0576	Cynthia Hanscom
BOEM-2023-0030-0577	Janice Gallagher
BOEM-2023-0030-0578	Anonymous
BOEM-2023-0030-0579	Joseph Patrizio
BOEM-2023-0030-0581	Debra Hillman
BOEM-2023-0030-0583	Carl Hertzog
BOEM-2023-0030-0584	Margaret Shatt
BOEM-2023-0030-0585	SHARON ALOI
BOEM-2023-0030-0589	Mike Hillman
BOEM-2023-0030-0591	Kim Waldman-Beegal
BOEM-2023-0030-0592	David Goodwin
BOEM-2023-0030-0595	B E Muir
BOEM-2023-0030-0597	Bruce Schundler
BOEM-2023-0030-0598	David Kahn
BOEM-2023-0030-0599	Denise Kubaska
BOEM-2023-0030-0600	COURTENEY G.
BOEM-2023-0030-0602	Edward Defazio
BOEM-2023-0030-0603	Miryam Fonken
BOEM-2023-0030-0604	Matthew Rummler
BOEM-2023-0030-0605	Richard Brugger
BOEM-2023-0030-0606	Barbara Miller
BOEM-2023-0030-0607	Peter Mccarthy
BOEM-2023-0030-0608	James Weaver
BOEM-2023-0030-0609	Marilyn Miller
BOEM-2023-0030-0610	Ben Vitale
BOEM-2023-0030-0611	Emily Jackson
BOEM-2023-0030-0612	Isaac Lilienfeld
BOEM-2023-0030-0613	Burton Beeman

Submission No.	Commenter
BOEM-2023-0030-0614	Pattie Bahrle
BOEM-2023-0030-0615	Kimberly Spence
BOEM-2023-0030-0616	Mark Waltzer
BOEM-2023-0030-0617	Andrew Gilman
BOEM-2023-0030-0618	Howard Stein
BOEM-2023-0030-0619	Barbara Crystal
BOEM-2023-0030-0620	Denise Gomolka
BOEM-2023-0030-0621	Melinda Decker
BOEM-2023-0030-0622	Denise Lytle
BOEM-2023-0030-0623	John Nistad
BOEM-2023-0030-0624	Julie Mandes
BOEM-2023-0030-0625	Mary Smith
BOEM-2023-0030-0626	Anne M
BOEM-2023-0030-0628	John Pitts
BOEM-2023-0030-0629	Margaret Sposato
BOEM-2023-0030-0630	Kimberly Dreher
BOEM-2023-0030-0631	Robert Kowsaluk
BOEM-2023-0030-0632	Sandra Van Sant
BOEM-2023-0030-0674	Suzanne Curry
BOEM-2023-0030-0677	Capt. Paul Eidman
BOEM-2023-0030-0679	Walter Korfmacher
BOEM-2023-0030-0683	Alva Pingel
BOEM-2023-0030-0700	Ronald Klempner
BOEM-2023-0030-0710	Alison Shumway
BOEM-2023-0030-0722	John Deputato
BOEM-2023-0030-0723	Elizabeth Haskin
BOEM-2023-0030-0748	Mary S
BOEM-2023-0030-0750	MICHELE ONEIL
BOEM-2023-0030-0751	Betsy Longendorfer
BOEM-2023-0030-0753	Alec Wademan
BOEM-2023-0030-0754	Hallie Bulleit
BOEM-2023-0030-0755	Margaret Bagley
BOEM-2023-0030-0756	Joan Gill
BOEM-2023-0030-0773	Melinda Decker
BOEM-2023-0030-0776	Stan Breish

Submission No.	Commenter
BOEM-2023-0030-0806	Melinda Decker
BOEM-2023-0030-0807	Jim Bebout
BOEM-2023-0030-0808	Eleanor Hill
BOEM-2023-0030-0810	Suzanne Conklin
BOEM-2023-0030-0811	Jeanette York
BOEM-2023-0030-0812	Laura Hemenway
BOEM-2023-0030-0813	Christopher Brown
BOEM-2023-0030-0824	Lee Darby
BOEM-2023-0030-0825	Phil Low
BOEM-2023-0030-0836	Charles Musilli
BOEM-2023-0030-0838	Tanya Wyant
BOEM-2023-0030-0839	Bee Marinelli
BOEM-2023-0030-0841	Frank Vicendese
BOEM-2023-0030-0842	Stacey H
BOEM-2023-0030-0848	Mary Murphy
BOEM-2023-0030-0849	Margaret Weirich
BOEM-2023-0030-0850	James Kelly
BOEM-2023-0030-0851	Kassandra Funkhouser
BOEM-2023-0030-0852	Colleen Conway
BOEM-2023-0030-0853	Denise Steere
BOEM-2023-0030-0854	Sharon McNeill
BOEM-2023-0030-0855	Lisa Ward Elverson
BOEM-2023-0030-0856	Lin Maky
BOEM-2023-0030-0860	Mrs. Tavit
BOEM-2023-0030-0861	Bernadette Harvey
BOEM-2023-0030-0862	Ellyn Hill
BOEM-2023-0030-0863	Karol Wack
BOEM-2023-0030-0865	Carmela Addimandi
BOEM-2023-0030-0866	Lee Evans
BOEM-2023-0030-0867	Cynthia McCann
BOEM-2023-0030-0868	Mary Fitzgerald
BOEM-2023-0030-0869	Pamela Ryan
BOEM-2023-0030-0870	Richard Suer
BOEM-2023-0030-0871	Robin Vanderbilt
BOEM-2023-0030-0872	Dave Weisberger

Submission No.	Commenter
BOEM-2023-0030-0873	Charles Temple
BOEM-2023-0030-0875	Sharon Mahoney
BOEM-2023-0030-0876	Larry Levin
BOEM-2023-0030-0877	Jason Wrigley
BOEM-2023-0030-0879	Melinda Dee
BOEM-2023-0030-0880	Jamie Matozzo
BOEM-2023-0030-0888	Stephanie Adams
BOEM-2023-0030-0904	Teresa Silletti
BOEM-2023-0030-0910	Anna Dobrowolski
BOEM-2023-0030-0912	Kassandra Funkhouser
BOEM-2023-0030-0915	Lee Evans
BOEM-2023-0030-0917	Kevin Kernan
BOEM-2023-0030-0918	Chris Temple
BOEM-2023-0030-0919	Mary Smitg
BOEM-2023-0030-0920	Victoria Serecin
BOEM-2023-0030-0923	Dr Shelby Sickles
BOEM-2023-0030-0926	Margaret Reale
BOEM-2023-0030-0927	Cynthia Curry
BOEM-2023-0030-0928	Steve Smith
BOEM-2023-0030-0939	Charles Ferrara
BOEM-2023-0030-0963	Ryan Shatt
BOEM-2023-0030-0971	Craig Banner
BOEM-2023-0030-0972	Christina Pescatore
BOEM-2023-0030-0985	Jeffrey Roland
BOEM-2023-0030-1012	Stephen Knowlton
BOEM-2023-0030-1020	Ann Cahill-Makowsky
BOEM-2023-0030-1061	Tony Hagen
BOEM-2023-0030-1096	Richard Isaac
BOEM-2023-0030-1106	Erica Jenkins
BOEM-2023-0030-1111	Dana Smith
BOEM-2023-0030-1112	Andrea Gonzalez
BOEM-2023-0030-1125	Chris Fretz
BOEM-2023-0030-1152	Judy Minot
BOEM-2023-0030-1158	Pamela Bruton
BOEM-2023-0030-1163	Randy Solomon

Submission No.	Commenter
BOEM-2023-0030-1182	MaryAnne Reinert
BOEM-2023-0030-1186	Chris Charles McFarland
BOEM-2023-0030-1188	Liz Tutrone
BOEM-2023-0030-1189	Shannon Hillyer
BOEM-2023-0030-1194	Julia Zauner
BOEM-2023-0030-1196	Jessica Sampson
BOEM-2023-0030-1201	Kylie Greene
BOEM-2023-0030-1213	Walter Dombrowski
BOEM-2023-0030-1220	Ellen Dombrowski
BOEM-2023-0030-1251	Raghav Akula
BOEM-2023-0030-1252	Kathleen Galante
BOEM-2023-0030-1253	Eugene Michelini
BOEM-2023-0030-1255	Donna Repoli
BOEM-2023-0030-1255	Donna Repoli
BOEM-2023-0030-1256	Kevin Deroo
BOEM-2023-0030-1258	Laura Lynch
BOEM-2023-0030-1284	Joseph Marchesano
BOEM-2023-0030-1305	Regina Littwin
BOEM-2023-0030-1306	Thomas Littwin
BOEM-2023-0030-1312	Jessica Marino
BOEM-2023-0030-1320	Howard Stein
BOEM-2023-0030-1321	Erica Jenkins
BOEM-2023-0030-1322	Robert Czekaj
BOEM-2023-0030-1327	Beverly Frantz
BOEM-2023-0030-1328	Susan Kinsella
BOEM-2023-0030-1329	Susan Hoff
BOEM-2023-0030-1330	Lisa Tyson
BOEM-2023-0030-1331	Patricia Bombolevicz
BOEM-2023-0030-1332	Lee Evans
BOEM-2023-0030-1333	Lori Palladino
BOEM-2023-0030-1334	Carol Fetter
BOEM-2023-0030-1335	Bob Robinson
BOEM-2023-0030-1336	Dina Hays
BOEM-2023-0030-1337	Dennis Reilly
BOEM-2023-0030-1338	Ashley Donahue

Submission No.	Commenter
BOEM-2023-0030-1340	Cole Jenkins
BOEM-2023-0030-1341	Zack Thomas
BOEM-2023-0030-1342	Bryan Callahan
BOEM-2023-0030-1343	Michael Edwards
BOEM-2023-0030-1344	Lauren Hornecker
BOEM-2023-0030-1345	Maria Ramos
BOEM-2023-0030-1346	Erik Albrecht
BOEM-2023-0030-1352	Katie Blaydes
BOEM-2023-0030-1357	David Wallace
BOEM-2023-0030-1361	Tom Campbell
BOEM-2023-0030-1362	Hannah B. Suthers
BOEM-2023-0030-1363	Whitney Stanbury
BOEM-2023-0030-1365	Gina Zalewski
BOEM-2023-0030-1369	Katherine Strack
BOEM-2023-0030-1371	Bill Allen
BOEM-2023-0030-1372	Jamie Walker
BOEM-2023-0030-1373	Penelope Campbell
BOEM-2023-0030-1375	Jim Campbell
BOEM-2023-0030-1376	Edward Sherretta, Sr.
BOEM-2023-0030-1378	Tom Cassella
BOEM-2023-0030-1379	Linda Bonvie
BOEM-2023-0030-1380	Jacqui Delario
BOEM-2023-0030-1381	JoAnn Sangataldo
BOEM-2023-0030-1383	Nicole Grant
BOEM-2023-0030-1392	Fred Akers
BOEM-2023-0030-1406	Cheryl Severini
BOEM-2023-0030-1408	Catherine Riihimaki
BOEM-2023-0030-1413	Carmela Marucci
BOEM-2023-0030-1414	Nicole Evaul
BOEM-2023-0030-1415	Andrew Wilbur
BOEM-2023-0030-1416	Timothy Feeney
BOEM-2023-0030-1417	Lee Evans
BOEM-2023-0030-1418	Pat ODonnell
BOEM-2023-0030-1419	Patricia ODonnell
BOEM-2023-0030-1432	Josh Byrne

Submission No.	Commenter
BOEM-2023-0030-1433	James Akers
BOEM-2023-0030-1434	Wendy McCrann
BOEM-2023-0030-1436	Anne Muller
BOEM-2023-0030-1450	Anne Zaneski
BOEM-2023-0030-1451	Wendy Carty
BOEM-2023-0030-1452	Barbara Entler
BOEM-2023-0030-1453	Teri Kirckof
BOEM-2023-0030-1454	Jeanette York
BOEM-2023-0030-1455	Martha Oldach
BOEM-2023-0030-1458	Linda H Carter
BOEM-2023-0030-1459	Bee Marinelli
BOEM-2023-0030-1460	Mary D Bovich
BOEM-2023-0030-1462	Julie Akers
BOEM-2023-0030-1463	Annette Mikalouskas
BOEM-2023-0030-1464	Kenneth Lagana
BOEM-2023-0030-1465	Vicki Fessman
BOEM-2023-0030-1467	Mary Lou Malone
BOEM-2023-0030-1469	Jan Sloat
BOEM-2023-0030-1470	Daphne Agneta
BOEM-2023-0030-1475	Sean Runnette
BOEM-2023-0030-1478	Linda Bonvie
BOEM-2023-0030-1480	Louise McClure
BOEM-2023-0030-1484	Denise Lytle
BOEM-2023-0030-1488	Ashley Villari
BOEM-2023-0030-1489	Debra Young
BOEM-2023-0030-1491	Mary Alice Noonan
BOEM-2023-0030-1493	Claudia McNamara
BOEM-2023-0030-1494	Sherrie Zemaitatis
BOEM-2023-0030-1495	Laura Hemenway
BOEM-2023-0030-1496	Donna Kork
BOEM-2023-0030-1498	Trev Doyl
BOEM-2023-0030-1499	Douglas Crawford
BOEM-2023-0030-1500	Gary Frederick
BOEM-2023-0030-1501	Jeff Platenyk
BOEM-2023-0030-1502	Gayle Dadian

Submission No.	Commenter
BOEM-2023-0030-1503	John Nistad
BOEM-2023-0030-1504	Robert McBride
BOEM-2023-0030-1505	Brendan Havner
BOEM-2023-0030-1506	Evelyn Ribarich
BOEM-2023-0030-1508	Russell Eidmann-Hicks
BOEM-2023-0030-1509	Nancy Hollingsworth
BOEM-2023-0030-1510	Gabriel Franco
BOEM-2023-0030-1511	Noelle Weathersby
BOEM-2023-0030-1512	Denise Boccia
BOEM-2023-0030-1513	Suzanne Power
BOEM-2023-0030-1514	William Beren
BOEM-2023-0030-1515	William O'Neill
BOEM-2023-0030-1519	S Barbuto
BOEM-2023-0030-1520	Maureen Keating
BOEM-2023-0030-1521	Rajdeep Usgaonker
BOEM-2023-0030-1524	Sylvia Lockwood
BOEM-2023-0030-1525	Lori Seminara
BOEM-2023-0030-1528	Robert Colleary
BOEM-2023-0030-1529	Bernadette Tourtual
BOEM-2023-0030-1530	Mary kay Orourke
BOEM-2023-0030-1531	JOSEPH CALLAGHAN
BOEM-2023-0030-1532	Cindi Callaghan
BOEM-2023-0030-1533	Kathryn Callaghan
BOEM-2023-0030-1534	Cindi Johnson Callaghan
BOEM-2023-0030-1535	Joe Callaghan
BOEM-2023-0030-1539	Carolyn Collins
BOEM-2023-0030-1541	Bonnie Haeberle
BOEM-2023-0030-1542	Surfrider Foundation
BOEM-2023-0030-1543	JT Tyson
BOEM-2023-0030-1544	Gigi Simpson
BOEM-2023-0030-1547	Clare Catarius
BOEM-2023-0030-1548	Christine Fritsch
BOEM-2023-0030-1549	Virginia Mat
BOEM-2023-0030-1550	Jamie Steiert
BOEM-2023-0030-1552	Darlyne Kelleher

Submission No.	Commenter
BOEM-2023-0030-1553	Lori Farace
BOEM-2023-0030-1555	Thomas Vigliotta
BOEM-2023-0030-1558	Robyn Federico
BOEM-2023-0030-1560	Melissa Galli
BOEM-2023-0030-1561	Kenneth Fetter
BOEM-2023-0030-1562	Linda Bonvie
BOEM-2023-0030-1563	Sally Barbato
BOEM-2023-0030-1567	Gail DeRitis
BOEM-2023-0030-1570	Amy Shnider
BOEM-2023-0030-1571	Richard Jones
BOEM-2023-0030-1572	Michael Bowery
BOEM-2023-0030-1575	Leslie M
BOEM-2023-0030-1577	Susan Kinsella
BOEM-2023-0030-1579	Jayne Unger
BOEM-2023-0030-1580	Mary Smith
BOEM-2023-0030-1582	Joe Kinsella
BOEM-2023-0030-1583	Andi Lucciola
BOEM-2023-0030-1584	Patrice Krivulka
BOEM-2023-0030-1585	Paul Paulsen
BOEM-2023-0030-1587	Lisa Daidone
BOEM-2023-0030-1588	Lora Maul
BOEM-2023-0030-1589	Sally Barbato
BOEM-2023-0030-1590	Regina Littwin
BOEM-2023-0030-1591	Denise Boccia
BOEM-2023-0030-1592	Walter Greis
BOEM-2023-0030-1593	Jen Manochio
BOEM-2023-0030-1595	Keith Moore
BOEM-2023-0030-1597	KT Finnegan
BOEM-2023-0030-1598	David Comerford
BOEM-2023-0030-1600	Joseph Costello
BOEM-2023-0030-1601	Daurie Pollitto
BOEM-2023-0030-1604	Nancy Pollitto
BOEM-2023-0030-1605	Linda Bonvie
BOEM-2023-0030-1607	Ann Allegrini
BOEM-2023-0030-1608	Alissa Kanowitz

Submission No.	Commenter
BOEM-2023-0030-1610	Carole Murray
BOEM-2023-0030-1612	Beverly Martino
BOEM-2023-0030-1613	Claire Miller
BOEM-2023-0030-1614	Greg Hanson
BOEM-2023-0030-1615	Charles Deal
BOEM-2023-0030-1618	Jenn Smith
BOEM-2023-0030-1619	Maureen Richmond
BOEM-2023-0030-1620	Annette Lare
BOEM-2023-0030-1621	Smith
BOEM-2023-0030-1622	Patti Deroo
BOEM-2023-0030-1623	Jo Slimski
BOEM-2023-0030-1624	Gail Pratt
BOEM-2023-0030-1625	Christine Murray
BOEM-2023-0030-1626	Debra Meyers
BOEM-2023-0030-1628	Gregg Slimski
BOEM-2023-0030-1629	Christine Murray
BOEM-2023-0030-1630	Jo Slimski
BOEM-2023-0030-1631	Kristi Nelson
BOEM-2023-0030-1632	John Kauterman
BOEM-2023-0030-1633	Richard Silipigni
BOEM-2023-0030-1634	Kristi Todd
BOEM-2023-0030-1635	Annette Lare
BOEM-2023-0030-1637	B Aulot
BOEM-2023-0030-1638	Elizabeth Boland
BOEM-2023-0030-1639	Elizabeth Boland
BOEM-2023-0030-1641	Robert Smith
BOEM-2023-0030-1643	Robert Reinert
BOEM-2023-0030-1644	Kevin Walsh
BOEM-2023-0030-1645	Save LBI, Joanne Leichte
BOEM-2023-0030-1646	Jim Binder
BOEM-2023-0030-1647	Bryan Jenkins
BOEM-2023-0030-1648	Nadine Hanley
BOEM-2023-0030-1649	Lisa Hatch
BOEM-2023-0030-1650	Gina Zalewski
BOEM-2023-0030-1652	Thomas Flaherty

Submission No.	Commenter
BOEM-2023-0030-1653	Scott Boland
BOEM-2023-0030-1654	Mary Kessler
BOEM-2023-0030-1655	Joyce Bartlett
BOEM-2023-0030-1656	Mike Dean
BOEM-2023-0030-1658	Frank Smith
BOEM-2023-0030-1659	Clareann Barks
BOEM-2023-0030-1661	Darren Holland
BOEM-2023-0030-1663	Pat Rears
BOEM-2023-0030-1664	Judith Hahl
BOEM-2023-0030-1666	Trinn Garrett
BOEM-2023-0030-1667	Roy Smith
BOEM-2023-0030-1668	Erik Albrecht
BOEM-2023-0030-1669	Robert Lackaye
BOEM-2023-0030-1670	Robert Hanley
BOEM-2023-0030-1672	MaryAnn Reinert
BOEM-2023-0030-1673	Joan Walsh
BOEM-2023-0030-1674	Carol Smith
BOEM-2023-0030-1675	J Auletto
BOEM-2023-0030-1676	Jennifer Saropoulos
BOEM-2023-0030-1677	Scott Boland
BOEM-2023-0030-1678	Carol Miller
BOEM-2023-0030-1679	Susan Kinsella
BOEM-2023-0030-1680	Save LBI, Peter Bennett
BOEM-2023-0030-1681	Jonathan Mangin
BOEM-2023-0030-1682	Tony Movitnho
BOEM-2023-0030-1683	Christine Harashinski
BOEM-2023-0030-1684	Jean Birdsall
BOEM-2023-0030-1685	Aposto Gerasoulis
BOEM-2023-0030-1686	Anysia Marcell Kiel
BOEM-2023-0030-1687	Marc Lipman
BOEM-2023-0030-1688	Mary Coughlin
BOEM-2023-0030-1690	Mark Suer
BOEM-2023-0030-1691	Polly Weisberger
BOEM-2023-0030-1692	Paul Teutul
BOEM-2023-0030-1693	Don Hahl

Submission No.	Commenter
BOEM-2023-0030-1695	Diane Snelson
BOEM-2023-0030-1696	Joe Kinsella
BOEM-2023-0030-1697	Pat Kaletkowski
BOEM-2023-0030-1698	Lou Mcelwain
BOEM-2023-0030-1699	Lisa Daidone
BOEM-2023-0030-1700	Linda Ciccarelli
BOEM-2023-0030-1701	Kevin Kernan
BOEM-2023-0030-1702	Dennis Deforest
BOEM-2023-0030-1703	Diane Pasterkiewicz
BOEM-2023-0030-1704	Carol De Leonardis
BOEM-2023-0030-1705	James Rivera
BOEM-2023-0030-1706	Loriann Deforest
BOEM-2023-0030-1707	Susan Kinsella
BOEM-2023-0030-1708	Eileen Barker
BOEM-2023-0030-1709	Jonah Smith
BOEM-2023-0030-1710	Sherri Lilienfeld
BOEM-2023-0030-1712	Mary Pahlow
BOEM-2023-0030-1713	John Deitchman
BOEM-2023-0030-1714	Cynthia Pekarick
BOEM-2023-0030-1715	Patti De Roo
BOEM-2023-0030-1716	Rose Serowatka
BOEM-2023-0030-1717	Melinda Decker
BOEM-2023-0030-1720	Regina Matthews
BOEM-2023-0030-1721	Vinny Delgozzo
BOEM-2023-0030-1722	Jamie Walker
BOEM-2023-0030-1723	Margaret Reale
BOEM-2023-0030-1724	Mary Frances Regan
BOEM-2023-0030-1725	Stephen Salvati
BOEM-2023-0030-1726	Helen Du Da
BOEM-2023-0030-1727	Tom Jones
BOEM-2023-0030-1729	Roseanne Serowatka
BOEM-2023-0030-1733	James Gill
BOEM-2023-0030-1734	Jeff Platenyk
BOEM-2023-0030-1736	John Dupnock
BOEM-2023-0030-1737	Jacqueline Walling

Submission No.	Commenter
BOEM-2023-0030-1738	Paul Snyderman
BOEM-2023-0030-1741	Chris Farschon
BOEM-2023-0030-1742	Virginia Hauck
BOEM-2023-0030-1743	Holly Fried
BOEM-2023-0030-1745	Jeanne Van Orman
BOEM-2023-0030-1746	William Amann
BOEM-2023-0030-1747	Brian Russo
BOEM-2023-0030-1748	Richard Jones
BOEM-2023-0030-1749	Trudy Getler
BOEM-2023-0030-1750	Ed O'Donnell
BOEM-2023-0030-1752	John Fiore
BOEM-2023-0030-1753	Douglas Meyer
BOEM-2023-0030-1754	Douglas Crawford
BOEM-2023-0030-1756	Susan Kunkel
BOEM-2023-0030-1758	Caroyln Rush
BOEM-2023-0030-1759	Phillip Pepe
BOEM-2023-0030-1760	John Dineen
BOEM-2023-0030-1761	Susan Ring
BOEM-2023-0030-1762	Jon Mangin
BOEM-2023-0030-1763	Judith Tyson
BOEM-2023-0030-1765	Suzanne Moore
BOEM-2023-0030-1766	Kenneth Hammond
BOEM-2023-0030-1767	Linda Martin
BOEM-2023-0030-1769	Patricia O'Donnell
BOEM-2023-0030-1771	Stacey Henderson
BOEM-2023-0030-1772	Mary Smith
BOEM-2023-0030-1773	Anne Muller
BOEM-2023-0030-1774	James Binder
BOEM-2023-0030-1775	Stephanie Adams
BOEM-2023-0030-1776	Betsy Longendorfer
BOEM-2023-0030-1780	Walter Korfmacher
BOEM-2023-0030-1781	Lee Evans
BOEM-2023-0030-1782	Harvey Roach
BOEM-2023-0030-1783	Carol Miller
BOEM-2023-0030-1784	Enis Bengul

Submission No.	Commenter
BOEM-2023-0030-1786	Mark Hozey
BOEM-2023-0030-1787	Clean Ocean Action, Toni Groet
BOEM-2023-0030-1788	Shoshana Osofsky
BOEM-2023-0030-1789	Kathleen Keating
BOEM-2023-0030-1790	Alison Shumway
BOEM-2023-0030-1791	Kathryn Finnegan
BOEM-2023-0030-1793	Deborah Welling
BOEM-2023-0030-1794	James Rachiele
BOEM-2023-0030-1798	Jon Mangin
BOEM-2023-0030-1801	Celeste Racano
BOEM-2023-0030-1802	Chris Fretz
BOEM-2023-0030-1803	Marty Levin
BOEM-2023-0030-1808	Stephen Waters
BOEM-2023-0030-1826	Jacqui Delario
BOEM-2023-0030-1835	Bruce Paterson
BOEM-2023-0030-1837	Melissa Galli
BOEM-2023-0030-1864	Mike Feldmus
BOEM-2023-0030-1925	Albert Torjman
BOEM-2023-0030-1926	Sherry Thomas
BOEM-2023-0030-1927	Bob Lewis
BOEM-2023-0030-1928	Ellen Martin
BOEM-2023-0030-1929	Brenda Berger
BOEM-2023-0030-1930	Beverly & Harold Marinelli
BOEM-2023-0030-1931	Alan Feingold
BOEM-2023-0030-1933	Carol Sziklay
BOEM-2023-0030-1936	Barbara Welsch
BOEM-2023-0030-1938	Dennis Pallozzi
BOEM-2023-0030-1944	C Kondiatuk
BOEM-2023-0030-1945	Donna Woerner
BOEM-2023-0030-1946	Christopher Lucca
BOEM-2023-0030-1947	Cynthia Hanscom
BOEM-2023-0030-1949	Diane Lucca
BOEM-2023-0030-1952	Brittany Lucca
BOEM-2023-0030-1953	Bernadette Monari
BOEM-2023-0030-1954	Denise Schager

Submission No.	Commenter
BOEM-2023-0030-1955	Derek Solomon
BOEM-2023-0030-1956	Earle Mitchell
BOEM-2023-0030-1957	Carol Berman
BOEM-2023-0030-1958	Courtney Hanscom
BOEM-2023-0030-1959	J. David Stack
BOEM-2023-0030-1961	Joanne Forman
BOEM-2023-0030-1963	Michael Lucca
BOEM-2023-0030-1965	John Deputato
BOEM-2023-0030-1966	Patricia Pallozzi
BOEM-2023-0030-1967	Jennifer Guarino
BOEM-2023-0030-1969	Lisa Adrian
BOEM-2023-0030-1970	Peggy Holmes
BOEM-2023-0030-1973	Maureen Keating
BOEM-2023-0030-1974	Mark Gronke
BOEM-2023-0030-1975	Suzanne Conklin
BOEM-2023-0030-1977	Jason Riley
BOEM-2023-0030-1978	Liz McKeage
BOEM-2023-0030-1981	Pattie Wexler
BOEM-2023-0030-1982	Robert Maryott
BOEM-2023-0030-1984	Stephani Benfatti
BOEM-2023-0030-1985	Patricia Green
BOEM-2023-0030-1987	Nancy Day
BOEM-2023-0030-1991	Marjie Bershad
BOEM-2023-0030-1992	Marsia Mason
BOEM-2023-0030-1993	Nancy Day
BOEM-2023-0030-1995	Multiple Commenters
BOEM-2023-0030-1996	Robert VanNorman
BOEM-2023-0030-1997	Thomas Jones
BOEM-2023-0030-1998	Mary Faust
BOEM-2023-0030-2001	Theo Lucca
BOEM-2023-0030-2003	Stephen Waters
BOEM-2023-0030-2004	Nancy Wimmer
BOEM-2023-0030-2005	Jean Public
BOEM-2023-0030-2007	Sandy Mortimer
BOEM-2023-0030-2008	Ryan Gallagher

Submission No.	Commenter
BOEM-2023-0030-2009	Terri and Mark Levine
BOEM-2023-0030-2012	Geraldine Feingold

Table N.9-9. Anonymous

Submission No.	Commenter
BOEM-2023-0030-0005	Anonymous
BOEM-2023-0030-0006	Anonymous
BOEM-2023-0030-0015	Anonymous
BOEM-2023-0030-0030	Anonymous

Submission No.	Commenter
BOEM-2023-0030-0033	Anonymous
BOEM-2023-0030-0035	Anonymous
BOEM-2023-0030-0036	Anonymous
BOEM-2023-0030-0040	Anonymous
BOEM-2023-0030-0054	Anonymous
BOEM-2023-0030-0088	Anonymous
BOEM-2023-0030-0100	Anonymous
BOEM-2023-0030-0106	Anonymous
BOEM-2023-0030-0115	Anonymous
BOEM-2023-0030-0146	Anonymous
BOEM-2023-0030-0199	Anonymous
BOEM-2023-0030-0204	Anonymous
BOEM-2023-0030-0288	Anonymous
BOEM-2023-0030-0298	Anonymous
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BOEM-2023-0030-0482	Anonymous
BOEM-2023-0030-0492	Anonymous
BOEM-2023-0030-0495	Anonymous
BOEM-2023-0030-0517	Anonymous

Submission No.	Commenter
BOEM-2023-0030-0539	Anonymous
BOEM-2023-0030-0545	Anonymous
BOEM-2023-0030-0546	Anonymous
BOEM-2023-0030-0556	Anonymous
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BOEM-2023-0030-0634	Anonymous
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BOEM-2023-0030-1435	Anonymous
BOEM-2023-0030-1449	Anonymous
BOEM-2023-0030-1456	Anonymous

Submission No.	Commenter
BOEM-2023-0030-1461	Anonymous
BOEM-2023-0030-1468	Anonymous
BOEM-2023-0030-1507	Anonymous
BOEM-2023-0030-1522	Anonymous
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BOEM-2023-0030-1616	Anonymous
BOEM-2023-0030-1642	Anonymous
BOEM-2023-0030-1651	Anonymous
BOEM-2023-0030-1657	Anonymous
BOEM-2023-0030-1662	Anonymous
BOEM-2023-0030-1665	Anonymous
BOEM-2023-0030-1824	Anonymous
BOEM-2023-0030-1950	Anonymous

N.10 References Cited

N.10.1 Section N.4.1, Responses to Cooperating and Participating Federal Agencies

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