

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

N.1. Introduction

On December 16, 2022, BOEM published a notice of availability for the Coastal Virginia Offshore Wind (CVOW) Commercial Project 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/coastal-virginia-offshore-wind-commercial-cvow-c-draft>, and hard copies or electronic copies were delivered to other entities as specified in Appendix K 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 60-day public comment period for the Draft EIS. The comment period closed on February 14, 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-2022-0069" 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 once 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

Federal agencies, state/local/tribal 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-2022-0069;
- Hard-copy comment letters submitted to BOEM via traditional mail; and
- Comments submitted verbally at each of the public hearings.

BOEM held three online public hearings via Zoom to solicit verbal comments to inform preparation of the Final EIS. The hearings were free and open to the public with no reservations required. Locations and dates of these hearings are outlined in Table N.3-1.

Table N.3-1 Public Hearings

Date	Time	Location
January 25, 2023	5:00 p.m. Eastern Time	Zoom Webinar
January 31, 2023	5:00 p.m. Eastern Time	Zoom Webinar
February 2, 2023	11:00 a.m. Eastern Time	Zoom Webinar

All submissions initially provided by methods other than www.regulations.gov, including the transcripts of comments recorded at each public hearing listed in Table N.3-1, were uploaded to the docket. Each submission, including testimony by individual speakers at the public hearings listed in Table N.3-1, 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 www.regulations.gov. These submissions were provided in Hypertext Markup Language (html) format, while attachments provided by stakeholders as part of their 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 CVOW 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, *Terminology*). 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 submission 0001 was identified as BOEM-2022-0069-0001-0004.

Substantive comments from cooperating agencies and the lessee were organized by agency or organization and are presented verbatim in Sections N.4 and N.4.3. 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.6. General comments are summarized in Section N.7 and the specific comments that contributed to a comment summary are identified by comment number.

Anonymous comments were not included in the comment database. As noted in the Notice of Availability, "BOEM does not consider anonymous comments. Please include your name and address as part of your comment. BOEM makes all comments, including the names and addresses of respondents, available for public review online and during regular business hours."

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

N.4.1 Cooperating Federal Agencies

N.4.1.1. U.S. Environmental Protection Agency

Table N.4-1 Responses to Comments from U.S. Environmental Protection Agency

Comment from U.S. Environmental Protection Agency	Response
The DEIS does not identify BOEM’s preferred alternative; however, all other offshore alternatives appear to have fewer impacts in comparison to Alternative A. EPA recommends identifying and selecting the alternative that avoids impacts to the maximum extent as the preferred alternative.	BOEM’s Preferred Alternative is identified in the Final EIS as Alternative B in combination with Alternative D-1.
Alternative A has been identified as the Proposed Action. Alternative A is described as up to a 3,000 MW wind energy facility consisting of up to 205 WTGs. It is unclear why Alternative A continues to be presented as the Proposed Action as Dominion describes their Project as 176 WTGs generating 2,600 MW and already has selected the WTGs that will be used for the Project.	Alternative B in the Final EIS is referred to in Dominion Energy’s COP as the preferred layout. However, BOEM did not select the Preferred Alternative until after consideration of all public comments received on the Draft EIS.
Fully assessing the expected beneficial and adverse effects of the Project is complicated by the use of the Project Design Envelope (PDE) approach. Basing the potential impacts of the Project on the maximum design/worst-case scenario makes it difficult to assess the likely effects and does not fully capture the avoidance that may be achieved by reasonable measures. We recommend that the FEIS clarify the most probable effects considering mitigation and avoidance measures where possible.	Consistent with BOEM’s draft guidance, ¹ Dominion Energy’s COP proposes the Project using a PDE concept. This concept allows Dominion Energy 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. The EIS assesses the impacts of the PDE described in Dominion Energy’s COP using the “maximum-case scenario.” The impacts in the Final EIS consider the use of BOEM’s required mitigation and avoidance measures.
Alternatives B and C were developed to reduce impacts on benthic habitat. However, the overall conclusion is that the expected impacts “would not be expected to be substantially different for Alternatives B and C than those described under the Proposed Action” for benthic habitat. Similarly, Section 3.7.6 summarizes the range of findings that	Differences in impacts among alternatives have been clarified in the Final EIS. See Chapter 3, <i>Affected Environment and Environmental Consequences</i> , and the <i>Executive Summary</i> for additional details.

¹ BOEM’s draft guidance on the use of design envelopes in a COP is available at: <https://www.boem.gov/sites/default/files/renewable-energy-program/Draft-Design-Envelope-Guidance.pdf>.

Comment from U.S. Environmental Protection Agency	Response
<p>indicate the use of smaller and fewer WTGs may allow greater opportunity for birds to avoid collision with WTGs, but the DEIS concludes that the overall expected impacts would not be materially different. Given such coarse metrics for evaluation, it is unclear how substantial a reduction in impacts would be necessary to result in any discernible difference in the impact determination.</p>	
<p>As described in the DEIS, Dominion would use only 14 MW WTGs for Alternatives B and C. It is unclear why the WTGs for these alternatives would be limited to 14 MW, while analysis of Alternatives A and D allow for 14 to 16 MW WTGs (although 16 MW WTGs are not yet commercially available) to allow flexibility for potential advancements in technology. We recommend clarifying how the restriction of the turbine size would reduce impacts in the discussion of B and C or incorporating the same range into all alternatives to facilitate comparison.</p>	<p>The Proposed Action considers the range of WTG sizes presented in Dominion Energy’s COP, consistent with BOEM’s PDE concept. Alternative D focuses on differences in the onshore interconnection cable route options, so the offshore components of Alternative D are consistent with those of the Proposed Action.</p> <p>Differences in impacts between Alternatives B or C compared to the Proposed Action that are due to a reduced WTG size are discussed in relevant resource area sections of Chapter 3, <i>Affected Environment and Environmental Consequences</i>.</p>
<p>Of the 3 offshore alternatives presented, Alternative C currently appears to propose the most impact avoidance; therefore, EPA supports the selection of Alternative C based on the available information. We continue to encourage fully evaluating impact reductions as additional information comes to light regarding potential resources.</p>	<p>After consideration of the public comments on the Draft EIS and analysis of those comments and other information (including the adverse and beneficial impacts of each alternative), BOEM has identified a Preferred Alternative in the Final EIS.</p>
<p>As stated in 2.1.5, Alternatives D-1 and D-2 cable route options are intended to avoid and minimize impacts on onshore sensitive habitats, but it is unclear from the information provided how it is expected that Alternative D would minimize impacts as compared to the Proposed Action. We recommend the FEIS clarify the expected impacts and avoidance for each alternative.</p>	<p>In the February 2023 revision of its COP, Dominion Energy removed from consideration Interconnection Cable Route Options 2, 3, 4, and 5. This reflects the Virginia SCC approval of Interconnection Cable Route Option 1 (Alternative D-1) in August 2022. This new information has been added to Section 2.1.5, <i>Alternative D—Onshore Habitat Impact Minimization Alternative</i>.</p> <p>The impacts of Interconnection Cable Route Option 1 are compared to those of Interconnection Cable Route Option 6 (Alternative D-2) throughout the Final EIS.</p> <p>Alternative D addresses the onshore cable route options that could be “mixed and matched” with any of the other alternatives (Alternatives A, B, and C).</p>
<p>S.4. Alternative C on page S-4 should be corrected to Sand [Bold: Ridge] Impact Minimization Alternative.</p> <p>In S.4, the sub alternatives for Alternative D are listed as o Alternative D-1—Interconnection Cable Route Option 6 (Hybrid Route) and o</p>	<p>The suggested edits have been made.</p>

Comment from U.S. Environmental Protection Agency	Response
<p>Alternative D-2—Interconnection Cable Route Option 1 In S.4.5, Table 2-1, and throughout the DEIS Alternative D-1 is presented as Option 1 (to be installed entirely overhead) and Alternative D-2 is Option 6 (Hybrid Route).</p>	
<p>Throughout the DEIS, the No Action Alternative appears to be focused on other proposed wind development activities that may occur. As the No Action provides the baseline against which to compare various alternatives and to assess both positive and negative effects of a project, the addition of the potential projects in the vicinity obscures the analysis. Given this framework, the contribution of the project to beneficial and negative impacts is unclear. In order to identify both adverse effects and benefits of the Project, we recommend clear separation between the No Action Alternative and the cumulative effects of expected wind energy development.</p>	<p>The No Action Alternative for all resource areas describes both the impacts of (1) existing environmental trends and ongoing activities, and (2) the cumulative impacts of all reasonably foreseeable planned activities. The inclusion of the cumulative impacts from reasonably foreseeable planned activities, including offshore wind activities is relevant for consideration in the No Action Alternative, because these activities are part of the likely activities in the region with or without the CVOW-C Project.</p>
<p>As the No Action Alternative represents the baseline, it is not clear how the Proposed Action may reduce the level of impact for some resource factors. For example, a “moderate” impact (primarily due to climate change) is expected under the No Action Alternative for Air Quality and Coastal Habitats, but this is reduced to “minor” with the Project alternatives. The narrative does not clearly support this finding or explain, for example, how the Project alternatives would mitigate for impacts from other projects incorporated into the No Action Alternative.</p>	<p>The impacts of the Proposed Action and all alternatives are described both for the Project alone and cumulatively with all reasonably foreseeable planned activities (cumulative impacts of the No Action Alternative). As acknowledged in the comment, there are some resource areas for which the impacts, when considering the Proposed Action, would be less than the impacts without the Proposed Action. This was described in the Final EIS for climate change. The Final EIS has been revised where appropriate to provide additional support to impact determinations.</p>
<p>The No Action Alternative incorporates impacts from other planned future offshore wind activities as part of the baseline. If the No Action Alternative assumes the baseline is the approval and construction of the other proposed wind projects in the vicinity, it is unclear how the CVOW Project contributes to positive or negative effects in the geographic area of analysis. EPA recommends the No Action Alternative be set at current conditions to facilitate comparison.</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. Ongoing activities include permitted offshore wind projects. The EIS also separately analyzes the continuation of all other existing and reasonably foreseeable future activities. Reasonably foreseeable future actions include the build-out of executed renewable energy lease areas. A detailed description of BOEM’s methodology for assessing impacts is provided in Final EIS Section 1.6, <i>Methodology for Assessing Impacts from Planned Actions</i>.</p>
<p>Further, there are resources where the level of impact described in the No Action is greater than the level of impact for the same resource described for the action alternatives. It is unclear how this could be, in</p>	<p>The impacts of the Proposed Action and all alternatives are described both for the Project alone and cumulatively with all reasonably foreseeable planned activities (cumulative impacts of the No Action Alternative). There are some resource areas for which the impacts, when considering the Proposed Action, are less than the impacts</p>

Comment from U.S. Environmental Protection Agency	Response
the absence of documentation demonstrating that the alternative is mitigating for effects described in the No Action Alternative.	without the Proposed Action. This was described in the Final EIS for climate change. The Final EIS has been revised where appropriate to provide additional support to impact determinations.
Offshore Activities and Facilities - A full discussion of impacts associated with the offshore facilities, including quantification of impacts for WTGs, OSSs, and cable installation and protection would be helpful for both understanding and consistency. A table comparing the numbers of permanent and temporary seafloor disturbance and armoring for each alternative in the initial discussion would be useful. It would also be helpful to have a detailed overview of the major impact producing factors so that the individual resource sections that follow could be more focused on the specific resource impacts and their significance.	EIS Chapter 3, Section 3.6, <i>Benthic Resources</i> , provides quantification of seafloor disturbance under each alternative. Specifically, Sections 3.6.5 and 3.6.6 provide detailed temporary and permanent impacts on benthic resources for each offshore project component under the Proposed Action and Alternatives B and C, respectively. As noted in Section 3.6.7, impacts on benthic resources under Alternatives D-1 and D-2 would be the same as the Proposed Action. Further, NMFS Biological Assessment Table 5-2 and Table 3-16 include tabular comparisons of temporary and permanent seafloor disturbance between the Proposed Action and Alternative B. EFH Assessment Sections 6.2.2 and 6.2.3 provide additional seafloor disturbance analysis under Alternatives C and D, respectively. A summary of the IPFs relevant to each resource category is included in EIS Appendix F, <i>Planned Activities Scenario</i> , Attachment F1.
Given the length of the document, it would also be helpful to have links in the Table of Contents or bookmarks to find materials and review information more easily.	The Draft EIS PDF files included bookmarks to facilitate navigation between sections.
Reformatting tables to increase width for lengthy text, adding rows, and reducing text would help clarity.	Thank you for your comment. BOEM has reviewed and revised tables to increase clarity where possible, including Executive Summary, Table S-2.
Likewise, grouping similar topics instead of using alphabetical order may enhance comprehension while reducing repetition.	BOEM has decided to maintain the order of the resource areas to maintain consistency between the completed and ongoing COP EISs for ease of navigation.
Discussing the impacts related to onshore and offshore components of the Project in detail prior to assessing the individual resource topics would be helpful to inform Sections 3.4-3.22 that follow. As presented, this information is divided alphabetically into a number of different resource sections, which does not provide the reader with a clear or consistent understanding of the potential impacts and makes it difficult to compare and contrast the alternatives and identify opportunities for avoidance and reduction. We recommend replacing the qualitative discussion in Table 2-3 with a quantitative comparison of impacts and grouping resources that are similar or overlapping together.	Chapter 2, Table 2-3, includes a summary and comparison of impacts among alternatives, while Sections 3.4 through 3.22 include a more detailed analysis and comparison. In cases where the impact conclusion does not change for an alternative compared to the Proposed Action, the Final EIS has been revised to quantify, where possible, what the difference in impacts would be.
The impact level definition and characterization of impacts are currently too broad to allow for a meaningful comparison of	Impact level definitions specific to each resource area are included in all resource area sections of Chapter 3 (e.g., for <i>Air Quality</i> , relevant

Comment from U.S. Environmental Protection Agency	Response
<p>alternatives. Throughout the DEIS, the impact level discussion and categories are not at a fine enough scale to capture the differences in alternatives and avoidance measures. The “Relevant Design Parameters and Potential Variances in Impacts” section often indicates that number, type, size, and location of WTGs and OSSs is a factor, then dismisses the alternatives that reduce the WTGS as having inconsequentially fewer impacts for almost all resource areas.</p>	<p>impact level definitions are included in Section 3.4.2.1). These definitions are consistent with definitions used across BOEM projects and allow for comparison among alternatives and across projects. BOEM developed the impact level definitions in coordination with agencies with jurisdiction and special expertise to offshore wind projects.</p>
<p>The DEIS characterizes most alternatives as having similar impacts (see Table S-2) despite there being measurable differences in the alternatives. This appears to be a result of the broad and generalized metrics used to classify impacts. The DEIS would benefit from a clearer quantitative comparison of impacts across alternatives.</p>	<p>In cases where the impact conclusion does not change for an alternative compared to the Proposed Action, the Final EIS has been revised to clarify what the difference in impacts would be.</p> <p>The Final EIS has been reviewed and revised to ensure consistency between/among the analysis narrative, conclusions, and summary tables.</p>
<p>Impact numbers, impact levels, and narrative do not appear to be consistent throughout the DEIS, which detracts from clarity.</p>	
<p>We suggest refining and clarifying impact level definitions and avoiding circular definitions that describe a minor impact level as a “minor impact,” and instead clarifying what constitutes a minor impact to the resource. For instance, in Table 3.5-1 and Table 3.7-1, a minor adverse impact is defined as “Most impacts would be avoided; if impacts occur, the loss of one or few individuals or temporary alteration of habitat could represent a minor impact depending on the time of year and number of individuals involved.”</p>	<p>All Chapter 3 sections in the EIS include a table with resource-specific impact level definitions, similar to the mentioned Table 3.5-1 and Table 3.7-1. BOEM developed the impact level definitions in coordination with agencies with jurisdiction and special expertise to offshore wind projects.</p>
<p>As outlined in S.5., 40 CFR 1502.16(a)(2) requires that an EIS evaluate the potential unavoidable adverse impacts associated with a proposed action. 40 CFR 1502.16(a)(1) requires a discussion of environmental impacts of the proposed action and reasonable alternatives and their significance. While the resource characterization discusses potential positive and negative impacts, the conclusions made regarding significance of the expected overall impacts are often not clear or well-supported.</p>	<p>BOEM has reviewed Chapter 3 to ensure that impact conclusions are clear and supported by analysis.</p>
<p>We note that Table 3.6-1 and 3.13-1 define a “moderate” adverse impact as “impacts on species would be unavoidable but [Italics: would not result in population-level] effects” while a major impact “... would affect the [Italics: viability of the population and would not be fully recoverable.]” This omits a population impact that would not affect viability. In addition, this does not address the species assemblages or</p>	<p>Impacts that would not affect population viability would be characterized as “moderate,” with detail on the expected type of impacts described in Chapter 3 for each IPF.</p>

Comment from U.S. Environmental Protection Agency	Response
ecosystem. These broad categories do not allow for a meaningful assessment of impacts and alternatives.	
We recommend revising the title of Section 2.2 “Non-Routine Activities and Low-Probability Events” to “Non-Routine Activities” as several may be low-probability, but situations such as severe weather events and corrective maintenance should be expected.	The Section 2.2 title in the Final EIS has been revised to remove “Low-Probability”.
It is EPA’s understanding that several of the Tribes may not be receiving the Project information from BOEM. EPA encourages BOEM to ensure the updated contacts list that was provided to BOEM on January 23rd 2023 is used and that all the federally recognized Tribes are given ample time for meaningful participation in the process.	Thank you for the additional contacts list. BOEM has worked with several federally recognized Tribes since the publication of the Draft EIS to confirm their preferred contacts for the Project.
EO 12898 directs federal agencies to consider environmental justice as part of the NEPA process. This includes public participation strategies. Currently, the DEIS does not discuss community involvement. EPA encourages BOEM to conduct community outreach for meaningful public engagement and participation. EPA recommends that BOEM take a more proactive approach to engage communities with EJ concerns and develop a stakeholder engagement plan. This plan should detail information on engagement milestones and commitments to meetings with potentially impacted communities and community organizations. Engaging with port facilities on plans for development and outreach may also be helpful. Outreach efforts within the affected communities should be summarized in the EJ section of the EIS and documented in an appendix.	BOEM has facilitated effective public outreach throughout the EIS process, including outreach to low-income and minority populations, as demonstrated through broad participation in scoping meetings and public hearings and substantial public input received through comments submitted on regulations.gov or through verbal testimony at public meetings during scoping and the public review period for the Draft EIS. It is noted that no stakeholders representing environmental justice or disadvantaged communities requested targeted consultation and coordination to address Project impacts on disadvantaged communities during EIS scoping or the public comment period for the Draft EIS. The scoping period and publication of the Draft EIS for public review and comment, and associated virtual public meetings, were noticed in the Virginia Beach Daily Press (City of Newport News, VA), the Virginian Pilot (Cities of Norfolk, Portsmouth, Chesapeake, Suffolk and Virginia Beach, VA), and the Coastland Times (Dare County, NC).
EPA recommends that outreach materials are provided to communities in meaningful, easy to comprehend documents. EPA encourages BOEM to provide notices of public meetings and informational events or other related resources at frequently visited community locations, including schools, places of worship, community centers, barbershops, salons, and medical facilities. Low community participation in meetings could indicate communities are not receiving the information about public meetings or that the timing is not convenient for the public to participate.	
EPA suggests that the FEIS include a summary of the public meetings that were held during the public comment period. The EIS should discuss substantial issues that were voiced at the meetings, how	The dates of the public meetings were added to Appendix A, Section A.2.3.3, <i>Distribution of the Draft Environmental Impact Statement for Review and Comment</i> .

Comment from U.S. Environmental Protection Agency	Response
<p>those issued were addressed, and specific mitigation measures developed with input from communities.</p>	<p>All oral comments received during the public meetings were transcribed and responded to in Appendix N of the Final EIS. Where comments resulted in changes to the analysis in the Final EIS, a statement to that effect is included in Appendix N, <i>Response to Comments on the Draft Environmental Impact Statement</i>.</p> <p>Mitigation measures are included in Appendix H, <i>Mitigation and Monitoring</i>, and additional information about the impact of each mitigation measure is included in each relevant resource section in Chapter 3.</p>
<p>EPA provided comment (October 26, 2022) on the USACE public notice under separate cover. These comments have not been addressed and therefore remain.</p>	<p>BOEM published the Draft EIS on December 16, 2022, for a 60-day public review and comment period. USACE published an additional public notice at the same time, which followed USEPA's October 26, 2022, comments. BOEM recognizes that USACE is coordinating with USEPA regarding its comments on the USACE public notice, and BOEM's Final EIS addresses comments received on the Draft EIS.</p>
<p>We note that emissions regulated and permitted under Clean Air Act (CAA) Outer Continental Shelf (OCS) Air Regulations are a subset of emissions that would be expected from construction of the Proposed Action or alternatives. For the purposes of NEPA, the EIS should fully and clearly evaluate all air emissions from the Project, including emissions not included in OCS permitting, such as emissions considered to be temporary emissions or vessel transit emissions from European and North American ports (including Corpus Christi–Victoria, Texas) for ships and components.</p>	<p>The emissions information in the EIS was taken from the COP, which evaluates all project emissions, including those not subject to OCS air permitting. The OCS air permit application only includes emissions that are subject to the OCS air regulations.</p>
<p>For transparent decision making and public disclosure, air emissions should be fully evaluated. The current geographic analysis area for Air Quality is limited to the airshed within 25 miles of the lease area and 15.5 miles of onshore construction areas and potential ports. It is not evident that this area is appropriate to determine air quality impacts of the Project and alternatives under NEPA. If the analysis of emissions will be limited as currently proposed, we recommend that a robust analysis support the appropriate geographic analysis area.</p>	<p>The emissions information in the EIS was taken from the COP, which evaluates all project emissions regardless of location.</p>
<p>Potential leakage of sulfur hexafluoride (SF₆) from gas-insulated switchgears is briefly addressed in this section. SF₆ is an extremely potent greenhouse gas; a relatively small amount can have a significant impact on global climate change. EPA recommends that the EIS specifically address the use of SF₆ for onshore and offshore</p>	<p>The Draft EIS provided emissions estimates for SF₆. According to Dominion Energy, as of May 2023, considerations for alternatives for SF₆ are not feasible or cost-effective. Alternatives would be cost-prohibitive and would affect the project schedule. Dominion Energy has a program dedicated to tracking SF₆ gas pressures to identify</p>

Comment from U.S. Environmental Protection Agency	Response
<p>facilities, potential emissions, and measures taken to reduce use or leakage. It is our understanding that Dominion has committed to using SF6-free switchgears on the WTGs. EPA recommends additional evaluation of the use of SF6-free switchgears where possible. We suggest BOEM work with EPA to consider requirements for monitoring and leak detection on the OSSs or other facilities to limit emissions.</p>	<p>leaking equipment and takes action to repair or replace such equipment with expediency to minimize leakage. BOEM has included the following measure in Appendix H, <i>Mitigation and Monitoring</i>: Leak detection and monitoring requirements of less than 1% would be required, in line with IEC and USEPA guidance.</p>
<p>3.4.2.1 Impact Level Definitions for Air Quality¹⁴⁵¹⁴⁶ Air Quality is the only resource area with a single impact level for “Minor to Moderate” impacts. This reflects a wide range from detectable to almost exceeding the National Ambient Air Quality Standards (NAAQS). This coarse scale makes it difficult to compare alternatives. We recommend separating minor from moderate impacts and clarifying the impact level based on updated emissions analysis (see comment regarding 3.4.5. below). We note that EPA considers a source that emits 250 tons per year of a regulated pollutant a Prevention of Significant Deterioration (PSD) major source which requires additional modeling and analysis to ensure that the Project will not cause or contribute to a violation of any applicable NAAQS or PSD increment. At a minimum, we suggest that BOEM consider a project that contains PSD major sources as a moderate impact level when there are no modelled exceedances of the NAAQS.</p>	<p>In EIS Table 3.4-1, 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. BOEM will consider EPA’s suggestion that impacts be considered “moderate” where the Project contains PSD sources, provided there are no modeled exceedances of the NAAQS.</p>
<p>The Air Quality Impact Level Definitions do not include greenhouse gas (GHG) emissions. For clarity, we recommend separating GHG and climate change into separate sections for evaluation. See further comments regarding GHG below.</p>	<p>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>It is unclear how the regulatory background of the Virginia Clean Economy Act of 2020 (VCEA) and Executive Order 43, as laid out in the beginning of 3.4.3.1 is reflected in the discussion that follows. The discussion of the No Action alternative focuses on energy generation from fossil fuels and from proposed wind projects but does not include decreases in fossil fuel use expected in compliance with the VCEA. We recommend that the assumptions about the energy supply and effects for the No Action Alternative be clarified, including that electricity would be provided by fossil fuel-fired facilities and/or other wind projects without the Project. Projected emissions should be considered relative to this revised baseline.</p>	<p>The discussion has been clarified in Final EIS Section 3.4.3.1, <i>Conclusions</i>.</p>

Comment from U.S. Environmental Protection Agency	Response
<p>We recommend providing additional detail regarding emissions from projects that are not related to proposed wind energy development for analysis of cumulative effects. Further, we recommend that the benefits of wind energy be discussed under the Proposed Action instead of the Cumulative Impacts of the No Action Alternative.</p>	<p>A cross-reference to Appendix F, <i>Planned Activities Scenario</i>, has been added to the text.</p> <p>Benefits of wind energy would occur as a cumulative impact under the No Action Alternative, as well as a project impact under the Proposed Action. Therefore, they are discussed where first mentioned.</p>
<p>Throughout Section 3.4., it appears that the DEIS relies on the emissions estimates from the Construction and Operations Plan (COP) Appendix N to evaluate the impacts of air-related construction and operation and maintenance (O&M) emissions. BOEM should ensure that the COP is the most up to date source for air emissions as Dominion has refined emissions estimates for purposes of the air permitting based on factors such vessel procurement contracts, project design, etc. The FEIS should include the most current emissions data as the basis for evaluating impacts from air emissions.</p>	<p>The emissions data in the Final EIS are based on the most recent COP, dated February 2023. BOEM will review the emissions estimates in the OCS air quality permit application when the application becomes available.</p>
<p>EPA appreciates that BOEM included Tables 3.4-2 and Table 3.4-3 for Proposed Project emissions. However, providing context to how these were determined, including specific sources used to generate these numbers and why BOEM considers these emissions to represent minor impacts instead of moderate would be helpful.</p>	<p>The data underlying Tables 3.4-2 and 3.4-3 are available in the most recent COP, dated February 2023. 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.</p>
<p>EPA recommends the air quality analysis include information comparing the modelled concentrations to the NAAQS, state air quality standards, and other relevant reference measures, which would allow for a more quantitative assessment to determine if emissions would adversely impact the air quality resource. Absent such a comparison, it is unclear how a determination of minor adverse impacts can be made.</p>	<p>Comparison to the NAAQS, state air quality standards, and other relevant reference measures is included in the OCS air permit application and will be added when the application becomes available.</p>
<p>We understand the need to reduce duplication; however, supporting analysis should be easily accessible by the public; we recommend including this in the appendices or linking to it directly.</p>	<p>Supporting analysis is available in the appendices and the COP.</p>
<p>As indicated, a number of on-and offshore sources, including combustion, vessels, diesel-fueled generators, traffic, solvent use, etc. may generate emissions. We recommend an expanded discussion of potential Hazardous Air Pollutant (HAP) emissions associated with construction, O&M, and decommissioning, as the discussion of HAPs is limited.</p>	<p>Text on HAP impacts has been added to the Final EIS.</p>
<p>Section 3.4.5 states that "The Proposed Action's WTGs, substations, and offshore and onshore cable corridors would not themselves</p>	<p>The statement has been revised to address this comment.</p>

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<p>generate air pollutant emissions during normal operations.” However, this statement does not appear to be accurate because the OSSs will have emergency generators that will be periodically tested for readiness and maintenance purposes in addition to running for emergency use, as well as SF-6 switchgears that could leak. We recommend revising this statement.</p>	
<p>Section 3.4.5.1 describes Dominion’s measures to minimize the potential impact- producing factors by compliance with regulatory requirements such as fuel-efficiency and emissions standards, fuel sulfur content standards, and a Fugitive Dust Control Plan. These should be expanded upon so that the public can reference the specific mitigation measures required. Further, EPA recommends committing to additional mitigation measures that can be taken beyond the regulatory requirements to reduce and minimize emissions. To ensure the lowest long-term climate impacts, the EPA recommends that BOEM require procurement of best available technology, such as the most efficient and lowest emitting vessels available, i.e., Tier 4 certified engines or alternative fueled vessels).</p>	<p>Mitigation measures are described in Appendix H, <i>Mitigation and Monitoring</i>.</p>
<p>Many of the ports proposed for use by the Project are in areas that may have existing environmental justice concerns. EPA recommends that BOEM’s mitigation measures identify emission reduction best practices for ports such as vessel speed and idle reduction requirements, Tier 4 EPA certified equipment or retrofitting of older equipment, and/or the use of shore power systems for equipment and hoteling.</p>	<p>Mitigation measures are described in Appendix H, <i>Mitigation and Monitoring</i>.</p>
<p>3.4.6 concludes "In context of reasonably foreseeable environmental trends, the contribution of Alternatives B and C to the impacts of ongoing and planned activities would not be materially different from those described under the Proposed Action." Likewise, Section 3.4.7 concludes that the differences in emissions among the Proposed Action and the other action alternatives would be small and air quality and climate impacts “would be substantively the same” as the Proposed Action. Without a specific comparison of emissions between alternatives, it is difficult to draw any conclusions other than emissions from B and C would be "less." EPA recommends estimating construction emissions for criteria pollutants and GHG for each alternative to meaningfully compare the emissions and inform impacts and alternatives.</p>	<p>Construction and operation emissions may be expected to vary roughly with the number of WTGs + OSSs. If the Proposed Action (202 WTGs + 3 OSSs) represents 100%, then the percentages for the other alternatives would range roughly 84–100%. These percentages support the conclusions given in the EIS. Because much of the Project infrastructure is nearly the same for all action alternatives, these percentages likely overstate the differences among the alternatives’ emissions.</p>

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<p>Appendix A, Required Environmental Permits and Consultations Table A-1 should be updated to reflect the current status of the CAA OCS Permit. Dominion Energy submitted an air permit application to EPA on January 12, 2023. EPA determined the air permit application to be complete on February 7, 2023.</p> <p>Greenhouse Gas Emissions and Climate Change</p> <p>On January 9, 2023, Council on Environmental Quality (CEQ) published interim guidance to assist federal agencies in assessing and disclosing climate change impacts during environmental reviews. See https://www.federalregister.gov/documents/2023/01/09/2023-00158/national-environmental-policy-act-guidance-on-consideration-of-greenhouse-gas-emissions-and-climate. CEQ developed this guidance in response to EO 13990, Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis. 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 appropriate, such as informing the consideration of alternatives or helping address comments raised through the public comment process. EPA recommends the FEIS apply the interim guidance as appropriate, to ensure robust consideration of potential climate impacts, mitigation, and adaptation.</p> <p>Avoided emissions and climate change benefits are not clearly discussed throughout the DEIS. As the DEIS states that minor air quality benefits are projected, EPA recommends that BOEM expand upon this discussion to explain how the net GHG reductions would help meet relevant national and local climate action goals and commitments.</p> <p>A figure comparing the magnitudes of the GHG emissions produced during construction and operations and maintenance emissions and avoided emissions would be helpful in assessing Project impacts and benefits.</p>	<p>Final EIS Appendix A, Table A-1 has been updated.</p> <p>The GHG analysis is consistent with the CEQ January 2023 CEQ guidance.</p> <p>Text and data on avoided emissions have been added.</p> <p>Text has been added explaining how the Project would help meet climate goals.</p>
<p>EPA recognizes the long-term potential benefits of the proposed large-scale offshore wind renewable energy project with respect to GHG reductions and climate change consistent with the goals outlined in Executive Order 14008, Tackling the Climate Crisis at Home and Abroad. However, EPA recommends that BOEM fully evaluate</p>	<p>Text has been added discussing upstream emissions.</p>

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<p>emissions, include estimates of upstream emissions to fully disclose the direct and indirect emissions associated with the Project. Emissions associated with production and processing such as manufacturing materials that constitute the foundation and wind turbine tower are a reasonably foreseeable effect of the Project.</p>	
<p>Additionally, the document would benefit from a more robust consideration of climate change risks. This should include consideration of climate resiliency measures, particularly for infrastructure that may be vulnerable to the impacts associated with climate change. EPA recommends indicating how the offshore and onshore components of the project are designed to be durable in light of the changing oceans, sea level rise, and more frequent severe weather events.</p>	<p>The following potential climate-related impacts on Project infrastructure have been identified:</p> <ul style="list-style-type: none"> • Project-related infrastructure located at the O&M support facilities, onshore points of interconnection, onshore substations, and related facilities, could be vulnerable to inundation during significant storm surge events. • Regional climate-related vulnerabilities in the electric transmission system potentially could have indirect impacts on the Project’s ability to deliver electric power during system disruptions. • Regional climate-related vulnerabilities in the transportation system could have indirect impacts on the Project’s ability to perform operations and maintenance tasks at either its onshore or offshore facilities. <p>The Project itself has been designed to accommodate future climate risks. For example, the stormwater management system is being designed for extreme storm events considering climate trends. The most onerous extreme metocean values were used to design the height of critical human safety elements such as boarding ladders, platforms, access points, etc. Maximum wave crest elevations based on both a 50-year and 1,000-year time interval were applied. As a result, extreme storm events and other climate effects are not anticipated to negatively affect the Project infrastructure or activities.</p>
<p>The resources in 3.6 and 3.13 overlap. However, the geographic analysis area identified for Benthic Resources is much more limited based on “where the most widespread impact” could affect marine benthic resources. Nonetheless, the cumulative impact assessment for the No Action Alternative (3.6.3.2) includes an extensive discussion of impacts from structures and determines a potential beneficial effect on benthic resources although the nearest potential planned offshore wind facility is approximately 24 miles away. The EIS should be consistent regarding the area of analysis.</p>	<p>The benthic resources geographic analysis area is not the same as that Finfish due to the limited geographic range of benthic invertebrates. A 10-mile buffer around the Lease Area and 330-foot buffer around the OECC encompass an adequate range for benthic resources and remains consistent with recent Final EIS documents.</p>

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<p>Impacts from scour protection are unclear. The DEIS indicates that the type, and method for installing scour protection has not been finalized and will be determined at a later time. As described, scour protection may include dumped rocks, geotextile sand containers, and concrete mattresses. These different types of scour protection may have different effects.</p>	<p>The level of detail provided in the Draft EIS is the same as that provided in the COP. Currently, the specifics about scour protection types or quantities are unknown.</p>
<p>The apparent lack of measurable differences among the alternatives for benthic organisms is unexpected. The purpose of Alternative C was to minimize impacts on sand ridge habitat as a significant and unique benthic resource that serves important ecological functions. However, despite the avoidance of complex habitat and the decrease in potential impacts on benthic resources described in 3.6.6, Section 3.6.6.1 concludes that the overall expected impacts on benthic resources would not be expected to be substantially different for Alternatives B and C than those described under the Proposed Action. The use of the “small” overall percentage of reduction to explain this conclusion does not capture the quality, rarity, or importance of habitats.</p>	<p>There would be a reduction of roughly 15% for Alternative C, and functionally there would be less impact on sensitive or complex habitats. However, the impact determinations would remain the same as adverse impacts on species would be unavoidable. Adverse impacts on habitat may be combination of short term, long term, and permanent depending on the sub-IPF. Although impacts would be avoided where possible, some impacts on sensitive habitats would still occur but would not result in population-level effects on species that rely on them.</p>
<p>Similarly, it is unclear whether potential improved foraging from structures for some species of birds would outweigh the overall negative risks of mortality from collisions.</p>	<p>Text has been added to Final EIS Section 3.7.3 to clarify the beneficial impacts. Additional text has been added to Sections 3.7.3 and 3.7.5 to further explain why the overall negative risks of mortality from collisions are low for projects on the Atlantic OCS.</p> <p>Further, the EIS process evaluates both negative and beneficial impacts and reports them separately. It is not a comparative analysis; in other words, a beneficial impact does not offset an adverse impact.</p>
<p>As described, population-level effects, including declines and shifts are occurring under the No Action Alternative for a range of biota, including birds, bats, marine mammals, and sea turtles from a number of sources, including habitat loss and climate change. It is unclear why these existing and cumulative population-level impacts under the No Action Alternative are characterized as moderate instead of major in the DEIS. As described in 3.7.1.4, coastal birds are particularly vulnerable to sea-level rise and the increasing frequency of strong storms. It is therefore unclear why the No Action Alternative (3.7.3.1) states that population-level effects would not be anticipated and the effects of the No Action Alternative with cumulative impacts are “moderate adverse to moderate beneficial.”</p>	<p>The impact level determination of “moderate” is currently appropriate for the CVOW-C Project and is consistent with other published BOEM offshore wind project EISs. As noted in Table 3.7-1, the impact level definition for “moderate” adverse impacts is: “Impacts would be unavoidable but would not result in population-level effects or threaten overall habitat function”. BOEM may consider a reevaluation of No Action Alternative impact determinations for birds on other ongoing EISs in the future.</p>

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<p>While EPA defers to the expertise of the US Fish and Wildlife Service and National Oceanic and Atmospheric Administration for detailed comments regarding federal trust species and their habitats, such as described in Sections 3.7, 3.13, 3.15, and 3.19, we find that the EIS would generally benefit from greater clarity in identifying and comparing proposed adverse and beneficial impacts for each alternative, impact significance, and commitment to specific avoidance and mitigation measures for sensitive species, including migratory birds, both on and offshore.</p>	<p>Relative to the Proposed Action, Alternatives B and C only result in a small reduction in the number of WTGs in the offshore environment, and onshore these alternatives are identical to the Proposed Action. Although Alternative D is identical to the Proposed Action offshore, and onshore, a hybrid terrestrial route option is presented. Under all alternatives, small reductions or increases in impacts would occur (both adverse and beneficial impacts), and the EIS addresses these changes to the extent practicable.</p> <p>Appendix H of the EIS includes the mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. A framework for an avian and bat post-construction monitoring program would be developed and implemented in coordination with applicable federal resource agencies (see Appendix H for details). Additional mitigation and monitoring measures may arise from consultations and coordination with federal and state resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision.</p>
<p>As indicated in 3.7, the offshore waters and coastal areas of Virginia provide coastal, estuarine, and nearshore marine habitats for avian species, including critical stopover habitat for many migrating species of waterfowl, shorebirds, raptors, and wading birds. Population-level effects for many species are currently occurring due to factors such as habitat loss and fragmentation, collisions, exposure to pesticides, predation, and effects of climate change. As indicated above, the DEIS should clearly assess the baseline impact level of impacts and then evaluate the Project's contribution to such impacts. Section 3.7 should clearly support or revise the finding of "moderate" beneficial impacts for both the No Action and Proposed Action. Additionally, impacts from different alternatives on birds or other sensitive species should be clearly explained and quantified.</p>	<p>The impact level determination of "moderate" is currently appropriate for the CVOW-C Project and is consistent with other published BOEM offshore wind project EISs. As noted in Table 3.7-1, the impact level definition for "moderate" adverse impacts is: "Impacts would be unavoidable but would not result in population-level effects or threaten overall habitat function". BOEM may consider a reevaluation of No Action Alternative impact determinations for birds on other ongoing EISs in the future.</p> <p>Text has been added to Final EIS Section 3.7.3 to clarify the beneficial impacts. Also, additional text has been added to Sections 3.7.3 and 3.7.5 to further explain why the overall negative risks of mortality from collisions are low for projects on the Atlantic OCS.</p> <p>Relative to the Proposed Action, Alternatives B and C only result in a small reduction in the number of WTGs in the offshore environment, and onshore these alternatives are identical to the Proposed Action. Although Alternative D is identical to the Proposed Action offshore and onshore, a hybrid terrestrial route option is presented. Under all alternatives, small reductions or increases in impacts would occur</p>

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	(both adverse and beneficial impacts), and the EIS addresses these changes to the extent practicable using the best available information.
<p>The discussion of onshore impacts would benefit from a more detailed discussion of impacts, species, and habitat types to meaningfully evaluate impacts under this heading. As indicated, the COP lists notable natural habitats and/or rare natural communities within or adjacent to the project area that may include rare wetland types; given the reduction and refinement of the project and alternatives, it would be helpful for the EIS to include an updated discussion of potential resources and expected impacts. While helpful information, the acreage of National Land Cover Database cover class does not provide sufficient information to assess the significance of impacts.</p>	<p>More detailed discussion of impacts, species, and habitat types has been added to the Final EIS.</p>
<p>As indicated above, we recommend a clear explanation of impacts associated with the interconnection Cable Routes and the Harpers and Chicory switching stations to support findings of limited disturbance and habitat removal associated with onshore construction.</p>	<p>More detailed discussion of impacts, species, and habitat types has been added to the Final EIS.</p>
<p>The conclusions of impacts and their significance are not well-supported. As described, ongoing activities, including climate change, are expected to be moderate under the No Action Alternative, while the proposed action and alternatives are determined to have minor impacts. It is unclear from this discussion how the impacts would be less than the existing baseline; it is also unclear how cumulative impacts of the Proposed Action would include minor beneficial impacts. The only discussion of potential beneficial impacts for this resource appears to be a statement in 3.8.5 regarding the potential for both beneficial and minor adverse effects from cable protection from habitat conversion. The finding of an overall beneficial effect based on coastal resources is unclear, given the limited area of armoring, the unknown type of scour protection employed, the type of habitat, and other factors.</p>	<p>There was not a finding of an overall beneficial effect. The text has been revised to read, “impacts of individual IPFs resulting from ongoing and planned actions, including the Proposed Action or Alternative A, would range from negligible to moderate.” Text has been added to Final EIS Section 3.8.5, <i>Impacts of the Proposed Action on Coastal Habitat and Fauna</i>, to cross-reference Section 3.6, <i>Benthic Resources</i>, for a discussion of potential minor beneficial impacts from conversion of soft-bottom habitat.</p>
<p>We also note that only offshore wind is considered in the cumulative impacts of the No Action Alternative, although a number of other coastal activities may occur.</p>	<p>Text to address non-wind activities has been added to the Final EIS.</p>
<p>Onshore Activities and Facilities - As currently presented, it is difficult to compare the impacts from the Proposed Action with Alternative D-1 and D-2. Information regarding impacts to resources such as wetlands, rare natural heritage communities, forests, etc., would be</p>	<p>Final EIS Tables 3.8-2, 3.8-3, and 3.8-5 have been revised to include the most recent information from Dominion Energy’s updated COP. Temporary and permanent impacts on land cover types, and ecological cores are provided for the Proposed Action and Alternative</p>

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<p>beneficial in assessing impacts. The EIS should clarify proposed temporary and permanent disturbance associated with the construction and maintained rights-of-way for onshore interconnection routes and impacts for the two potential switching stations. We recommend that this discussion include the information in Tables 3.8-2, 3.8-3, 3.8-4, and 3.8-5 with the tables combined for clear comparison of the impacts. This comparison would also benefit from figures showing the impacts to wetlands, forests, ecological cores, and other sensitive resources.</p>	<p>D-2 in EIS Tables 3.8-2 and 3.8-4 and EIS Tables 3.8-3 and 3.8-5, respectively. Narrative discussion regarding these impacts is provided primarily beneath the land disturbance impact producing factor headings for the action alternatives in EIS Section 3.8, <i>Benthic Resources</i>. Because Alternative D-1 includes the same onshore components as the Proposed Action (Interconnection Cable Route Option 1 and associated Harpers Switching Station), the analysis for Alternative D focuses primarily on differences in impacts under Alternative D-2 (Hybrid Interconnection Cable Route Option 6). BOEM will consider inclusion of figures depicting ecological cores and land cover types in the Final EIS; however, COP, Section 4.2.2 contains several figures showing the extent of these resources in proximity to the onshore project components.</p>
<p>In Section 3.12.2.1, the DEIS states that “BOEM has invited federally recognized Tribes with ancestral associations to lands in the Project area to participate in government-to-government consultation and to participate in the NHPA Section 106 consultation process.” EPA recommends the Final EIS provide a discussion on the status and outcomes of the government-to-government consultations. Government-to- government consultations should be conducted individually with each Tribal government, ensuring the consultation is meaningful and allows for BOEM to take Tribal input into consideration before taking any actions or decisions that may impact Tribal resources or interests. BOEM should respond to each Tribe’s consultation comments or questions in a written document and notify the Tribes of their ultimate decision or action formally closing out consultation.</p>	<p>This Final EIS includes a summary of BOEM’s government to government meetings with federally recognized Tribes (Tribes) in Appendix A, <i>Required Environmental Permits and Consultations</i>. BOEM provides written summaries to meeting attendees and documents action items and follow-ups.</p>
<p>EPA encourages effective involvement of tribes in evaluating environmental concerns, terrestrial and marine archaeological resources, and interpreting results. Given that there is a potential for major impacts on ancient submerged landforms within the lease area and that the Tribal significance of these has not yet been determined, it is imperative that the appropriate representatives of each Tribe have invitation and opportunity to meaningfully participate in both the government-to-government consultation and the National Historic Preservation Act process. Tribes can provide unique insight into the identification of traditional cultural landscapes that may not be immediately evident to the archaeology team. As a result, the Tribes</p>	<p>BOEM has consulted with Tribes and consulting parties on the identified historic properties; assessment of effects; and planning for the resolution of adverse effects under NHPA Section 106. This includes consultation on content included in the Final EIS and Final MOA, including the avoidance, minimization, and mitigation measures to be adopted by the Project and process for handling the unanticipated discovery of archaeological resources and related consultations.</p>

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<p>usually prefer to participate when the archaeology work is being conducted, as opposed to reviewing a report after the field work is completed. We also recommend that Tribes be invited to participate in the development of unanticipated discovery plans for offshore and onshore construction activities.</p>	
<p>Page 3.10-16, Section 3.10.5 states “BOEM anticipates that [Bold: Atlantic Shores] would implement plans to avoid, minimize, or mitigate impacts on cultural resources as aligned with VDHR and NHPA requirements.”</p>	<p>BOEM has revised Section 3.10.5, <i>Impacts of the Proposed Action on Cultural Resources</i>, to correct this oversight.</p>
<p>We recommend that the FEIS evaluate and compare potential impacts on property values, taxes, electricity costs/ratepayers, or other economic factors from the Proposed Action and Alternatives D-1 and D-2. We suggest the factor be considered in comparison of the overhead and buried sections of the interconnection cable route and construction of the Harpers Road or Chicory switching stations.</p>	<p>As stated in Dominion Energy’s COP, Section 4.4, offshore wind activities are not anticipated to have negative impacts on property values because onshore components will largely occur within existing right-of-way and previously developed areas.</p> <p>EIS Section 3.11.5 summarizes the information provided in the COP regarding the impacts of the Project on spending, employment, and tax revenues. The impacts of the Project on electricity costs/ratepayers are not disclosed in the COP and therefore cannot be analyzed in the EIS.</p>
<p>As described in 3.11.4, a relevant factor that influences impacts to Demographics, Employment, and Economics is the extent to which Dominion Energy hires local residents and obtains supplies and services from local vendors. EPA recommends BOEM make a commitment to developing training programs, targeting employment outreach initiatives, and holding career fairs in disadvantaged communities. Ensuring local residents have the opportunity to gainful employment could benefit the community. The EIS should provide information on how Dominion plans to recruit and hire local residents and vendors.</p>	<p>In September 2021, Dominion Energy signed a Memorandum of Understanding (MOU) with the North America’s Building Trades Unions and its state affiliate to identify opportunities to use union labor on CVOW-C. Since the Project will require skilled and qualified workers in Hampton Roads, the MOU also includes commitments to use local workers; prioritize the hiring, apprenticeship, and training of veterans; and use workers from historically economically disadvantaged communities. These commitments were included in the MOU because Dominion Energy is working to satisfy the provisions of the Virginia Clean Economy Act, which calls for the priority hiring of veterans, local workers, and individuals from economically disadvantaged communities. To meet these requirements, Dominion Energy has met with hundreds of businesses, Chambers of Commerce, minority-serving institutions, workers, educational institutions, and students. In addition, the company has hosted and will continue to host local events and open houses specific to potential business suppliers and workers to learn about what is needed to work in the offshore wind industry. Through these efforts, Dominion Energy is now in the process of establishing a Project Labor Agreement with</p>

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	North America’s Building Trades Unions in collaboration with DEMA and Siemens Gamesa Renewable Energy.
<p>Communities with environmental justice (EJ) concerns are often disproportionately burdened by environmental hazards and stressors, unhealthy land uses, psychosocial stressors, and historical traumas, which drive environmental health disparities. The FEIS should consider whether communities may already be experiencing existing pollution and social/health burdens and appropriate mitigation to offset or reduce potential adverse effects.</p>	<p>Additional information has been added to Section 3.12.3.1, <i>Impacts of the No Action Alternative</i>, Impact of the No Action Alternative describing existing environmental conditions in the areas surrounding anticipated onshore cable landings, export cables, interconnection cables and switching stations.</p> <p>As described in Appendix H, <i>Mitigation and Monitoring</i>, there are Lessee-proposed mitigation measures regarding environmental justice stating that the Project would use existing roads, ROWs, and infrastructure where possible, as well as the Lessee’s commitment to communications and outreach to foster the meaningful public participation of potential environmental justice communities is ongoing to better understand how communities may be affected and identify related mitigation measures.</p>
<p>The EJ analysis does not consider existing burdens when analyzing cumulative impacts in the determination of disproportionately high and adverse impacts. 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.” CEQ’s guidance, Environmental Justice: Guidance Under the National Environmental Policy Act (1997) also encourages agencies to consider relevant data concerning the potential for multiple or cumulative exposures to human health or environmental hazards and historical patterns of exposure to environmental hazard, even if certain effects are not within the control or subject to the discretion of the agency. EPA recommends BOEM consider how cumulative environmental, health, socioeconomic, and climate stressors may contribute to impacts.</p>	<p>The determination of disproportionately high and adverse impacts is made for the Proposed Action alone and not for cumulative impacts of the Proposed Action in combination with the planned activities scenario as described in Appendix F, <i>Planned Activities Scenario</i>.</p>
<p>It is unclear how air emissions associated with the Project will impact the communities that may already be experiencing high burdens. While only described as a temporary minor impact, this is unsupported in the DEIS. Modeling and further information should support the finding of minor air quality impacts to communities with EJ concerns. EPA recommends discussing specific measures that may be taken to</p>	<p>Detailed information regarding air emissions can be found in Section 3.4, <i>Air Quality</i>. The geographic analysis area of air quality is larger than that of environmental justice, but it provides a good representation of the emissions anticipated from the Project. Additionally, more information to describe the baseline environmental conditions has been added to Final EIS Section 3.12.3.1, <i>Impacts of</i></p>

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<p>reduce or mitigate these impacts. The DEIS concludes that the Project could benefit communities of EJ concern by “displacing fossil fuel power generating capacity within or near the geographic analysis area.” As stated in the DEIS, minority and low-income populations generally are disproportionately affected by emissions from fossil fuel power plants and air pollutants nationwide. However, further analysis is needed to support the claim that the Project would benefit the communities. Helpful information would include the locations of the fossil fuel power plants within the analysis area and plans or timeframes for decommissioning these plants.</p>	<p><i>the No Action Alternative</i>. Air quality impacts from the Project are also described under Section 3.12.5, <i>Impacts of the Proposed Action on Environmental Justice</i>, air emissions IPF. Air quality mitigation measures can be found in Appendix H, <i>Mitigation and Monitoring</i>. Some of the mitigation measures that may contribute to minimizing impacts on environmental justice communities are:</p> <ul style="list-style-type: none"> • Onshore Project area construction activities would primarily utilize diesel-powered equipment, including horizontal directional drilling operations, trenching/duct bank construction, and cable pulling and termination. • Any fugitive dust generated during construction of the Onshore Project Components would be managed in accordance with the Project’s Fugitive Dust Control Plan. • Project-related vessels that are fueled exclusively at U.S. terminals would use ultra-low sulfur diesel fuel and vessels fueled at marine terminals outside the United States will, at a minimum, use fuel at or below the maximum fuel sulfur content requirement of 1,000 parts per million established per the requirements of 40 CFR 80.510(k); the COP (Dominion Energy 2023: Page 4-59 Project Stage Location Impact Avoidance, Minimization and Mitigation). • Project-related vessels would comply with applicable USEPA or equivalent emission standards. • The Project would provide EPA with data on horsepower rating of all propulsion and auxiliary engines, duration of operating time, load factor, and fuel consumption for Project-related vessels to determine actual emissions from Project-related vessels, as applicable. <p>Benefits would result from the displacement of fossil fuel power generation; the addition of offshore wind energy would offset fossil fuel emissions, as described in Buonocore et al. 2016. Additionally, Section 3.4, <i>Air Quality</i>, contains further analysis of reductions in regional GHG emissions.</p>
<p>EPA is concerned that information regarding the Proposed Action may not be effectively reaching those most impacted by the proposed project. EPA notes that the federally recognized Tribes in Virginia have recently expressed concerns about the extent of consultation. EPA encourages additional outreach and coordination with Tribes and</p>	<p>BOEM conducted government-to-government meetings on September 27, 2021, January 23 and April 13, 2023 with Tribes. BOEM will continue to schedule government-to-government meetings with Tribes throughout the remainder of NHPA Section 106 consultation. In addition to government-to-government meetings, BOEM also invited</p>

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<p>other affected communities to identify and minimize potential adverse effects associated with the Project while collaborating on opportunities to reduce or mitigate impacts, providing opportunities for job training and other beneficial impacts. We urge BOEM to fully and meaningfully engage with communities with Environmental Justice concerns and would welcome further conversations with BOEM.</p>	<p>Tribes to participate in NHPA Section 106 consultations BOEM conducted Section 106 consultation meetings on September 9, 2022, December 15, 2022, April 13, 2023, June 12, 2023. The Final EIS will provide an updated summary of BOEM's consultations with tribal nations for the Project to date in Appendix A, <i>Required Environmental Permits and Consultations</i>; Section 3.12, <i>Environmental Justice</i>; and Appendix O, <i>Finding of Adverse Effect for the Coastal Virginia Offshore Wind Construction and Operations Plan</i>, includes a summary of cultural significance of the ancient submerged landforms and impacts to tribally significant resources. BOEM remains in consultation with federally recognized Tribes on planning for the resolution of adverse effects under NHPA Section 106.</p> <p>BOEM presented on the Project during EPA's Region 3 Regional Tribal Operations Committee meeting on January 10, 2023. BOEM hosted an additional government to government meeting, including the Virginia based federally recognized Tribes, on January 30, 2023. The agency also hosted an informal tribal meeting to discuss potential impacts from the Project on fisheries on April 10, 2023. BOEM welcomes additional opportunities to coordinate with the EPA and Tribes on issues of tribal concern.</p>
<p>The finding of beneficial effects to resources should be clearly described and supported. While beneficial impacts may occur, these may be limited to certain species or groups and may create tradeoffs. Therefore, it is often unclear if the finding of general beneficial effects is appropriate. For example, the reef effect from structures may benefit certain fish or invertebrate species, but cause displacement or predation of others. It remains unclear if this represents an overall beneficial effect for the benthic ecosystem as a whole.</p>	<p>Text has been added to Section 3.13.5.2, <i>Conclusions</i>, to support the beneficial impacts discussion and clarify the species groups receiving most of the benefits.</p>
<p>The finding of beneficial impacts overall for both resources is currently not well supported. Section 3.6 concludes that the impacts associated with the Project or action alternatives are negligible to moderate with potential moderate beneficial impacts on benthic resources from structures. Section 3.13.2.1 indicates "there are no beneficial impacts on finfish, invertebrates, and EFH" but 3.13.5.2 concludes the presence of structures may result in minor beneficial impacts. As described in the narrative, the impacts of the reef effect from offshore wind structures are mixed; specific beneficial effects can be listed for certain species and assemblages, which may be offset by adverse</p>	<p>The text throughout Section 3.13, <i>Finfish, Invertebrates, and Essential Fish Habitat</i>, has been reviewed and beneficial impacts discussions expanded.</p> <p>The sentences stating that there are no beneficial impacts has been deleted in Section 3.13.2.1, <i>Impact Level Definitions for Finfish, Invertebrates, and Essential Fish Habitat</i>.</p>

Comment from U.S. Environmental Protection Agency	Response
<p>impacts to others. As described in Section 3.9, altered community composition could change mortality of certain species and increase competition between species, which could have beneficial and adverse effects. Structure- oriented fish such as black sea bass and striped bass may increase while softbottom species such as flatfish and clams would experience habitat loss. Therefore, it is not clear that a finding of overall beneficial effects of habitat conversion can be described for native benthos. It is also unclear why the finding of beneficial effects would be more significant for benthic species than species assessed in 3.13</p>	
<p>The DEIS states “United States Army Corps of Engineers (USACE) requires that buried cables be located only within the Dam Neck Ocean Disposal Site (DNODS) Cells 2 and 5 and those cables be buried at depths greater than 6 feet below the native bottom sediment. USACE will authorize the use of cable protection measures, in order to maintain the use of the entire dredge material placement site and to allow the USEPA to conduct necessary sediment testing throughout the site.” EPA is concerned about the indicated use of cable protection measures; the FEIS should explain the specific measures. Please note that placement of dredged material at DNODS would require a Section 103 permit from USACE, subject to EPA review and concurrence, and is limited to material that is determined to be environmentally acceptable based on standards set forth in the Ocean Testing Manual (Green Book) and Regional Implementation Manual. All activities within DNODS also must be consistent with DNODS’ designation and Site Management and Monitoring Plan. The DEIS also states the offshore export cables would be buried to a target depth of between 3.3 feet and 16.4 feet; for the portion of the offshore export cable that crosses the DNODS, 14.8 feet of cover may be added to a target burial depth of 9.8 feet for a total maximum burial depth of 24.6 feet. EPA recommends clarifying this statement, including what kind of cover and how it will be added. As noted above, any placement of material at DNODS would require a permit from USACE and would be subject to EPA review and concurrence.</p>	<p>Section 3.17.1.1 of the Final EIS has been revised to include the USACE permit and other requirements listed in this comment, and to incorporate additional information from Dominion Energy.</p> <p>Dominion Energy performed a preliminary CBRA (Appendix W of the COP) that identified and quantified risk factors along the export cable route corridor. Target buried depths would be refined in coordination with USACE and other stakeholders and submitted in a FDR/FIR to BOEM prior to installation.</p>
<p>We understand surveys for unexploded ordnance and munitions and explosives of concern are ongoing. We recommend that the FEIS explain the potential impacts on siting, alternatives, and resources and BOEM ensure coordination with appropriate agencies.</p>	<p>Information on unexploded ordnances and munitions and related mitigation has been added to Final EIS Section 3.17.1.2, <i>National Security and Military Uses</i>.</p>

Comment from U.S. Environmental Protection Agency	Response
<p>Table 3.21-1 Impact Level Definitions for Water Quality indicates that a short-term exceedance of water quality standards would be a moderate impact. EPA recommends revising or clarifying this definition as Section 3.3 defines “short-term” as extending up to 3 years. Many water quality standards include a duration and frequency element that ranges from never to exceed to a monthly average. A three-year exceedance of a numeric water quality standard level would appear to present the potential for significant water quality degradation.</p>	<p>The impact duration definitions are broad and general; they are meant to apply to all resources covered in the EIS and not to a specific regulatory definition or requirement for a specific resource. BOEM understands that the definitions may fit differently with each resource. The definition for a short-term impact in Section 3.3, <i>Definition of Impact Levels</i>, states the following, “potentially lasting for several months, but not for several years or longer.” Compared to the long-term and permanent impact duration definitions, the short-term duration is the best impact duration fit for most water quality impacts, as they would be anticipated to last in the days/month range of impact duration (and would be very unlikely to extend to 3 years).</p>
<p>We note that conclusions for each action alternative states the impacts are likely to be temporary or small in proportion to the size of the Atlantic Ocean. The impacts should be considered in light of the geographic area of analysis identified in 3.21.</p>	<p>Text has been revised in Final EIS Section 3.21, <i>Water Quality</i>, from “Atlantic Ocean” to “geographic analysis area.”</p>
<p>The following comments are provided by EPA Region 3 Water Division, Wetlands Branch: Table 2-1 shows Alternative A as the Proposed Action, but the DEIS indicates that BOEM “may ‘mix and match’ the EIS alternatives to develop the preferred alternative provided that the design parameters are compatible. Please note that ultimately the preferred alternative must still meet all regulatory requirements, including demonstrating that it is the least environmentally damaging practicable alternative (LEDPA) pursuant to Section 404 of the Clean Water Act and the 404(b)(1) Guidelines (40 CFR Part 230).</p>	<p>Thank you for the comment. 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. BOEM is confident that the EIS will support USACE’s decision because BOEM works closely with USACE to ensure USACE’s concerns are addressed in the EIS. The details on mitigation will be part of the Section 404 permit, and USACE will follow all of its regulatory requirements to ensure public review of the permit process and information.</p>
<p>In the DEIS, the proposed Fentress Substation expansion would result in permanent impacts to 1.65 acres of PEM and 6.85 acres of PFO wetlands. Table 3.8-2 shows that the Fentress Substation and Proposed Expansion would impact 0.28 acre “Emergent Herbaceous Wetlands” and 7.74 acres “Woody Wetlands.” EPA requests clarifying what the projected impacts are and updating the language so that it is consistent when referencing impacts to aquatic resources throughout the FEIS.</p>	<p>As noted in EIS Section 3.8.5, Table 3.8-2 represents land cover types based on the USGS National Land Cover Dataset. Additionally, and as referenced in EIS Section 3.8.5, <i>Impacts of the Proposed Action on Coastal Habitat and Fauna</i>, impacts on wetlands are provided in EIS Section 3.22, <i>Wetlands</i> (and summarized in Table 3.22-3. The Fentress Substation (including the expansion area) would result in 1.65 acres of permanent impacts on palustrine emergent wetlands and 6.85 acres of permanent impacts on palustrine forested wetlands (EIS Table 3.22-3).</p>
<p>EPA requests a narrative that explains how the wetland impacts for the Fentress Substation were determined, including how avoidance and minimization measures were incorporated to minimize wetland</p>	<p>EIS Sections 3.22.1, <i>Description of the Affected Environment</i>, and 3.22.2.1, <i>Impact Level Definitions for Wetlands</i>, describe how wetland impacts were determined. A footnote has been added to Section</p>

Comment from U.S. Environmental Protection Agency	Response
<p>impacts. Table 3.8-2 should be clarified to indicate if it includes impacts that have already occurred from prior construction and if compensation has been provided for them. Additionally, please clarify if the impacts referenced in Table 3.8-2 are accurate and consistent with the impacts in the 404 Public Notice.</p>	<p>3.22.1 directing the reader to the USACE Norfolk District landing page for the Joint Permit/Section 404 Public Notice. The wetland impacts referenced in Section 3.22, <i>Wetlands</i>, are accurate and consistent with the impacts in Dominion Energy’s Joint Permit Application to the Virginia Marine Resources Commission for the Project.</p> <p>BOEM is required to disclose potential impacts in the EIS, and for wetlands they are provided in Section 3.22, <i>Wetlands</i>. Under CWA Section 404, Dominion Energy is required to take all appropriate and practicable steps to first avoid and minimize impacts on wetlands; for unavoidable impacts, compensatory mitigation is required to replace the loss of wetland and associated functions. USACE cannot issue the Section 404 permit until the avoidance and minimization steps are demonstrated; for any unavoidable impacts that require compensatory mitigation, USACE must approve the compensatory mitigation to ensure there is no net loss of wetland functions. This process ensures that USACE issues the Section 404 permit for the Least Environmentally Damaging Practicable Alternative. BOEM understands the concern with the Project’s potential impact on wetlands resources but anticipates that the permitting process/requirements and the avoidance and mitigation measures proposed by Dominion Energy to minimize the impacts (see EIS Appendix H, <i>Mitigation and Monitoring</i>) would ensure the Project would avoid and minimize impacts on wetlands to the extent practicable.</p>
<p>It is currently unclear if the hybrid interconnection cable route option (Alternative D-2), would result in less environmental impacts and impacts to aquatic resources. EPA recommends clarifying this to better assess the proposed Project so that the LEDPA can be identified. Alternative cable routes for onshore Project components are limited since Cable Route Options 2, 3, 4, and 5 were dismissed. This effectively reduces the proposed onshore cable route to one alternative.</p>	<p>Wetland impacts have been updated for the Proposed Action and Alternative D-2 in the EIS. As indicated in EIS Section 3.22, <i>Wetlands</i>, and COP, Section 4.2.1.2, Interconnection Cable Route Option 1 (EIS Proposed Action and Alternative D-1) would result in fewer wetland impacts than Hybrid Interconnection Cable Route Option 6 (Alternative D-2). Interconnection Cable Route Option 6 would require trenching, resulting in more permanent fill impacts as opposed to conversion impacts associated with Interconnection Cable Route Option 1. In Addition, the Chicory Switching Station associated with Interconnection Cable Route Option 6 would have more wetland impacts than the Harpers Switching Station, which is associated with Interconnection Cable Route Option 1. In total, Alternative D-2 would result in an additional 12.91 acres (5.22 hectares) of permanent</p>

Comment from U.S. Environmental Protection Agency	Response
	wetland impacts when compared to the Proposed Action (see EIS Section 3.22.7, <i>Impacts of Alternative D on Wetlands</i>).
Additionally, it is currently unclear which of the two proposed routes (Route Option 1 or Route Option 6) is the LEDPA since the proposed aquatic resource impacts for each alternative have varied across the provided Project documents.	See response to previous comment.
To fully assess the Project impacts, detailed information is needed regarding the quality of the aquatic resources in the proposed Project area. However, no information regarding the quality of the aquatic resources to be impacted has been provided. EPA recommends completing, at a minimum, the Norfolk District Wetland Attribute Form to provide a more detailed, qualitative description of the physical, chemical, and biological characteristics of wetlands to be impacted. This information is also necessary to evaluate appropriate mitigation.	<p>Thank you for the comment. Additional details regarding the quality of aquatic resources affected by the Project are provided in the Joint Permit Application, including forms required as part of the packet by the Norfolk District and Virginia Marine Resources Commission (VMRC).</p> <p>Civil drawings, impact tables, maps, and additional documents can be found on the Norfolk District's website: https://www.nao.usace.army.mil/Missions/Regulatory/Offshore-Wind-Projects/</p> <p>A copy of the Joint Permit Application can be found on VMRC's website: https://webapps.mrc.virginia.gov/public/habitat/additionaldocs.php?id=20221183</p>
Appendix U: Wetland Delineation Report states that "Wetlands that continued beyond the Study Area boundary were recorded as open boundary systems while those that do not were recorded as closed systems." However, no explanation was provided on how this delineation method affected Project impacts. EPA requests clarifying if impacted "open boundary systems" were considered secondarily impacted (e.g. habitat fragmentation, water quality degradation, impacts to hydrology, downstream impacts from the loss of nutrient cycling and organic matter input and processing, etc.) from the proposed discharges and if compensatory mitigation will be provided for these secondary impacts.	<p>This comment applies to the COP; however, as stated in the revised COP (COP, Section 4.2.1.2; Dominion Energy 2023), wetland delineations are complete and a Preliminary Jurisdictional Determination from the USACE, Norfolk Regulatory District for the entire Onshore Project area has been received by Dominion Energy.</p> <p>Per CWA Section 404, Dominion Energy 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 Dominion Energy's Joint Permit Application process with USACE and VMRC.</p>
The DEIS states wetlands "were identified in the geographic analysis area based on review of available GIS mapping data, evidence collected during field surveys, and best professional judgement." However, no explanation is provided regarding what "best professional judgement" means and how this may have impacted wetland identification within the Project area. EPA recommends this phrase be	This sentence in Final EIS Section 3.22.1 has been revised to state "...were identified in the geographic analysis area based on review of available GIS mapping data and evidence collected during field surveys, including Dominion Energy's completed wetland delineation for the Onshore Project area (USFWS 2021; COP, Appendix U; Dominion Energy 2023)."

Comment from U.S. Environmental Protection Agency	Response
<p>explained and if it represents an inclusive approach to wetland identification.</p>	
<p>Mitigation measures should be clearly presented in the FEIS. Proposed mitigation should be described in sufficient detail to allow for meaningful consideration and comment by the public. For clarity, EPA recommends that Table 2-1 in the FEIS indicate if mitigation is required or included for each of the resource categories.</p>	<p>Table 2-1 of the Final EIS indicates that the impact conclusions include mitigation measures. Chapter 3 of the Final EIS includes a new section for each resource area that lists the mitigation and monitoring measures arising from consultation or otherwise required by agencies, and summarizes the effect on the impact conclusions.</p>
<p>A range of potential mitigation measures are identified in Appendix H, Table H-1 and H-2. Section 3.2 states that all applicant-proposed measures listed in Appendix H are part of the Proposed Action. The specific measures that the applicant has committed to should be clarified as it appears that Table H-1 may include both measures that are considered part of the Project and those which may be selected by BOEM. EPA recommends that BOEM list specific mitigation measures that will be incorporated into the preferred alternative in the FEIS and clarify the expected mitigation measures and impact reduction in the relevant resource sections.</p>	<p>Table H-2 and Table H-3 of Appendix H have been clarified to identify which measures, including those proposed by the applicant, have been selected by BOEM and other agencies.</p> <p>Chapter 3 of the Final EIS includes a new section for each resource area that lists the mitigation and monitoring measures arising from consultation or otherwise required by agencies and summarizes the effect on the impact conclusions.</p>
<p>We note that some of the 'Avoidance, Minimization and Mitigation' measures listed are general and do not address the specific impact(s) listed in Table H-1. Further, a number of mitigation measures indicated in the DEIS are compliance with regulatory requirements. Given the uncertainty in range of effects, we suggest a conservative approach would be to provide additional avoidance and minimization measures to ensure impacts are negligible or minimal.</p>	<p>Mitigation and monitoring measures included in Table H-1 are those proposed by Dominion Energy. Table H-2 and Table H-3 of Appendix H have been clarified to identify which measures, including those proposed by the applicant, have been selected by BOEM and other agencies.</p>
<p>H-1 states that monitoring may be required to evaluate the effectiveness of a mitigation measure or to identify if resources are responding as predicted. EPA supports the use of monitoring for adaptive management actions and to better understand the range of impacts from offshore wind energy projects in the Atlantic. We recommend the FEIS outline the expected process to identify and implement appropriate monitoring for the Project.</p>	
<p>We recommend committing to specific mitigation measures to avoid and reduce potential effects where possible. For example, 3.7.5 states that BOEM could reduce potential impacts on nesting shorebirds near the cable landfall by implementing the mitigation measure of avoiding the installation of export cable conduits between April 1 and August 31.</p>	<p>Thank you for your comment. BOEM is currently in ESA consultation with the USFWS. The USFWS will determine if such as seasonal restriction is appropriate</p>

Comment from U.S. Environmental Protection Agency	Response
<p>As indicated in 3.12.2.1, construction, O&M, and decommissioning activities could have major impacts on some commercial fishing operations that use the Lease Area, with potential for impacts on employment in related industries that could affect populations with EJ concerns. Section 3.9.8 lists proposed guidance to lessees for mitigating impacts on commercial and recreational fisheries and indicates that BOEM will consider requiring mitigation measures including compensation for gear loss and damage and lost fishing income during construction. EPA encourages BOEM to ensure that these measures are enacted to mitigate for the financial losses to commercial and recreational fishermen.</p>	<p>Thank you for your comment; comment noted.</p>
<p>Populations with EJ concerns may experience disproportionately high and adverse effects. Efforts should be made to mitigate any such impacts to negligible levels. The mitigation measures included in Appendix H Table H-1 are general. BOEM should identify and commit to specific mitigation measures to reduce the impacts on populations with EJ concerns. We recommend the EIS include a robust discussion of specific measures.</p>	<p>While some adverse impacts may occur from the Proposed Action and the action alternatives, impacts are not expected to be disproportionately high on EJ communities. As stated in the EIS, EJ communities may be affected by impacts on commercial fisheries and for-hire recreational fishing. Dominion Energy has committed to measures (Section 4.4 of the COP and Table H-1 of Appendix H) to minimize fishing-related impacts on EJ communities.</p>
<p>Overall, as the lead federal agency, BOEM should ensure that appropriate mitigative measures will reduce the potential for adverse impacts to communities that may have EJ concerns. This may include conditioning approvals and/or committing to specific measures.</p>	<p>Adverse impacts on EJ communities are only expected to be short term and variable. BOEM's analysis is consistent with other documents and is based on the best available data.</p>
<p>The expansion of Fentress Substation and the construction of a new switching station would add impervious surface, which is linked to water quality degradation. For onshore facilities, EPA suggests that the applicant commit to reduce impacts of stormwater runoff by minimizing the construction of new impervious areas and incorporating low impact design and green infrastructure principles.</p>	<p>Per COP, Sections 3.3.2.3, 3.3.2.5, and 3.4.2.3, Dominion Energy has committed to development of stormwater management facilities for onshore components, including the Fentress Substation and the Harpers Switching Station. Permanent stormwater management facilities at the Harpers Switching Station include sand filters and detention ponds. The stormwater management systems would be installed in accordance with Dominion Energy's Stormwater Pollution Prevention Plan (SWPPP), which will be prepared based on the requirements at 9 VAC §25-840 and 9 VAC §25-870-55, respectively, as applicable. Stormwater management facilities for the Harpers Switching Station and Fentress Substation are assumed in the permanent disturbance footprints analyzed in the Final EIS.</p>
<p>As discussed, a range of water quality impacts may occur. 3.21.5.2 concludes that the impacts on water quality resulting from the action alternatives would range from negligible to moderate. Although there is a low probability of a catastrophic spill, the impacts of such an event</p>	<p>BOEM finds the range of impacts of minor to moderate to be appropriate based on extensive modeling to determine the likelihood and effects of a chemical spill at offshore wind facilities at three</p>

Comment from U.S. Environmental Protection Agency	Response
<p>would be major. However, more frequent small accidental releases are likely to occur during the lifetime of the Project. We recommend selecting avoidance and minimization measures that would reduce the potential for accidental spills, discharges, and other water quality impacts.</p>	<p>locations along the Atlantic Coast, including an area near the proposed Project area (North Carolina Kitty Hawk Call Area, North Carolina; Bejarano et al. 2013). As noted in Section 3.21.5, Dominion Energy would implement its Oil Spill Response Plan (COP, Appendix Q; Dominion Energy 2023), 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. With implementation of the Oil Spill Response Plan, risk of fuel spills and leaks from vessels that could adversely affect water quality would be minimized. Additional avoidance, minimization, and mitigation measures for water quality are provided in Appendix H.</p>
<p>As described, there is potential to encounter contaminated groundwater onshore near the Battlefield Golf Club. The COP indicated that final engineering design would determine if groundwater would need to be managed during construction activities. We suggest the FEIS indicate if specific measures are expected to be taken to minimize potential impacts during construction.</p>	<p>Change made. This information from the COP has been added to the land disturbance discussion of Final EIS Section 3.21.5, <i>Impacts of the Proposed Action on Water Quality</i>. Dominion Energy would avoid or minimize excavation dewatering in the location of the Battlefield Golf Club. Dominion Energy would develop a SWPPP for construction activities that would conform with the VDEQ Construction General Permit and Dominion Energy’s approved Annual Standards and Specifications for Erosion and Sediment Control (ESC) and Stormwater Management (SWM) for Electric Transmission Line Development. The SWPPP would include steps Dominion Energy must take to comply with the permit, including water quality requirements, and discuss the potential to encounter contaminated groundwater during excavation near the Battlefield Golf Club. The SWPPP would discuss how to protect surface water and groundwater quality if contaminated groundwater is encountered.</p>
<p>Appendix H: Mitigation and Monitoring indicates that Dominion Energy intends to purchase stream and wetland mitigation credits to compensate for impacts to waters of the United States (WOUS). However, no information is provided regarding how many credits are being proposed for purchase nor whether credits are available. EPA understands that specific details may not be available at this stage of the review. However, EPA recommends providing an estimated number of credits needed and their availability to better assess compensatory mitigation opportunities.</p>	<p>The USACE Notice for Permit NAO-13-00418 for the Project, which is incorporated by reference in Final EIS Section 3.22, <i>Wetlands</i>, notes the following: “To offset permanent impacts to approximately 2.2 acres of palustrine emergent wetlands, 0.68 acres of palustrine scrub/shrub wetlands and 4.94 acres of palustrine forested wetlands, and conversion of approximately 33.25 acres of palustrine forested wetlands to palustrine scrub/shrub wetlands, the applicant proposes to purchase 1.91 non-tidal wetland credits within HUC 02040304 and 27.84 non-tidal wetland credits within HUC03010205.” However, as Dominion Energy and USACE continue to coordinate on final permit conditions and compensatory information, the compensatory</p>

Comment from U.S. Environmental Protection Agency	Response
	mitigation may be subject to change and therefore will not be explicitly quantified in Section 3.22. The reference to the USACE public notice of the permit will remain in Final EIS Section 3.22 for additional information.

N.4.1.2. U.S. Department of the Interior, Bureau of Safety and Environmental Enforcement

No comments on the CVOW-C Draft EIS were received from the Bureau of Safety and Environmental Enforcement.

N.4.1.3. U.S. Department of the Interior, U.S. Fish and Wildlife Service

No comments on the CVOW-C Draft EIS were received from the U.S. Fish and Wildlife Service.

N.4.1.4. National Oceanic and Atmospheric Administration, National Marine Fisheries Service

Table N.4-2 Responses to Comments from National Marine Fisheries Service

Comment from National Marine Fisheries Service	Response
Section: 1.2 PDF Page: 40-41 Comment: Introduction: The Purpose and Need remains inconsistent with previously agreed upon language, and should be revised. Other comments are provided to address the NMFS purpose and need, but the language around BOEM's P&N and the developer's goals should also align with previously coordinated text	The purpose and need has been revised per NMFS' comments on the Executive Summary ("Please replace "the lessee's" with "Dominion Energy's" in two places in the NMFS paragraph. This language should be the same as Chapter 1.")
We consider the Sand Ridge Impact Minimization Alternative (Alternative C) to be the environmentally preferred alternative for the CVOW project. Specifically, eliminating development in areas with stable, spatially complex, high-relief sand ridge/trough habitats as well as shipwrecks will avoid and minimize impacts to important habitats found within the lease area, while still meeting the purpose and need of the project. To support the development of Alternative C, NMFS identified an area of ridge/trough complexes that overlaps with WTG, substation, and inter-array cable placement. This area was first identified during the scoping process and was consistently discussed throughout the alternative development process. We worked closely	BOEM understands NMFS' preference for Alternative C as the environmentally preferred alternative for the Project. The analysis contained in the EIS reflects BOEM's review of benthic habitat data in the Lease Area, which does not identify the entirety of ridge/trough features in the southern portion of the Lease Area as complex habitat. Additionally, and in coordination with Dominion Energy, BOEM determined that there are a number of challenges with relocating wind turbines and cables from the entirety of sand ridge habitat areas identified by NMFS in the southern portion of the Lease Area.

Comment from National Marine Fisheries Service	Response
<p>with BOEM to delineate this important habitat area so that potential impacts to these complex habitat features could be comprehensively evaluated in the DEIS.</p> <p>Despite this work, the DEIS does not provide a comprehensive analysis to fully describe potential impacts to these habitats from project development. Specifically, the DEIS only describes the highest priority areas (e.g., areas of highest relief), but does not delineate the entirety of the ridge/trough complexes. Further, the DEIS provides little or no context on the broader area or an explanation for its exclusion in analyzing the alternative. The analysis appears to focus primarily on turbine removal, and provides limited analysis of the impacts to these habitats from the placement of inter array and export cables. Measures to reduce impacts of the cables to these benthic features (i.e., cable relocation) are also not thoroughly evaluated in the DEIS. We have expressed our concerns regarding long-term and permanent impacts from development in this important habitat area and continue to recommend BOEM fully analyze all potential impacts, as well as measures to avoid and minimize impacts to these habitats, in the FEIS.</p>	<p>The Final EIS has been updated to include additional discussion of impacts on benthic habitat. BOEM notes the following for delineation of priority sand ridge habitats within the Lease Area.</p> <ul style="list-style-type: none"> • The majority of the bottom type characterized in the southern portion of the Lease Area, as shown in the EFH Webmapper tool, is not considered “complex habitat” based on the <i>NMFS GARFO March 2021 EFH Mapping Recommendations</i>. Instead, the discrete locations of sand waves/ridges/troughs/crests are considered “benthic features” in the <i>NMFS GARFO March 2021 EFH Mapping Recommendations</i>. • Similar types of sand ridge features and isolated shoals as those identified in the priority sand ridge habitat area exist on the Mid-Atlantic OCS and are identified by BOEM’s Marine Minerals Program as sand resource areas and dredged by USACE, as they typically consist of beach-quality sand that can be used for beach nourishment or shoreline restoration projects. Within the 112,799-acre Lease Area, approximately 8% (8,976 acres) is modeled as sand shoals (Pickens et al. 2020). • BOEM understands these benthic features provide habitat value, but some context of potential impacts is needed to appropriately scale the intensity of such impacts relative to unaffected available sand waves/ridges/troughs/crests habitat available within and outside of the Project area, as well as what the expected adverse impacts might be on available EFH types, or the species/life stages using those habitats. • In the 2014 BOEM report on this topic, BOEM evaluated these sand wave/ridge/trough/crest features as fish habitat. One of the recommended mitigations in this report for impacts on these features is not removing excessive volume from an individual shoal (generally set at less than 10%). The scale of Project components affecting sand wave/ridge/trough/crest features is not expected to approach this level and would likely be orders of magnitude less than other generation methods. • Regarding sand ridges specifically, there is the potential for such features to migrate over time, which should be considered in any micro-siting consideration.

Comment from National Marine Fisheries Service	Response
	<ul style="list-style-type: none"> The EIS discusses that seabed preparation and cable installation activities would sidecast the sand, thus, keeping sand in the system and providing the potential for the system to equilibrate. BOEM’s research regarding the biological recovery of sand shoals on the OCS has been primarily focused on recovery after dredging and has found that sand shoal habitat recovery typically occurs within a 2- to 3-year period after dredging (Michel et al. 2013). While existing research cannot say definitively if the sand shoals in OCS-A-0483 will recover as quickly due to the deeper depths of WTG and cable installation, these features are a persistent feature of the landscape in this area.
<p>Alternative C, as written, does not provide the flexibility we recommended during the scoping of this alternative. This flexibility was intended to allow for the use of spare turbine positions to meet the developer’s stated plans for 176 WTGs. For example, Alternative B could further minimize habitat impacts by using spare positions in the lease area that could make up the difference in WTGs between Alternatives C and B, while still avoiding stable, spatially complex, high-relief sand ridge/trough habitats and shipwrecks. We recommend this minimization approach be evaluated in the FEIS and remain an option for implementation.</p>	<p>BOEM notes that Alternatives B, C, and D were developed to avoid known shipwrecks in the Lease Area that have been identified as “fish haven” areas. Additionally, and in coordination with Dominion Energy, BOEM determined that there are the following challenges with relocating wind turbines and cables from the entirety of sand ridge habitat areas identified by NMFS within the southern portion of the Lease Area.</p> <ul style="list-style-type: none"> Electrical balance: The three OSSs need to be electrically balanced with one-third of the power routed through each individual substation. The removal and relocation of a WTG from the southern portion of the Lease Area would shift the load as all the spare positions are closer to the other two OSSs. Therefore, the entire inter-array cable layout would need to be redesigned to rebalance the electrical load; and, although Dominion Energy does not have precise calculations because there is not a defined alternative for WTG positions, the overall length of the inter-array cable would increase, therefore increasing the impact on bottom-disturbing activity to bury the cable. Cable routing: The export cable route from the southern OSS takes the most direct route to the western edge of the Lease Area and joins the export cables from the other two OSSs to combine into a consolidated cable route to shore. Additionally, best engineering practice is to avoid crossing export cables and inter-array cables, so any re-routing of the export cable from the current proposal would require a redesign of all cable in the Lease Area.

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	<ul style="list-style-type: none"> • Foundations: Moving from the preferred WTG locations would require re-evaluation and redesign of the new location. Each WTG foundation is specified based on inputs including water depth, soil condition, and the interaction between the foundation and the WTG tower/structure. The Project has the analysis for the preferred locations, but the use of any spare location would require a new evaluation and design process. • Surveys: If cable routing is changed additional geotechnical and geophysical surveys would be required. UXO surveys would also need to be updated. • Stakeholders: Dominion Energy's preferred 176 turbine layout (Alternative B) includes a number of spare positions allocated to accommodate commercial shipping and USCG requests, to avoid the fish habitat (triangle wreck area) in the northern portion of the Lease Area, and to maximize energy output by not utilizing positions in the center of the Lease Area where wake effect losses would be highest. • Ratepayer impact: The Virginia Clean Economy Act calls for 2,500 to 3,000 MW of clean, reliable offshore wind energy to be in service by January 1, 2028. The schedule as proposed and contracted would be affected by the redesign and additional scope mentioned above. This additional scope would result in increased Project costs, which are borne by ratepayers. Dominion Energy has cited concerns regarding its obligation to minimize cost to ratepayers, and a request to relocate and redesign equipment that adds cost without a defined criteria would not be acceptable to our State Commission.
<p>Section: 2.1 and 2.1.1 PDF Page: 46-49 Comment: Chapter 2 - Alternatives Including the Proposed Action: Please revise to be consistent with the text developed during the Ocean Wind review process. For adoption, it is important that NMFS' No Action Alternative be incorporated into the EIS and the section that describes the No Action Alternative would be the most appropriate place to do this. The text should read, "Under the No Action Alternative, BOEM would not approve the COP. Project construction and installation, O&M, and decommissioning would not occur, and no</p>	<p>The suggested text has been added to Section 2.1.1.</p>

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<p>additional permits or authorizations for the Project would be required. Any potential environmental and socioeconomic impacts, including benefits, associated with the Project as described under the Proposed Action would not occur. However, all other past and ongoing impact-producing activities would continue. Under the No Action Alternative impacts to marine mammals incidental to construction activities would not occur.</p> <p>Therefore, NMFS would not issue the requested authorization under the MMPA to the applicant. The current resource condition, trends, and impacts from ongoing activities under the No Action Alternative serve as the existing baseline against which the direct and indirect impacts of all action alternatives are evaluated.</p> <p>Over the life of the proposed Project, other reasonably foreseeable future impact-producing offshore wind and non-offshore wind activities would be implemented, which would cause changes to the existing baseline conditions even in the absence of the Proposed Action. The continuation of all other existing and reasonably foreseeable future activities described in Appendix F (Planned Activities Scenario) without the Proposed Action serves as the baseline for the evaluation of cumulative impacts of all alternatives.</p>	
<p>We are aware that BOEM is anticipating an update to the CVOW COP after publication of the DEIS to account for the relocation of the three OSS positions into three of the identified WTG positions, which would result in a project design envelope (PDE) maximum of 202 WTGs.</p> <p>Based on information from the developer including Dominion’s recently revised MMPA application, we also understand that while all alternatives in the DEIS remain technically feasible, the applicant’s preferred construction scenario is expected to be 176 WTGs. The FEIS should reflect these updates and the most current information available, and be consistent with proposed action descriptions provided in other documents.</p>	<p>The Final EIS reflects Dominion Energy’s February 2023 COP submission update of the Proposed Action to a maximum of 202 WTGs with 3 OSSs located in the gridded alignment with the WTGs. BOEM has selected the Preferred Alternative in coordination with agency consultations.</p>
<p>Geographic analysis area - The FEIS should analyze project impacts within the bounds of an appropriate geographic scale to allow for a meaningful understanding of effects to each resource from Impact Producing Factors (IPF).</p>	<p>BOEM has determined the appropriate geographic analysis area for each resource and its IPFs.</p>
<p>Section: Global PDF Page: Global</p>	<p>The Draft EIS passed the Adobe Acrobat digital accessibility test, per BOEM’s standards. All graphs and figures include a title that is used</p>

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<p>Comment: Additional Comments: To ensure full public access, please ensure that all tables, graphs, and figures are 508 compliant. That requires Alt Text titles and descriptions that can be captured by auto readers, table structured so they can be read by auto reader (no subheadings/columns/rows or split cells). Tables with colored cells should include the color and meaning in the alt text descriptions.</p>	<p>as alternate text for screen readers, and all tables are reviewed for accessibility. All color-coded tables use color as a redundant way of communicating the information in the narrative text (for example, <i>Executive Summary</i>, Table S-2).</p>
<p>Analytical issues that we have highlighted in both our October 2022 Preliminary DEIS comments and in comments made during recent DEIS reviews for other offshore wind projects remain relevant to this DEIS. In addition to addressing the comments herein and in the attached spreadsheet, we recommend additional review of our PDEIS comments and recent DEIS comment letters for Empire Wind and Revolution Wind so these issues can be resolved in the FEIS.</p>	<p>BOEM responded to all comments received on the Preliminary Draft EIS. BOEM recognizes that NMFS has some remaining concerns and has responded to those specific CVOW-C Project concerns as raised by NMFS in EIS Sections 3.13, <i>Finfish, Invertebrates, and Essential Fish Habitat</i>; 3.9, <i>Commercial Fisheries and For-Hire Recreational Fishing</i>; 3.19, <i>Sea Turtles</i>; and 3.17, <i>Other Uses (Marine Minerals, Military Use, Aviation)</i>.</p>
<p>Significance Criteria - The significance criteria 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 significance criteria 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>Draft EOS Section 3.3 defines the impact levels, including definitions for the temporal duration of impacts.</p> <p>BOEM has reviewed and revised the Final EIS impact analyses to ensure they are clear and appropriate. In cases where the impact conclusion does not change for an alternative compared to the Proposed Action, additional text has been added to the Final EIS to provide clarity regarding what differences do exist and why the overall impact conclusion remains the same.</p>
<p>While some structural improvements have been made, the DEIS does not fully evaluate each alternative and, in many cases, the analysis does not provide meaningful distinctions of the impacts among the action alternatives, even where those alternatives include a substantially different number of WTGs. The document instead focuses on analyzing impacts of the proposed action while providing relative impacts for the other alternatives, often with limited information and descriptions. There is a lack of clear analysis or information that would allow the reader to differentiate between the environmental consequences of alternatives, including the omission of a discussion of relevant impact producing factors.</p>	

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<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.</p>	
<p>Document inconsistencies - The level of analysis by project area and resources appears inconsistent throughout the document. Some sections have more thorough evaluation, but those analyses do not always align with the impact conclusions; while other sections are much more limited in the analysis of potential project impacts. We recommend improving the consistency of the FEIS with other related documents (e.g., MMPA proposed rule for CVOW), including updated information from the developer regarding exposures associated with the installation of 176 turbines.</p>	<p>BOEM has reviewed and revised the Final EIS to ensure consistency with Dominion Energy's most recent COP submission, MMPA LOA application, BOEM's EFH Assessment, and ESA Section 7 Biological Assessment.</p> <p>BOEM has reviewed and revised the Final EIS impact analyses to ensure they are clear and appropriate. In cases where the impact conclusion does not change for an alternative compared to the Proposed Action, additional text has been added to the Final EIS to provide clarity as to what differences do exist and why the overall impact conclusion remains the same.</p>
<p>Section: S.2 PDF Page: 24 Comment: Executive Summary: Please replace "the lessee's" with "Dominion Energy's" in two places in the NMFS paragraph. This language should be the same as Chapter 1.</p>	<p>The requested changes have been made in the Final EIS, and Chapter 1 language was reviewed for consistency.</p>
<p>Section: 1.2 PDF Page: 41 Comment: Introduction: Please replace "the lessee's" with "Dominion Energy's" in two places in the NMFS paragraph. This language should be the same as the Executive Summary.</p>	
<p>Section: S.2 PDF Page: 24 Comment: Executive Summary: Change the last sentence in the paragraph on NMFS' purpose and need to "If NMFS makes the findings necessary to issue the requested authorization, NMFS, after independent review, intends to adopt BOEM's EIS to support that decision and fulfill its NEPA requirements. Currently, the phrase "after independent review" appears twice.</p>	

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<p>Section: S.4.1 PDF Page: 26-27 Comment: Executive Summary: Please revise to be consistent with the text developed during the Ocean Wind review process.</p>	<p>The requested changes have been made in the Final EIS.</p>
<p>Section: S.4.3 PDF Page: 29 Comment: Executive Summary: In the first sentence, please change "applicable" to "proposed and required".</p>	
<p>Section: 3.6.1 PDF Page: 132 Comment: Section 3.6 – Benthic Resources: The following statement lacks a citation: "However, a 2-year study conducted on the inner continental shelf of the Mid-Atlantic Bight showed greater species diversity, abundance, and richness in flat-bottom habitats than in shoal habitats." Please clarify if this is in reference to Slacum et al. 2010. In contrast to the conclusion highlighted in the document, Diaz et al. 2003, found significant relationships of fishes with bedform size and density of biogenic structure indicative of essential habitat for juvenile fishes in the same shoal complexes studied by Slacum et al. (2010). Diaz et al. (2003) also found that proximity of different habitat types important in the "balancing pressure of refuge from predation provided by complex habitats with foraging for increased resources available in simpler habitats." The habitat description contained in this section minimizes the importance of sand ridge habitat by failing to conduct a balanced literature review. We recommend you also review and consider the following reference: Diaz, R. J., G. R. Cutter, Jr., and K. W. Able. 2003. The biogenic structure to juvenile fishes on the shallow inner continental shelf. <i>Estuaries</i> 26:12–20.</p>	<p>The 2-year study was in reference to Slacum et al. 2010, and this citation has been added. Slacum also focused on marine invertebrates and showed a trend toward greater abundance, species richness, and species diversity in flat-bottom habitats than in shoal habitats. Clarifying text has been added to specify invertebrate trends. Diaz focused on small-scale bedforms, classifying a large bedform as greater than a 30-40-centimeter wavelength and 10-centimeter crest height. Diaz also focused on biogenic structures of the invertebrate community, referring to Increased amounts of biogenic structures are found in the troughs between the shoals. Some information from Diaz et al. 2003 has been added on Final EIS pages 3.6-3 and 3.6-21.</p>
<p>Section 3.6.3 PDF Page: 138 Comment: Section 3.6 – Benthic Resources: While the structure of the No Action alternative has been adjusted to be consistent with the recently adopted approach, the content of these sections is still confusing or seems misplaced in some instances. For example, here it is unclear why this section is discussing the impacts of cables</p>	<p>The No Action Alternative has been revised to provide succinct text and clarity. The No Action Alternative no longer addresses offshore wind projects. Changes were made to the Final EIS on page 3.6-3.</p>

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<p>associated with the Proposed Action, in the section describing No Action impacts.</p>	
<p>Section 3.6.3.3 PDF Page: 147 Comment: Section 3.6 – Benthic Resources: This section provides an example of clarity issues in some No Action and Cumulative Effects analyses throughout the document. The conclusion summary for No Action discusses planned activities; however, the description/definition of the No Action alternative includes only ongoing activities. Additionally, the conclusions for Cumulative Impacts of the No Action Alternative are somewhat unclear. The document identifies moderate adverse impacts for ongoing activities, and minor adverse impacts for planned foreseeable activities other than wind, resulting in overall moderate adverse impacts from both combined. Then, a separate conclusion is provided for moderate adverse impacts from future offshore wind. However, it is unclear what the overall cumulative impact conclusion is for the No Action (from all ongoing and future activities, both wind and non-wind). If this final conclusion is meant to represent this combination of all effects, this should be clarified. Additionally, throughout all analyses in all resources, it should be clear and consistent whether conclusions are based on an incremental impact of a specific action, or are considering the impacts of that action along with other ongoing impacts. This applies to both action and no action alternatives throughout the document.</p>	<p>The No Action Alternative has been revised to provide succinct text and clarity. Under the No Action Alternative, BOEM would not approve the COP. Project construction and installation, O&M, and decommissioning would not occur, and no additional permits or authorizations for the Project would be required. Any potential environmental and socioeconomic impacts, including benefits, associated with the Project as described under the Proposed Action would not occur. However, all other existing or other reasonably foreseeable future activities described in Appendix F, <i>Planned Activities Scenario</i>, would continue. The ongoing effects of the No Action Alternative serve as the baseline against which all action alternatives are evaluated.</p> <p>Over the life of the proposed Project, other reasonably foreseeable future impact-producing offshore wind and non-offshore wind activities would be implemented, which would cause changes to the existing baseline conditions even in the absence of the Proposed Action. The continuation of all other existing and reasonably foreseeable future activities described in Appendix F without the Proposed Action serves as the baseline for the evaluation of cumulative impacts of all alternatives.</p>
<p>Section 3.6.5 PDF Page: 149-150 Comment: Section 3.6 – Benthic Resources: Invasive Species – The DEIS should evaluate the potential for the Proposed Action to facilitate the establishment and range expansion of non-native species. This should include a discussion on the stepping stone effect.</p>	<p>Additional citations and clarifying text have been added to Final EIS Section 3.6.5, <i>Impacts of the Proposed Action on Benthic Resources</i>, under <i>Presence of structures</i>.</p>
<p>Section 3.6.5 PDF Page: 150 Comment: Section 3.6 – Benthic Resources: In the section on EMF, please include more recent information on EMF effects on bivalves including Albert et al. 2022 (doi.org/10.1007/s00227-022-04065-4);</p>	<p>Information from both of the recommended sources has been added to the EMF IPF for the Proposed Action in Final EIS Section 3.6.5, <i>Impacts of the Proposed Action on Benthic Resources</i>, under <i>Electromagnetic fields</i>.</p>

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<p>Jakubowska-Lehrmann et al. 2022 (doi.org/10.1016/j.marenvres.2022.105700)</p>	
<p>Section 3.6.5 PDF Page: 150 Comment: Section 3.6 – Benthic Resources: As detailed in the COP Appendix CC (Seabed Mobility Study), the project area is comprised of flat sand areas, sand wave areas and sand ridge areas (subdivided into SR1, SR2 and SR3). The HMA is focused solely on protecting spatially complex sand ridge habitats in SR1. Analysis of construction activities, such as grapnel runs, pre-sweeping to remove ridges, and dredging should be analyzed by these complexity categories rather than lumping categories together.</p>	<p>The text on sand ridges has been revised with the level of detail provided in the COP for Project-specific details in Final EIS Section 3.6.5, <i>Impacts of the Proposed Action on Benthic Resources</i>, under <i>New cable emplacement and maintenance</i>.</p>
<p>Section 3.6.5 PDF Page: 151-152 Comment: Section 3.6 – Benthic Resources: In the section on noise (including Pile Driving, G&G, O&M, Cable Laying/Trenching), please review the literature and cite scientific evidence for the statements made in this section. The analysis should include a discussion of both sound pressure and particle motion as well as substrate vibration in relation to noise.</p>	<p>Text has been added to address the production of noise and potential impacts on benthic species in Final EIS Section 3.6.5, <i>Impacts of the Proposed Action on Benthic Resources</i>, under <i>Noise</i>.</p>
<p>Section 3.6.5 PDF Page: 153-154 Comment: Section 3.6 – Benthic Resources: Under presence of structures, for each of the subsections of this topic (Entanglement, gear loss, gear damage; Hydrodynamic disturbance; Fish aggregation; Habitat conversion) please review the peer-reviewed literature and cite scientific evidence for the statements made.</p>	<p>Further literature has been added throughout, including more recently published documents in Final EIS Section 3.6.5, <i>Impacts of the Proposed Action on Benthic Resources</i>, under <i>Presence of structures</i>.</p>
<p>Section 3.6.5 PDF Page: 153-154 Comment: Section 3.6 – Benthic Resources: In the section on hydrodynamics, please review the scientific literature on the topic of hydrodynamic effects and include appropriate citations including. Christiansen et al. 2022 (doi.org/10.3389/fmars.2022.818501); Daewel et al. 2022 (doi.org/10.1038/s43247-022-00625-0), Dorrell et al. 2022 (doi.org/10.3389/fmars.2022.830927); and Floeter et al. 2022</p>	<p>The impacts on the Proposed Action on the sub IPF of hydrodynamics has been reviewed and information from the recommended sources has been added. Text has been added to Final EIS Section 3.6.5, <i>Impacts of the Proposed Action on Benthic Resources</i>, under <i>Presence of structures</i>.</p>

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<p>(doi.org/10.3389/fmars.2022.884943). Please include in your analysis the potential impacts on larval transport.</p>	
<p>Section 3.6.5 PDF Page: 154 Comment: Section 3.6 – Benthic Resources: For fish aggregation, this analysis should include a discussion of FAD (fish aggregating device) effects; artificial reef effects; modification of the prey field for upper level predators, the potential for structures to facilitate the establishment and range expansion of non-native species. Please provide appropriate citations to support statements made in this section.</p>	<p>Text about fish aggregation is included, and literature was added to Final EIS Section 3.6.5, <i>Impacts of the Proposed Action on Benthic Resources</i>, under <i>Presence of structures</i>.</p>
<p>Section 3.6.5 PDF Page: 154 Comment: Section 3.6 – Benthic Resources: The following statement indicates that structures increase biological production of fish: “As subsequently discussed under the Habitat conversion IPF, the conversion of soft-bottom habitats to reef-like, hardbottom areas would increase biomass for benthic fish and invertebrates.” The attraction-production debate has gone on in the fisheries literature for many years, but there is no empirical evidence in the literature that structure increases fish production.</p>	<p>Clarifying text has been added to the Final EIS Section 3.6.5, <i>Impacts of the Proposed Action on Benthic Resources</i>, under <i>Presence of Structures</i>.</p>
<p>Section 3.6.5 PDF Page: 158 Comment: Section 3.6 – Benthic Resources: Species and life stages that utilize soft bottom habitats would likely not benefit from habitat conversion due to the addition of structures and may instead experience adverse effects. Please incorporate this into your analysis, conclusion, and text: “...moderate beneficial impacts could result from habitat alteration from soft-bottom to hard-bottom “reefing” habitats.”</p>	<p>Moderate beneficial impacts have been addressed in Final EIS Section 3.6.5, <i>Impacts of the Proposed Action on Benthic Resources</i>, under <i>Presence of structures</i>.</p>
<p>Section 3.6.6.1 PDF Page: 160 Comment: Section 3.6 – Benthic Resources: The conclusions are not supported by the best available information. We recommend BOEM re-evaluate the conclusions made in the DEIS after completing an analysis of impacts with regard to varying degrees of habitat complexity</p>	<p>BOEM has reviewed and has made revisions where needed. Additional clarifying text has been added to Section 3.6 to further support impact conclusions.</p>

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<p>and update the analysis with an unbiased assessment of benthic habitat in the project area.</p>	
<p>Comment: Section 3.9 - Commercial and Recreational Fishing: Please note and insert a discussion of the non-federal permitted fisheries that may operate in this area and be affected by this project, including the whelk/conch fishery and the Atlantic menhaden fishery. As noted in Appendix A of BOEM's draft fishery mitigation guidance and previous NMFS comments, neither of these fisheries are well documented in federal fishing vessel logbook data available from the Greater Atlantic Regional Fisheries Office and must be supplemented with state data and other sources. This section and Table 3.9.1 should also list species managed by the Atlantic States Marine Fisheries Commission (ASMFC), including menhaden</p>	<p>Table 3.9-1 has been removed from the Commercial Fisheries/For-Hire Recreational Fisheries section and a reference has been added to a similar table in Section 3.13, <i>Finfish, Invertebrates, and Essential Fish Habitat</i>, and the COP. Both the whelk/conch fishery and menhaden fishery are mentioned in several places in Section 3.9, including the regional fisheries economic value and landings section (Section 3.9.1.2), and on Figures 3.9-5 and 3.9-6.</p>
<p>Section 3.9.1 PDF Page: 209 Comment: Section 3.9 - Commercial and Recreational Fishing: Please note that updated data through 2021 are available online and through a data request. We encourage BOEM to use at least 10 years of fishery data, including data within the last 2 years, to ensure analysis reflects the most accurate and recent data available.</p>	<p>Commercial fisheries data in Section 3.9.1 has been updated to include the most recent data available, including landings and revenue in the Project area through 2021.</p>
<p>Section 3.9.1.2 PDF Page: 215 Comment: Section 3.9 - Commercial and Recreational Fishing: Please include and discuss available fishery data for species managed by the South Atlantic Fishery Management Council and recorded in vessel logbook and dealer data available from the NMFS Southeast Fisheries Science Center and Regional Office. This section references that the project geographic analysis area includes areas under the jurisdiction of the South Atlantic Council, yet only data sources from the Greater Atlantic Region (ME through NC and fisheries managed by the New England and Mid-Atlantic Fishery Management Councils) are included. Further, the DEIS notes that highly migratory species are caught within the lease area, yet no data to support that or analyze the impacts are included. Integration of fisheries data for highly migratory species and those managed by the Southeast Fishery Management Council that are available from the Southeast Regional Office and Fisheries Science Center should be included in the FEIS</p>	<p>Data in Tables 3.6-3 and 3.9-4 have been replaced by updated (2021) data for top taxa landed in each of the New England, Mid-Atlantic, and South Atlantic regions. Highly migratory species are mentioned in several places, including Section 3.9.1.4.1, <i>Target Species</i> (for for-hire recreational fishing), and a note has been added in Section 3.9.1.4 that spatially precise data for for-hire recreational fishing locations is lacking.</p>

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<p>Section 3.9.1.3 PDF Page: 216</p> <p>Comment: Section 3.9 - Commercial and Recreational Fishing: Please note that the fishery landings/revenue estimates for the Squid/Mackerel/Butterfish Fishery Management Plan, and the Illex squid in particular, are likely overestimated in the NMFS Greater Atlantic Region fisheries data referenced in this section and described in various tables due to the nature of how fishery footprint data are processed. This also inflates the degree of impact for ports in which squid vessels operate such as RI and NJ ports. Most of the squid fishery occurs in deeper waters on the shelf break east of the lease area. There is some transit through the northern portion of the lease areas to get to these offshore fishing locations, but minimal fishing occurs for squid within the lease area itself based on available vessel monitoring system data. Black sea bass, longfin squid, Atlantic croaker, and summer flounder are the primary fisheries affected by this action</p>	<p>A clarification has been added to Section 3.9.1.3 noting that the landings/revenue data may be overestimates and that most squid fishing occurs in deep water east of the Project area.</p>
<p>Section 3.9.1.4.3 PDF Page: 224</p> <p>Comment: Section 3.9 - Commercial and Recreational Fishing: Thank you for including information on recreational fishing benefits to coastal communities. Please include similar information for commercial fishing operations as commercial vessels, with the exception of lodging, contribute the same economic benefits and more from commercial operations and landings in coastal communities.</p>	<p>A statement has been added in Section 3.9.1.3.</p>
<p>Section 3.9.1.5 PDF Page: 225</p> <p>Comment: Section 3.9 - Commercial and Recreational Fishing: Please update the reference to baseline conditions that may affect current and future trends in the fishery, including the status of key fish stocks. The reference to Table 3.9-2 is inappropriate, as that table just lists regional surveys and does not include any baseline information on fishery resources or trends in fishery operations. There is no discussion on current biological status or future condition of fishery resources in the lease area. This section should note specific stocks and management actions that may also increase fishing operations within the lease area such as the recent increases in black sea bass populations and</p>	<p>The sentence referencing Table 3.9-2 has been removed (and Table 3.9-2 has been removed from the EIS). The purpose of this EIS is to address existing conditions and the impacts the Proposed Action may have. Considerations of undetermined future management actions cannot be considered.</p>

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<p>distribution, especially considering they will likely benefit greatly from additional structure provided by wind turbine foundations and any other more southern species that may move into the area throughout the life of this project.</p>	
<p>Section 3.9.3.2 PDF Page: 228 Comment: Section 3.9 - Commercial and Recreational Fishing: Under new cable emplacement and maintenance, please note that cable preparatory work, including boulder relocation and boulder plow work, could result in changes to or the creation of new obstacles and hangs that could cause gear damage or loss and associated lost fishing revenue. This should be noted here or under presence of structures and throughout this document, including the discussion of the proposed action impacts.</p>	<p>A note has been added in Sections 3.9.3.2 and 3.9.5 regarding cable preparatory work and the potential for changing or causing new seafloor obstacles that could cause gear damage/loss.</p>
<p>Section 3.9.3.2 PDF Page: 228 Comment: Section 3.9 - Commercial and Recreational Fishing: Under noise, please note that behavioral responses and injury could occur at distances up to 11.2 km away from pile driving noise for certain fish species. Hastings and Popper 2005 reported behavioral responses of fish up to 7.5km from turbine foundation installation noise and others, including Andersson et al 2007, Mueller-Blenkle et al 2010, and Purser and Radford 2011 have suggested behavioral responses up to 11.2 km away from noise sources. See Table 3.6.1-34 in the Atlantic Shores Wind South DEIS for an example of a table that should be included in this section. Such behavioral noise responses and injury would have indirect and direct impacts on fishery operations for particular species.</p>	<p>Text has been added to Section 3.9.2 regarding noise impacts on fish from pile-driving activities.</p>
<p>Section 3.9.3.2 PDF Page: 228 Comment: Section 3.9 - Commercial and Recreational Fishing: Under port utilization, please note that displacement and competition for port services could result in long-term adverse impacts to fishing vessels operating out of ports affected by construction activities for wind projects</p>	<p>A sentence was added to the <i>Port utilization</i> IPF subsection.</p>
<p>Section 3.9.3.2 PDF Page: 228</p>	<p>A sentence was added in the <i>Presence of structures</i> IPF that the use of some gear types may be excluded in wind energy lease areas.</p>

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<p>Comment: Section 3.9 - Commercial and Recreational Fishing: Under presence of structures, please note that other gear types, including longline and hook and line vessels targeting highly migratory species, are likely unable to operate within wind lease areas. This has been indicated in other project EISs.</p>	
<p>Section 3.9.3.2 PDF Page: 233 Comment: Section 3.9 - Commercial and Recreational Fishing: Under climate change, please note that some species affected by the proposed action (black sea bass, Atlantic croaker, longfin squid, Atlantic menhaden, scup) are likely to benefit from warmer waters, which could provide benefits to commercial and for-hire fisheries. This is documented in Hare et al 2016 (see Figure 5) and reported in previous sections of this DEIS.</p>	<p>A sentence was added to the <i>Climate change</i> IPF subsection noting that some species may prefer warmer waters caused by climate change and that this could result in benefits to commercial and for-hire recreational fishing.</p>
<p>Section 3.9.3.2 PDF Page: 233 Comment: Section 3.9 - Commercial and Recreational Fishing: Under regulated fishing effort, please note that increased uncertainty in scientific assessments caused by limited access of NOAA survey vessels to sample within wind energy areas will result in more conservative (i.e., reduced) quotas and adverse impacts to fishing operations. The existing New England and Mid-Atlantic Fishery Management Council risk policies and assessment control rules dictate more conservative quotas when faced with assessment uncertainty, which we predict will occur due to the fact that NOAA survey vessels cannot safely operate within wind energy areas based on currently proposed turbine spacing and vessel operating protocols. Also, please note that regulated fishing effort would likely result in long-term benefits to fishery operations by achieving, as required by law, long-term sustainability of fishery resources.</p>	<p>Suggested additions were added in Section 3.9.3.2.</p>
<p>Section 3.9.5 PDF Page: 236 Comment: Section 3.9 - Commercial and Recreational Fishing: Under anchoring, please revise the impact conclusions to minor. As noted, anchored vessels will pose a navigational hazard and will disturb the bottom, but the impacts will be eliminated once the anchored vessel</p>	<p>Adverse impacts from anchoring have been changed to minor from negligible. Table 3.9-12 has been renumbered as Table 3.9-8.</p>

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<p>moves on. Therefore, the impacts are more accurately classified as minor for consistency under Table 3.9-12</p>	
<p>Section 3.9.5 PDF Page: 236 Comment: Section 3.9 - Commercial and Recreational Fishing: Under new cable emplacement, please include a discussion of cable preparatory activities such as boulder grab and boulder plow operations which may alter the bottom and create new snags that could result in gear damage or loss and associated revenue loss to fishery operations</p>	<p>A note has been added in Sections 3.9.3.2 and 3.9.5 regarding cable preparatory work and the potential for changing or causing new seafloor obstacles that could cause gear damage/loss.</p>
<p>Section 3.9.5 PDF Page: 237 Comment: Section 3.9 - Commercial and Recreational Fishing: Under noise, please revise the impact conclusions to moderate for consistency with impact definitions in Table 3.9-12. As noted in this section, pile driving could occur for 4-6 hours over the course of 238 days in May through October in 2024-2026, which could result in fish species moving 6 miles or more as a behavioral response to such noise. This could result in indirect impacts to fishing operations due to behavioral changes in target species, as documented in other project EISs. Therefore, noise impacts would not be avoided, could disrupt the normal fishing activity, and may need remedial action referenced in the COP. This is more consistent with moderate impacts in Table 3.9-12.</p>	<p>The impact ranking for noise has been adjusted from minor to moderate. Table 3.9-12 has been renumbered as Table 3.9-8.</p>
<p>Section 3.9.5 PDF Page: 237 Comment: Section 3.9 - Commercial and Recreational Fishing: Under presence of structures, please justify how the proposed action would not increase impacts beyond the No Action Alternative and clarify the reference to Table G-6. By definition, any impact associated with the proposed action would increase impacts beyond the No Action Alternative. It is unclear how constructing the proposed action would result in no greater impacts than under the No Action Alternative (i.e., no increase in impacts to commercial and for-hire fisheries) given that impacts to fisheries from other projects were identified under the no action cumulative impacts discussions. While impacts may be similar to those of other projects, they are in addition to the impacts from other</p>	<p>The wording in this section has been modified to clarify that impacts would not considerably increase above the No Action Alternative based on the Proposed Action. The incorrect reference to Table G-6 has been removed.</p>

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<p>projects and should be described as such. Also, it does not appear that Table G-6 is this DEIS, as it could not be found in a search of volumes I-III. Please update this reference or describe what it includes. Because structures will be the primary IPF on commercial and for-hire fisheries, this section should include or at least reference tables quantifying the impacts of the proposed action on such fisheries. This will enable the reader to understand the impacts of the proposed action without having to search in other sections. Without such information or references, this section suggests that impacts were not estimated or quantified, which is untrue</p>	
<p>Section 3.9.5 PDF Page: 238 Comment: Section 3.9 - Commercial and Recreational Fishing: Under increased vessel traffic, please clarify how many trips on average would occur and revise impacts to moderate. The average of 46 daily trips is beyond the range listed (8-44). Also, if vessels have to adjust normal operations due to increased vessel traffic, that's more consistent with moderate impacts as defined in Table 3.9-12</p>	<p>The text in the <i>Vessel traffic</i> IPF subsection has been revised to more accurately and clearly present the proposed amount of vessel traffic that may occur under the Proposed Action, and the impact ranking has been adjusted from minor to moderate. Table 3.9-12 has been renumbered as Table 3.9-8.</p>
<p>Section 3.9.5 PDF Page: 238 Comment: Section 3.9 - Commercial and Recreational Fishing: Under climate change, please note how or if the proposed action would affect climate change</p>	<p>The inclusion of climate change as an IPF warrants a discussion of how climate change can affect commercial and for-hire recreational fisheries resources, not how the Proposed Action could affect climate change. The discussion in Section 3.9.5 refers to Sections 3.9.3.1 and 3.9.3.2, which discuss how commercial fisheries and for-hire recreational fisheries operations could be affected by climate change.</p>
<p>Section 3.9.5 PDF Page: 238 Comment: Section 3.9 - Commercial and Recreational Fishing: Delete the discussion of regulated fishing effort or move it to the next section under cumulative effects of the proposed action. This section is supposed to discuss impacts of the proposed action. The proposed action will not regulate fishing effort, although fishing regulations could be revised as a result of this project. That should be discussed as part of the cumulative impacts analysis</p>	<p>This paragraph is appropriately located. While it is correct that the Proposed Action will not regulate fishing effort, the purpose of this section is to show how Regulated Fishing Effort might affect fisheries. The text in this paragraph in Section 3.9.5 has been modified to more clearly state this.</p>
<p>Section 3.9.5.1 PDF Page: 239</p>	<p>Impact levels have been adjusted to ensure cumulative impact rankings are not lower than those for the Proposed Action. Creation of a new table similar to Table 3.9-13 (now renumbered as Table 3.9-9) but inclusive of the proposed action is not feasible given available</p>

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<p>Comment: Section 3.9 - Commercial and Recreational Fishing: Please ensure the suggested revised impact conclusions identified above are reflected in this section and insert a summary or table of the expected cumulative landings/revenue impacts for both commercial and for-hire fisheries operations. Cumulative impacts should not be lower than those of the proposed action. Table 3.9-13 includes anticipated revenue exposure for all regional wind projects except the proposed action. A new table is needed to include the proposed action revenue impacts to commercial fisheries and a discussion of cumulative impacts for for-hire fisheries. Also, this section should include a discussion of impacts to other fisheries not documented by Greater Atlantic Regional logbook data, which is the exclusive source for the information contained in Table 3.9-13. As noted above, other fisheries are affected by this action, but are not included in referenced data. There is no support for impact conclusions related to climate change and regulated fishing in this section. As noted in the comments above, both positive and adverse impacts are expected from both IPFs, but the conclusions for both in this section are adverse impacts</p>	<p>(or lack thereof) data and lack of future projections about revenue in the Project area. Not all fisheries are explicitly discussed in the EIS, as the Affected Environment is meant to be a basis for the impact analysis for the broader resource and is not intended to be an all-inclusive discussion of every fishery.</p>
<p>Section 3.9.5.2 PDF Page: 240 Comment: Section 3.9 – Commercial and Recreational Fishing: Please remove discussions of fishery regulations from this section and revise impact conclusions from moderate to “negligible to major” consistent with discussions in other sections of this DEIS. The proposed action will not affect fishery regulations. However, fishery operations, quotas, and the status of fishery populations may decrease as a result of this action as noted in the first paragraph. Moderate impacts from this action were not previously discussed or justified. Impacts should be consistently described.</p>	<p>The finding has been corrected from “moderate” to “negligible to major.”</p>
<p>Section 3.9.6 PDF Page: 240 Comment: Section 3.9 – Commercial and Recreational Fishing: Include a discussion of other IPFs such as noise, cable installation, and vessel traffic in this section. Alternatives B and C propose 29-33 fewer turbines than the proposed action. As noted in previous sections of the DEIS, this reduces the duration of pile driving noise, reduces the miles of cables installed and associated acreage of bottom disturbed, and</p>	<p>The discussion in Section 3.9.6 states that impacts will be similar to the Proposed Action for IPFs other than the presence of structures, so repetition of that analysis is needed in this section. The overall impact ranking has been corrected to negligible to major.</p>

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<p>reduces vessel traffic due to less construction activity needed. All of these IPFs and the general conclusions that relative impacts of Alternatives B and C would be lower than the proposed action should be included in this section. Impacts to fishing should also be listed as negligible to major, as noted in previous comments and in other sections of the document (see proposed mitigation measures on page 3.9-34).</p>	
<p>Section 3.9.8 PDF Page: 242 Comment: Section 3.9 – Commercial and Recreational Fishing: Please include sufficient information in this DEIS to fully account for expected revenue impacts and temper conclusions about the effectiveness of this mitigation measure. As noted in a previous comment and for other project-specific EISs, the revenue exposure estimates in Table 3.9-13 are incomplete and do not fully capture all impacts to commercial fisheries operations, shoreside support services, and fishing communities associated with this project. As a result, a potential compensation program that bases compensation funds on the impacts documented in that table and in Section 3.9.1.3 at large would likely underestimate compensation funds necessary to reduce major impacts to moderate impacts with no measurable effects for affected entities. Consistent with our comments on BOEM’s draft fisheries mitigation guidance, impacts to all fishing vessels affected by a project and shoreside support services and fishing communities dependent upon fishing operations in a project area should be analyzed in the EIS and included in any potential compensation program. Further, we have concerns about the efficacy of compensation programs that would not address impacts for the life of the project. BOEM’s guidance to reduce compensation after five years is predicated on the ability of vessels to fish elsewhere. We contend that opportunities to fish in other locations will be reduced over time due to the development of other regional wind projects. Thus, a program that would limit compensation for the first five years of a project would likely not be adequate to compensate for potential impacts, particularly given fishing regulations and factors other than wind projects (i.e., safety, profit margins, risk behavior, etc.) can limit a vessel operator’s ability to fish in other locations. Finally, moderate impacts defined in Table 3.9-12 are those that have no measurable effects if proper remedial action is taken. As noted above,</p>	<p>The analysis and subsequent residual impacts assumed that all proposed mitigations would be implemented, and, therefore, BOEM has included the overall impact determination after implementation of AMMMs as negligible to moderate. BOEM has invited Tribal nations to consult on the draft guidelines. BOEM will work on finalizing the guidelines once those consultations have concluded.</p>

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<p>if compensation needs are based on Table 3.9-13, compensation will likely be inadequate, resulting in measurable effects even after remedial action is taken. Because the introductory text indicates BOEM is considering requiring mitigation measures and has not committed to requiring mitigation or compensation measures for this project, the NEPA document cannot rely on this measure to reduce impacts, particularly since the details of this compensation program are not adequately defined in this section. Therefore, it is more appropriate to retain the original impact conclusions of minor to major, without the assumed reductions in impacts from mitigation.</p>	
<p>Missing analyses – There continue to be important analyses and conclusions that are absent from the DEIS. For example, although the DEIS references overlap with fisheries managed by the South Atlantic Fishery Management Council and tournaments for highly migratory species, there are no data or analysis of either these species or associated fisheries. We recommend BOEM contact both the NMFS Southeast Fisheries Science Center and Regional Office to acquire such data for inclusion in the FEIS and we can help you facilitate that discussion. We continue to encourage BOEM to include an analysis of impacts to shoreside support services and fishing communities due to changes to fishing operations resulting from the proposed action. Additionally, there is little to no analysis on the potential for invasive species colonization or range expansion, or potential impacts from wind wake effects; these issues should be included in the FEIS. Other missing analyses associated with Alternative C and sand ridge/trough habitats are highlighted above.</p>	<p>Thank you for your comment; however, BOEM has determined that the data provided is sufficient for the decision-making process.</p>
<p>The proposed project area generally consists of coastal inert substrate (primarily sand) with a broad range of three-dimensional spatial complexity. Sand in the mid-Atlantic continental shelf serves as a structural habitat for various life stages of fishes, providing refuge, foraging, spawning, and nursery habitat. Numerous bedforms exist in the project area, though the south-southwestern portion of the CVOW project contains stable, spatially complex, high-relief sand ridge/trough habitat. BOEM acknowledges these habitats may not recover from cable and turbine installation activities as their morphology represents engineering-construction challenges that will require dredging (DEIS page 3.13-19). Despite benthic infaunal recovery, dredging will result in the permanent loss of this spatially complex habitat, and may result in</p>	<p>Comment noted.</p>

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<p>destabilization of the ridge/trough complexes beyond the immediate area of dredging. Alternative C is consistent with BOEM’s own guidance document [Footnote 1: Rutecki, D., T. Dellapenna, E. Nestler, F. Scharf, J. Rooker, C. Glass, and A. Pembroke. 2014. Understanding the Habitat Value and Function of Shoals and Shoal Complexes to Fish and Fisheries on the Atlantic and Gulf of Mexico Outer Continental Shelf. Literature Synthesis and Gap Analysis. Prepared for the U.S. Dept. of the Interior, Bureau of Ocean Energy Management. Contract # M12PS00009. BOEM 2015-012. 176 pp.] that highlights the importance of maintaining benthic feature geometry and avoiding removal of material from sand crests</p>	
<p>We are particularly concerned with the limited analysis for alternatives intended to minimize the impacts to sensitive habitats and fishery operations where location is critical in determining the scale, scope, frequency, and nature of impacts. For example, the majority of the ecological benefit derived from Alternative C results from the protection of refuge, spawning, and nursery habitats that are associated with high-relief, spatially complex sand ridge/trough areas, yet the alternatives analysis focuses primarily on foraging (benthic infauna) impacts and recovery. The lack of a complete analysis appears to lead BOEM to conclude that there is little to no difference between the effects of the proposed action and any alternatives. We disagree with the general conclusion that impacts to NOAA trust resources and fishing operations/communities would be the same among all alternatives considered, as impact minimization alternatives have been developed in a manner that NMFS expects will result in a measurable and meaningful reduction in substantial impacts to various resources. These meaningful distinctions should be clearly reflected in impact conclusions and identified and disclosed in the comparative analysis of alternatives</p>	<p>Additional text has been included in Section 3.13.6, <i>Impacts of Alternatives B and C on Finfish, Invertebrates, and Essential Fish Habitat</i>, to further discuss the alternatives analyses and to balance the description of complex soft habitat.</p>
<p>Section 3.13.1 PDF Page: 319 Comment: Section 3.13 – Finfish, Invertebrates, and Essential Fish Habitat: Please insert a discussion of the status of all species for which established EFH overlaps with the project area, particularly for species important to fisheries that may be affected by this project. This helps establish baseline biomass levels as a means of evaluating impacts of this action. Information on the status of various stocks can be found on our Stock SMART tool available here:</p>	<p>This list of species from the EFH Assessment for which EFH is present within the geographic analysis area has been added to the document. A table of the managed species has been added. The baseline information provides enough information to make impact determinations for the finfish, invertebrates and EFH resources, not each individual species present. Revisions are in Section 3.13.1.1, <i>Essential Fish Habitat</i>.</p>

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<p>https://appsst.fisheries.noaa.gov/stocksmart?app=homepage. Please note that Section 3.9 describes fisheries that occur in the geographic analysis area, including those managed by the South Atlantic Fishery Management Council and by NMFS for highly migratory species. Such species should also be discussed in this section. Most of the very cursory discussion of species in the area is limited to general descriptions of a few invertebrate species (e.g., squid) or all regional species combined (e.g., page 3.13- 8) that do not provide sufficient information for the reader to appreciate the current status of and potential impacts to species likely affected by this project and other actions.</p>	
<p>Section 3.13.1.1.1 PDF Page: 326 Comment: Section 3.13 - Finfish, Invertebrates, and Essential Fish Habitat: The use of a trailing suction hopper dredge during installation of seabed cables is still described in the sea turtle section (PDF page # 487) but is missing in the Finfish section. This potential effect should be addressed in the Finfish, Inverts, and EFH section of the DEIS. Dredging, in particular hopper dredging, can result in the impingement and/or entrainment of ESA-listed sturgeon. An analysis of the impacts to ESA-listed fish species with respect to nearshore dredging activities is also missing and should be described in the Finfish, Inverts, and EFH section of the DEIS.</p>	<p>The use of hopper dredge is no longer being considered; therefore, it is not discussed further in the analysis.</p>
<p>Section 3.13.3.3 PDF Page: 330 Comment: Section 3.13 - Finfish, Invertebrates, and Essential Fish Habitat: Please note that behavioral effects from EMF have been observed in bony fish species such as haddock (see Cresci et al, 2022: https://academic.oup.com/pnasnexus/article/1/4/pgac175/6678016</p>	<p>This article relates to direct current (DC), not alternating current (AC), which are the types of cables used for offshore wind and cannot be applied directly to impacts from AC cables. References by Cresci et al. 2022 have been added to Final EIS Section 3.13.3.3, <i>Offshore Wind Activities (without Proposed Action)</i>, clarifying that the experiments were conducted using DC-induced magnetic fields.</p>
<p>Section 3.13.3.3 PDF Page: 331 Comment: Section 3.13 - Finfish, Invertebrates, and Essential Fish Habitat: Under new cable emplacement, please revise the temporal impact conclusion to long-term given that long-term or permanent habitat alteration as noted in this section. Also, please note that cable preparation work also impacts EFH.</p>	<p>Final EIS Section 3.13.3.3. <i>Offshore Wind Activities (without Proposed Action)</i>, has been modified to include long-term habitat alterations for certain habitats.</p>
<p>Section 3.13.3.3 PDF Page: 331 Comment: Section 3.13 - Finfish, Invertebrates, and Essential Fish Habitat: Under noise, this section should note that noise from construction activities can induce behavioral change across a broad geographic area up to 7.5 km (see Hastings and Popper 2005) or 11.2 km (see the Atlantic Shores Wind</p>	<p>Additional detail and supportive literature has been added regarding fish and invertebrate responses to all applicable noise IPFs in the Final EIS, as well as a discussion on available information on particle motion. Sound pressure was already included in the discussion because this is the most widely studied component of underwater</p>

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<p>DEIS) from the source, depending on the species and other parameters. Therefore, construction activities in adjacent projects could impact fish and fisheries beyond the boundaries of an individual project area. Finally, this section should note other impacts from noise such as sound pressure, particle motion, and vibration. Studies have found that longfin squid can be harmed by sound pressure and finfish can respond to particle motion. Noise and vibration from turbine installation and operation can cause sessile species such as surfclams and scallops to close their shells for prolonged periods, reducing respiration and feeding activities, which could adversely affect these species and associated commercial fisheries (see Roberts et al., 2015 and Elliott 2017). See our previous comments on other actions (e.g., Ocean Wind) for additional resources. While likely, it is speculative to state that all future wind projects would implement mitigation measures to reduce noise impacts and that impacts would be reduced without additional detail on exactly what, where, and when such measures would be implemented</p>	<p>noise. However, additional information has been added to both Section 3.13.3, <i>Offshore Wind Activities (without Proposed Action)</i>, and Appendix J, <i>Noise Modeling Report</i>, to provide further background on underwater noise, the difference between sound pressure and particle motion and how each affects fish and invertebrate species, as well as any information regarding each component that is available for each noise type discussed. Also, per the last part of your comment, the discussion for the cumulative effects of the No Action Alternative has been edited to focus more on potential noise impacts and less about potential mitigation that may or may not be implemented during future projects.</p>
<p>Section 3.13.3.3 PDF Page: 336 Comment: Section 3.13 - Finfish, Invertebrates, and Essential Fish Habitat: Delete "homogeneous" from first sentence of last paragraph on the page, as the rest of the paragraph goes on to explain how the geographic analysis area is heterogeneous</p>	<p>The requested edit was made.</p>
<p>Comment: Section 3.13 - Finfish, Invertebrates, and Essential Fish Habitat: In the following statement, the impacts would be long term to permanent because they would exist for the entire lifetime of the project: "The placement of the structures outlined under the Proposed Action or Alternative A-1 would be expected to result in habitat alteration from soft bottom to hard bottom "reefing" habitat. This would result in short-term to permanent impacts on soft bottom habitat within the proposed Lease Area and would impart minor impacts on finfish, invertebrates, and EFH."</p>	<p>There would be short-term impacts on portions of the soft-bottom habitats and long-term impacts on portions of the soft bottom that were altered to hard-bottom habitat from the structures. Therefore, the statement is correct as is.</p>
<p>Section 3.13.5 PDF Page: 345 Comment: Section 3.13 - Finfish, Invertebrates, and Essential Fish Habitat: Paragraph beginning with "The placement of..." should be revised to clarify potential impacts resulting from invasive species. The invasive lionfish is a large concern given the wide scale conversion of soft bottom habitats to hard bottom habitats within the project area associated with potential heat generation providing habitats that will support overwintering. An</p>	<p>Text added regarding potential lionfish colonization of the structures to Final EIS Section 3.13.3.3, <i>Offshore Wind Activities (without Proposed Action)</i>, under <i>Presence of Structures</i>.</p>

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<p>invasive species that is also a top-level, aggressive predator whose prey includes recreationally, commercially and ecologically important species becoming established in the MAB solely due to the offshore wind industry is more than a minor concern and should be addressed. There are mitigation strategies that might be incorporated into the project plans if this threat were properly assessed such as monitoring for lionfish, working with communities and stakeholders to pursue management options, organized removals or even lionfish tournament events.</p>	
<p>Section 3.13.6.1 PDF Page: 350 Comment: Section 3.13 - Finfish, Invertebrates, and Essential Fish Habitat: This section includes an example of the unclear and inconsistent use of provided impact definitions, as well as challenges with how those definitions have been designed. The impacts of alternative B and C are described as "minor", but also described as being "population-level effects." This is inconsistent with impact definitions provided in 3.13.2. This paragraph also demonstrates an example of an issue with how mitigation measures are described and analyzed throughout the document. The conclusion notes that Dominion's proposed mitigation measures and any future additional mitigation measures set by federal agencies could further reduce impacts. However, Dominion's proposed measures are described as already being considered part of the proposed action (and thus could not further reduce impacts.) Additionally, not enough detail or analysis of effectiveness is provided to understand how other measures are likely to reduce impacts</p>	<p>Text has been clarified throughout the section.</p>
<p>Section 3.13.6 PDF Page: 350 Comment: Section 3.13 - Finfish, Invertebrates, and Essential Fish Habitat: When evaluating the reduced impacts of Alternatives B and C in relation to Alternative A, this section fails to address the loss of spatially complex, high-relief sand ridge/trough habitat and instead only focuses on soft bottom to hard bottom habitat conversion. Both issues should be addressed in this section</p>	<p>Text has been added regarding sand ridge habitats to Final EIS Section 3.13.6, <i>Impacts of Alternatives B and C on Finfish, Invertebrates, and Essential Fish Habitat</i>.</p>
<p>Section 3.13.3.3 PDF Page: 336-337 Comment: Section 3.13 - Finfish, Invertebrates, and Essential Fish Habitat: The paragraph that extends from the bottom of 3.13-18 and onto 3.13-19 has numerous contradictions, going back and forth between acknowledging the range of sandy habitats within the project area and suggesting that only flat sandy seascapes are present. Rather than attempting to analyze the</p>	<p>Text has been added to balance the description of soft-bottom habitats to Final EIS Section 3.13.3.3, <i>Offshore Wind Activities (without Proposed Action)</i>.</p>

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<p>entirety of the project area seascape as uniform and simplistic, when it is not, the analysis would benefit by following the seascape categories outlined in the COP Appendix CC Seabed Mobility Study (flat areas, sand waves, and ridges - SR1, SR2, SR3)</p>	
<p>Section 3.13.5 PDF Page: 339-340 Comment: Section 3.13 - Finfish, Invertebrates, and Essential Fish Habitat: The body of knowledge on the topic of EMF is continuing to grow to include additional species and life stages. However, for the vast majority of species and life stages of marine fish and invertebrates in this area, the effects of EMFs have not yet been studied. This includes many species with known EMF sensitivity. This analysis should include discussion on potential EMF effects on movement, migration, foraging, etc. for the entire operational lifetime of the project. Please review the literature and include relevant citations such as: Cresci et al. 2022 (doi.org/10.1093/pnasnexus/pgac175); Harsanyi et al. 2022, (doi.org/10.3390/jmse10050564); Albert et al. 2020 (doi.org/10.1007/s00227-022-04065-4); Jakubowska-Lehrmann et al. 2022 (doi.org/10.1016/j.marenvres.2022.105700).</p>	<p>Text has been added to include citations to recent literature concerning EMF effects on invertebrates to Final EIS Section 3.13.3.3, <i>Offshore Wind Activities (without Proposed Action)</i>.</p>
<p>Section 3.13.5 PDF Page: 339-346 Comment: Section 3.13 - Finfish, Invertebrates, and Essential Fish Habitat: There are IPFs that are still missing from the DEIS analysis that are proposed in the CVOW-C BA – this includes the consideration of fishery monitoring surveys and vessel strikes. Fishery monitoring surveys have the potential to catch Atlantic sturgeon. In addition, vessel strike is a documented threat to Atlantic sturgeon. Consideration of both of these IPFs should be added to the FEIS</p>	<p>Vessel strikes to Atlantic sturgeon occur primarily in rivers, not in the open ocean. In addition, the vessels associated with the Project would follow vessel strike avoidance measures that focus on marine mammals and sea turtles, which would already provide benefit to the Atlantic sturgeon. Therefore, vessel strikes are not a necessary IPF for evaluation for Atlantic sturgeon. A new reference regarding vessel strikes has been added to Final EIS Section 3.13.1.1.1, <i>Essential Fish Habitat</i>.</p>
<p>section 3.13.5 PDF Page: 340-344 Comment: Section 3.13 - Finfish, Invertebrates, and Essential Fish Habitat: There is no peer-reviewed literature cited in the section on noise. Please include an analysis of all elements of noise including sound pressure, particle motion, and substrate vibration for all stages of development, notably pile driving during construction and operational noise (see Mooney et al. 2020 , https://doi.org/10.5670/oceanog.2020.408 and references therein). The analysis should include a discussion of how noise interacts with behavior and communication (e.g., de Jong et al. 2020, https://doi.org/10.1007/s11160-020-09598-9; Siddagangaiah et al. 2021, doi: 10.1002/rse2.231; Stanley et al. 2020, doi.org/10.1242/jeb.219683). It should also include a discussion on</p>	<p>Section 3.13.5, <i>Impacts of the Proposed Action on Finfish, Invertebrates, and Essential Fish Habitat</i>, is the assessment of noise produced by activities included under the Proposed Action so the assessment of pile driving was largely driven by the Project-specific modeling conducted. However, additional information providing background information on noise effects on fish and invertebrates has been added for all relevant noise IPFs to Final EIS Section 3.13.3.2, <i>Cumulative Impacts of the No Action Alternative</i>, with either the suggested literature or information contained in said literature included in that section and referenced back as appropriate in Section 3.13.5.</p>

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<p>particle motion including e.g., Sigray et al. 2022, (doi.org/10.1016/j.marpolbul.2022.113734); Sole et al. 2022 (doi.org/10.1016/j.envpol.2022.119853); Hawkins 2022 (doi.org/10.1121/10.0013994). The analysis of should also include a discussion substrate vibration effects on early life stages.</p>	
<p>Section 3.13.5 PDF Page: 344-345 Comment: Section 3.13 - Finfish, Invertebrates, and Essential Fish Habitat: The analysis for Presence of Structures should include a discussion of FAD (fish aggregating device) effects; artificial reef effects; modification of the prey field for upper level predators, the potential for structures to facilitate the establishment and range expansion of non-native species including the stepping stone effect; local hydrodynamic and broad scale wind-wake effects on larval transport and species distributions, etc. Please also include relevant supporting literature to support statements made. For example, the analysis of hydrodynamic effects should include the following papers: Christiansen et al. 2022 (doi.org/10.3389/fmars.2022.818501); Daewel et al. 2022 (doi.org/10.1038/s43247-022-00625-0), Dorrell et al. 2022 (doi.org/10.3389/fmars.2022.830927); and Floeter et al. 2022 (doi.org/10.3389/fmars.2022.884943)</p>	<p>Artificial reef effects are included in the EIS presence of structures discussion as reefing habitat. Text has been added regarding potential lionfish colonization and about the wake effect to Final EIS Section 3.15.5, <i>Impacts of the Proposed Action on Finfish, Invertebrates, and Essential Fish Habitat</i>.</p>
<p>Section 3.13.5.1 PDF Page: 347-348 Comment: Section 3.13 - Finfish, Invertebrates, and Essential Fish Habitat: The cumulative impact of presence of structures (“minor beneficial) and the conclusion of the impact of the Proposed Action alone on finfish, invertebrates, and EFH (“minor”) is heavily reliant on an expectation that artificial reef effects will be beneficial. The aggregation of some fish species around structures would be a local increase in abundance; there is no evidence to suggest that production will increase, even locally. Aggregates of reef-associated individuals may gain habitat and food resources but would be vulnerable to predation and fishing pressure. Further, species and life stages that utilize soft bottom habitats would likely not benefit from the addition of structures and may instead experience adverse effects. Please account for these interactions in the analysis.</p>	<p>Text has been added to Final EIS Section 3.15.5, <i>Impacts of the Proposed Action on Finfish, Invertebrates, and Essential Fish Habitat</i>, regarding trophic alterations due to structure placement.</p>
<p>Section 3.15 PDF Page: Global Comment: Section 3.15 – Marine Mammals: NMFS is currently working with BOEM to develop a FEIS for Ocean Wind 1 that will be sufficient for NMFS' adoption needs. Please incorporate all improvements to the OW1 FEIS in the CVOW FEIS</p>	<p>Changes developed by NMFS and BOEM in the OW1 Final EIS have been implemented in the CVOW-C Final EIS.</p>

Comment from National Marine Fisheries Service	Response
<p>Section 3.15 PDF Page: Global Comment: Section 3.15 – Marine Mammals: 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</p>	<p>All conclusions under all alternatives have been separated out for mysticetes, odontocetes, and pinnipeds, as appropriate. Where necessary, NARWs are also considered separately.</p>
<p>Section 3.15 PDF Page: 373 Comment: Section 3.15 – Marine Mammals: Table 3.15-1. 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. In addition, please update any UME information from our website closer to FEIS publication. https://www.fisheries.noaa.gov/s3/2023-01/Draft%202022%20Atlantic%20SARs_final.pdf</p>	<p>Comment is noted and all applicable and available information has been updated in the Final EIS.</p>
<p>Section 3.15.3.1 PDF Page: 379 Comment: Section 3.15 – Marine Mammals: Where BOEM says "Ongoing offshore wind activities would have the same types of impacts from noise, emplacement and maintenance of cables, and presence of structures. but the impacts would be of lower intensity". It is not clear why impacts from any ongoing project (e.g., VW1) would result in impacts of lower intensity than any future project. Please further clarify why ongoing wind activities (such as VW1) would have lower impacts than planned projects. If this statement is suggesting that because there are only 4 ongoing projects and tens of future projects, the impacts are less, this should be clearer. Otherwise it reads as any given planned project is more impactful than any ongoing project</p>	<p>A statement has been added to this paragraph in Section 3.15.3.1 to clarify that the lower intensity was a reference to the number of ongoing projects versus the planned offshore wind projects, and was not a direct correlation with any given activity expected under the Project.</p>
<p>Section 3.15.3.2 PDF Page: 380 Comment: Section 3.15 – Marine Mammals: 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 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>As suggested, a statement that the COP would not be approved and this Project would not be developed has been added to Section 3.15.3.1.</p>

Comment from National Marine Fisheries Service	Response
<p>Section 3.15.3.2 PDF Page: 384 Comment: Section 3.15 – Marine Mammals: In the paragraphs about vibratory pile driving, please include information on why PTS would not be expected to occur from this installation technique</p>	<p>Additional supportive information has been added to Section 3.15.3.2 to explain the potential effects from pile-driving noise (both impact and vibratory).</p>
<p>Section 3.15.5 PDF Page: 396 Comment: Section 3.15 – Marine Mammals: 1,030 miles does not equal 314 meters; it equals approximately 1,657,624.32 meters. Please ensure that the measurements for the distances to threshold are accurate when describing the proposed action and the relevant alternatives</p>	<p>All measurements and distances have been checked and updated to ensure that the correct conversions are included in the Final EIS</p>
<p>Section 3.15.5 PDF Page: 396 Comment: Section 3.15 – Marine Mammals: Where BOEM says "Therefore, due to the duration and modeled threshold ranges (Table 3.15-6), it is unlikely any notable adverse behavioral disturbances will occur, and impacts on marine mammals are expected to be negligible." The term "notable adverse behavioral disturbances" could be construed to be analogous to take. CVOW has requested take incidental to this activity and NMFS will propose to authorize take in the proposed rule. BOEM should reconsider its analysis of potential impacts from this activity</p>	<p>The sentence has been updated in Section 3.15.5 as follows to accurately reflect the most recent exposures estimated for the goal post piles:</p> <p>"Due to the duration and modeled threshold ranges (Table 3.15-6), behavioral disturbances would be limited to a few individuals and would have no perceptible consequences to those individuals or the populations, and impacts on all mysticetes, odontocetes and pinnipeds are therefore expected to be negligible."</p>
<p>Section 3.15.5 PDF Page: 396 Comment: Section 3.15 – Marine Mammals: The statement "Additionally, these surveys will have relatively short durations within the overall construction period." is not supported. Over 1,100 days of HRG survey effort is predicted to occur during the CVOW-C project, which is approximately 60 percent of the 5 year project (1,108 total survey days/(365 days x 5 years = 1,825) * 100), with most of these surveys occurring for durations of 24-hours. We suggest that you remove this sentence from the DEIS as it is not accurate for Alternatives A or A1</p>	<p>This statement has been removed from the HRG survey discussion in Section 3.15.5, and additional supportive arguments such as the calculated ranges from the LOA application and proposed mitigation, which will affect the impact rating, have been included.</p>
<p>Section 3.15.5 PDF Page: 397 Comment: Section 3.15 – Marine Mammals: Dominion has updated the scope of the action being considered under the MMPA to be limited to the installation of 176 turbines comprising 183 piling driving events. They intend to submit revised exposure estimates associated with those 183 pile driving events. In the Alternative that considers Dominion's proposed project (176 turbines), please include the exposure estimates associated with this action. NMFS anticipates receiving that information on 2/14. If Dominion does not also submit that information to BOEM, NMFS encourages BOEM to request it</p>	<p>The information from the most recent LOA addendum has been incorporated and considered in Section 3.15.5t and description of the Proposed Action.</p>

Comment from National Marine Fisheries Service	Response
<p>Section 3.15.5 PDF Page: 397 Comment: Section 3.15 – Marine Mammals: NMFS disagrees that interaction with active or abandoned fishing gear would only lead to minor to moderate impacts on NARW, as stated in the Presence of Structures section given entanglements lead to morbidity or mortality. NMFS advises BOEM to reconsider this impact level and also discuss the risk of entanglement</p>	<p>This IPF has been revisited and reconsidered. BOEM agrees with this comment and has updated the rating for NARW in the Final EIS to major given the risk of impact from entanglement if it were to occur, and the fact that mitigation cannot completely eliminate the risk of this occurring.</p>
<p>Section 3.15.5 PDF Page: 398 Comment: Section 3.15 – Marine Mammals: When describing vessel use, NMFS again encourages BOEM to separate out the NARW given the status of the population. NMFS also recommends the analysis regarding the potential for vessel strike consider the enhanced mitigation measures proposed by the developer and NMFS in its proposed rule</p>	<p>NARWs are discussed separately under this IPF given their population status and the risk posed by removal of a single individual from this population.</p>
<p>Section 3.15.5 PDF Page: 398-399 Comment: Section 3.15 – Marine Mammals: NMFS requests that BOEM discuss NARWs separately, based on previous language provided under the No Action Alternative where greater impacts could be experienced by species of mysticetes that feed almost exclusively on plankton and other zooplankton. The summary within Presence of Structures here does not discuss the more major effects some food specialist marine mammal species may experience if there is a reduction in availability (i.e., NARWs). This would likely be a measurable effect, more likely moderate to major as the Proposed Action would not be occurring in a known foraging ground but other projects (described as ongoing and planned actions) may occur in these areas</p>	<p>NARWs were considered separately with other mysticetes and planktivorous marine mammal species. However, the impact rating will remain at minor, because no population-level effects are expected to occur, even for NARWs, since they are not in a critical feeding habitat for the species and the disruption from just the Proposed Action is not likely to carry up to the population level. However, additional text has been added to Section 3.15.3.2 to discuss the potential effects from changes in oceanographic conditions due to offshore wind.</p>
<p>Section 3.15.5, 3.15.6.1 PDF Page: 398, 400 Comment: Section 3.15 – Marine Mammals: As written, the EIS suggests that the Proposed Action (baseline) would lead to NARWs being struck by CVOW offshore wind vessels and this impact cannot be mitigated ("As the death of a single NARW could lead to population-level consequences and the application of mitigation cannot rule out the potential for this effect to occur, this impact is considered major for NARW and moderate for all other listed mysticetes."). In the baseline conclusion section, the EIS then suggests that vessel strikes will lead to negligible to moderate impacts (including for NARWs). This is inconsistent. Further, NMFS suggests reframing the discussion by identifying that the risk of strike is low for the reasons on page 3.15.32 and hence there would be no impact (i.e., no vessel strike = no impact) but then say in the chance if a vessel strike did occur, the impacts would be</p>	<p>The discussion of the Proposed Action has been updated in the Final EIS to include these points and more clearly distinguish the risk to NARW compared to other marine mammal species.</p>

Comment from National Marine Fisheries Service	Response
<p>x,y,z. NMFS also notes that slower vessel speeds have been identified as an indicator of whether a vessel strike is more likely to result in injury or mortality (i.e., the faster the vessel, the more likely an animal would die from the strike). NMFS recommends considering this in the analysis and impact conclusions. This same comment applies to the other Alternatives</p>	
<p>Section 3.15.6 PDF Page: 400 Comment: Section 3.15 – Marine Mammals: The statement "while Alternatives B and C may be slightly less impactful than the Proposed Action, the impacts on marine mammals under these alternatives would not be appreciably different than those under the Proposed Action" should be expanded upon to include the exposure numbers related to those alternatives. No analysis is Under Alternative B, but there is an approximate 14% reduction in the overall PDE. NMFS suggests that BOEM provide more analysis rather than a qualitative comparison given that the numbers are easy to obtain. In addition, fewer turbines equates to fewer vessels; therefore, more information is needed regarding the reduction of auxiliary activities such as crew transfer and maintenance needs</p>	<p>Additional information has been provided in the Final EIS to indicate why the impact ratings are not expected to change from those listed under the Proposed Action.</p>
<p>Section 3.17.5.5 PDF Page: 448 Comment: Section 3.17 – Other Uses (Marine Minerals, Military Use, Aviation): The second paragraph of § 3.17.5.5 neglects to attribute the coastal HF radar systems to NOAA-IOOS and contains a typo by initially using the phrase "radar effects" in its second sentence instead of "radar systems". In § 3.17.5.5 "Radar Systems" (p. 3.17- 18; Vol. 1), would you please the second paragraph with the following?: "In addition, the following HF radar systems that are part of the NOAA IOOS network would be within the line of sight of all or some WTGs, which would present interference: Duck HF Radar and Little Island Park HF Radar. Two additional NOAA IOOS member HF radar systems are expected to experience radar effects such as clutter beyond line of sight: Assateague Island HF Radar and Cedar Island HF Radar. Dominion Energy would continue to engage and implement plans with the NOAA IOOS Surface Currents Program, in coordination with the applicable university owners and operators of these HF radar systems, to assess and mitigate potential WTG impacts." [NOAA/NOS/IOOS]</p>	<p>The suggested change has been made in the Final EIS.</p>

Comment from National Marine Fisheries Service	Response
<p>Comment: Section 3.17 – Other Uses (Marine Minerals, Military Use, Aviation): There are many areas within the document that speak to weather, but nothing pertinent to the NEXRAD WSR-88D radar which is primarily used by National Weather Service Weather Forecast Offices during inclement weather to produce Watches, Warnings, and Forecasts for the protection of life and property. [NOAA/NWS/ROC]</p>	<p>The NEXRAD WSR-88D radar has been added to Final EIS Section 3.17.3.2.5, <i>Radar Systems</i>, per this and the subsequent comments.</p>
<p>Section 3.17.1.5 PDF Page: 436-437 Comment: Section 3.17 – Other Uses (Marine Minerals, Military Use, Aviation): The last sentence of § 3.17.1.5 states that existing radar systems are expected to continue to function, but neglects to mention that for them to do so it will be necessary to mitigate the WTGs' adverse impacts mentioned in this section's first paragraph. In § 3.17.1.5 "Radar Systems" (p. 3.17-7; Vol. 1), would you please replace the second paragraph's first sentence with the following?: "Existing radar systems will continue to provide weather, navigational, and national security support to the region if impacts from the WTGs are mitigated." [NOAA/NOS/IOOS]</p>	<p>The suggested change has been made to Final EIS Section 3.17.3.2.5, <i>Radar Systems</i>.</p>
<p>Section 3.17.3.2.5 PDF Page: 442 Comment: Section 3.17 – Other Uses (Marine Minerals, Military Use, Aviation): The first sentence of the second paragraph of this section reads: "BOEM assumes that project proponents would conduct an independent radar analysis and coordinate with FAA to identify potential impacts and any mitigation measures specific to aeronautical, military, and weather radar systems." Please clarify this statement as NEXRAD WSR-88D Radars are used by the Tri- Agency and the Radar Operations Center conducts its own analysis of WTGs. [NOAA/NWS/ROC]</p>	<p>This paragraph in the Final EIS has been revised according to the suggested changes in comment 0041-0099. Dominion Energy is currently consulting with the Tri-Agency and Radar Operations Center, and consultation is expected to conclude before July 2023 with recommended mitigation and monitoring measures.</p>
<p>Section 3.17.3.2.5 PDF Page: 442 Comment: Section 3.17 – Other Uses (Marine Minerals, Military Use, Aviation): The first paragraph of § 3.17.3.2.5 acknowledges that "WTGs... could also affect the HF radar systems", however the second paragraph neglects to mention coordinating with the NOAA-IOOS office that manages these HF-radars on mitigations for these adverse effects.</p>	<p>The suggested changes have been made in the Final EIS.</p>

Comment from National Marine Fisheries Service	Response
<p>The need to coordinate with NOAA-IOOS for HF-radar mitigation needs to be mentioned here. Further, the last sentence in the second paragraph of § 3.17.3.2.5 states that the project's radar system "impacts are expected to be negligible", but this is not true for all the radar systems to be impacted by the project. The anticipated radar system impacts of the project should be stated as "negligible to moderate" to encompass the effects to all the different types of radars affected. In § 3.17.3.2.5 "Radar Systems" (p. 3.17-12; Vol. 1), would you please: (1) replace the first sentence of the second paragraph with the following: "BOEM expects project proponents to conduct an independent radar analysis. Accordingly, they shall coordinate with the NOAA Integrated Ocean Observing System (IOOS) Office's Surface Currents Program to identify potential impacts and implement mitigation measures specific to oceanographic HF radar systems—and with the FAA for other aeronautical, military, and weather radar systems. NEXRAD WSR-88D Radars are used by the Tri-Agency (NOAA, FAA, and DoD) and the NOAA National Weather Service (NWS) Radar Operations Center conducts its own analysis of WTGs." and (2) replace the last sentence of the second paragraph with the following: "As a result, impacts to radar systems are expected to range from negligible to moderate."? [NOAA/NOS/IOOS]</p>	
<p>Section 3.17.5.6 PDF Page: 448 Comment: Section 3.17 – Other Uses (Marine Minerals, Military Use, Aviation): Please indicate that the proposed action and other regional wind projects will prevent NOAA Fisheries from conducting affected surveys listed above based on existing protocols. We recommend that you use the detailed text provided in the Vineyard Wind 1 FEIS to fully describe impacts to NOAA survey operations and research. Also note that while the NOAA/BOEM Federal Survey Mitigation Strategy outlines a process to help address survey impacts from wind projects, specific mitigation efforts for individual impacted survey have yet to be developed and funding for associated activities has yet to be obtained.</p>	<p>Text on the Federal Survey Mitigation Strategy consistent with Ocean Wind has been added to Final EIS Section 3.17.1.6, <i>Scientific and Research Surveys</i>.</p>
<p>Comment: Section 3.17 – Other Uses (Marine Minerals, Military Use, Aviation): Please revise the conclusions for impacts to NOAA surveys and research to major. This is consistent with previous discussions of</p>	<p>This revision to the impact conclusion has been made in the Final EIS.</p>

Comment from National Marine Fisheries Service	Response
<p>impacts; there are no other references to moderate impacts to NOAA surveys.</p>	
<p>We continue to have significant concerns related to the major impacts offshore wind will have on our NOAA scientific surveys. The DEIS does not include any discussion on how these major impacts will be mitigated at the project level other than referencing the ongoing BOEM/NMFS survey mitigation efforts. However, the mitigation strategy is not currently resourced and does not set requirements or standards with which projects must comply. In order to minimize the major adverse impacts expected on scientific surveys, we recommend mitigation measures be required and implemented before development moves forward, consistent with our joint survey mitigation efforts. We will continue to work with you to ensure these details can be included in the FEIS.</p>	<p>BOEM has committed to working with NOAA to implement the Federal Survey Mitigation Strategy program (https://repository.library.noaa.gov/view/noaa/47925). As of February 2023, 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.</p>
<p>Section 3.17.1.6 PDF Page: 437 Comment: Section 3.17 – Other Uses (Marine Minerals, Military Use, Aviation): Please insert reference to all NMFS surveys affected by this action. Please insert reference to and discussion of the Atlantic Surfclam Survey, Scallop Survey, Ecosystem Monitoring Survey, and Protected Species Aerial and Shipboard Survey in this section.</p>	<p>Requested text has been added to Final EIS Section 3.17.1.6, <i>Scientific and Research Surveys</i>.</p>
<p>Section 3.17.3.2.6 PDF Page: 442 Comment: Section 3.17 – Other Uses (Marine Minerals, Military Use, Aviation): Please indicate that the proposed action and other regional wind projects will prevent NOAA Fisheries from conducting affected surveys listed above based on existing protocols. We recommend that you use the detailed text provided in the Vineyard Wind 1 FEIS to fully describe impacts to NOAA survey operations and research.</p>	<p>Final EIS Section 3.17.3.2.6, <i>Scientific and Research Surveys</i>, incorporates by reference the Vineyard Wind 1 Final EIS' detailed summary of and potential impacts on NOAA's scientific research surveys.</p>
<p>Section 3.19 PDF Page: Global Comment: Section 3.19 – Sea Turtles: Please use updated sources when citing anthropogenic causes of mortality including ingesting trash, entanglement in fishing gear, and vessel strikes.</p>	<p>Updated references have been added to Final EIS Section 3.19.</p>

Comment from National Marine Fisheries Service	Response
<p>Section 3.19 PDF Page: Global Comment: Section 3.19 – Sea Turtles: The sea turtle chapter includes very little discussion on all IPFs regarding conceptual decommissioning. Please discuss potential impacts on sea turtles for all activities related to decommissioning including noise, vessel traffic, lights, and accidental releases.</p>	<p>Conceptual decommissioning is addressed to Section 3.19.5, <i>Impacts of the Proposed Action on Sea Turtles</i>.</p>
<p>Section 3.19.3.1 PDF Page: 484 Comment: Section 3.19 – Sea Turtles: It is unclear how the determination was made as to what activities are only likely to result in temporary displacement and behavioral changes as opposed to injury and mortality. Commercial fisheries bycatch of sea turtles in the project area does result in injury and mortality of individuals and should therefore be included with the latter group.</p>	<p>Text has been added to Final EIS Section 3.19.3.1, <i>Impacts of the No Action Alternative</i>, to better define the impacts.</p>
<p>Section 3.19 PDF Page: 492 Comment: Section 3.19 – Sea Turtles: Please add more detail to support the claim that impacts of gear utilization associated with fisheries use on sea turtles is expected to be minor. Paragraph above and concluding sentence that reduction of such interactions is a priority does not fully support that conclusion.</p>	<p>Text has been added to further discuss the potential effects of fishing gear use on sea turtles in multiple places in Final EIS Section 3.19, <i>Sea Turtles</i>.</p>
<p>Section 3.19 PDF Page: 493 Comment: Section 3.19 – Sea Turtles: Please specify or summarize 'other proposed measures' that are noted to lower the probability of accidental release risk.</p>	<p>Text has been added to clarify the "other proposed measures" to Final EIS Section 3.19.5, <i>Impacts of the Proposed Action on Sea Turtles</i>.</p>
<p>Section 3.19.5 PDF Page: 495 Comment: Section 3.19 – Sea Turtles: BOEM has previously indicated that the use of hopper dredges is not expected to result in population effects as few to no takes of sea turtles would reasonably be expected. Please be more specific as to whether any take of sea turtles is expected to occur, particularly if serious injury or mortality is anticipated.</p>	<p>No take of sea turtles is expected. Hopper dredges are only being considered for use but they are not the primary method of installation.</p>

Comment from National Marine Fisheries Service	Response
<p>Section 3.19 PDF Page: 493-498 Comment: Section 3.19 – Sea Turtles: The DEIS still does not address the potential effects from biological/fishery monitoring surveys on ESA-listed sea turtles. Effects of these activities should be addressed in the FEIS.</p>	<p>Additional text has been added to address the potential effects of biological/fishery monitoring surveys on sea turtles in Final EIS Section 3.19.3.2.5, <i>WTG Operations</i>.</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. While Appendix H 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. In addition, assumptions about the success of mitigation measures are made despite a lack of evidence (e.g., fisheries mitigation, and survey mitigation strategy).</p>	<p>Table H-2 and Table H-3 of Appendix H have been clarified to identify which measures, including those proposed by the applicant, have been selected by BOEM and other agencies.</p> <p>Chapter 3 of the Final EIS includes a new section for each resource area that lists the mitigation and monitoring measures arising from consultation or otherwise required by agencies and summarizes the effect on the impact conclusions.</p>
<p>Section: 2.3 PDF Page: 74-92 Comment: Chapter 2 - Alternatives Including the Proposed Action: Based on previous correspondence, it is our understanding that impact determinations have incorporated mitigation measures; however, the heading of Table S-2 does not reflect this. We recommend the table label be changed to accurately reflect that impacts do include mitigation measures. This should also be updated where it applies in the Executive Summary (Section S-5).</p>	<p>Table S-2 of the Final EIS indicates that the impact conclusions include mitigation measures. Chapter 3 of the Final EIS includes a new section for each resource area that lists the mitigation and monitoring measures arising from consultation or otherwise required by agencies and summarizes the effect on the impact conclusions.</p>
<p>Section: 3.2 PDF Page: 97 Comment: Sections 3.0 - 3.3: After the end of the 3rd sentence ("in the preferred alternative") please add the following sentence: "If any mitigation measures are analyzed in the impact analysis and those measures influence the impact determinations, those measures will be included in the preferred alternative." This comment has been made previously in reviews of this EIS and others. NMFS continues to have</p>	<p>The requested edit has been made. Additional edits for consistency with other ongoing BOEM EISs have also been made to Section 3.2.</p>

Comment from National Marine Fisheries Service	Response
<p>concerns that uncommitted mitigation measures are being included in the analysis that change the impact determinations.</p>	
<p>Section: 3.2 PDF Page: 97 Comment: Sections 3.0 - 3.3: The document notes that potential additional mitigation measures are analyzed in the relevant resource sections, but in general this is not addressed in any detail in the relevant sections. 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.</p>	<p>Chapter 3 of the Final EIS includes a new section for each resource area that lists the mitigation and monitoring measures arising from consultation or otherwise required by agencies and summarizes the effect on the impact conclusions.</p>
<p>Section: App H PDF Page: Global Comment: Appendix H - Mitigation and Monitoring: Please incorporate the MMPA proposed rule mitigation and monitoring requirements, as well as any updates NMFS provides thereafter related to the MMPA process, into the FEIS.</p>	<p>This measure (the incorporation of final MMPA LOA requirements) is included in the Final EIS following consultations with NMFS. The measure is included in Appendix H, Table H-2.</p>
<p>Section: App H PDF Page: 301 Comment: Appendix H - Mitigation and Monitoring: The third bullet of the cell at row 2, column 4 of the table on p. H-55 neglects to attribute the HF-radar systems to NOAA-IOOS. On p. H-55 (Appendix H), would you please replace the third bullet within the cell at column 4 "Avoidance, Minimization and Mitigation" in row 2 (which corresponds to the item in the third column, "Long-term interference with high-frequency radar operations") with the following?: "Dominion Energy would continue to engage and implement plans with the NOAA IOOS Surface Currents Program, in coordination with the applicable university owners and operators of these high-frequency radar systems, to assess and mitigate potential impacts." [NOAA/NOS/IOOS]</p>	<p>The text in question is in Appendix H, Table H-1, which includes Dominion Energy's proposed measures. The proposed text has been added to Table H-3, which provides additional agency-required measures.</p>
<p>Section: App H PDF Page: 319 Comment: Appendix H - Mitigation and Monitoring: "Employing adaptive clutter filters" is one of the possible mitigation measures listed</p>	<p>The measures in question were from BOEM OCS Study 2020-039. These measures have been removed and replaced with the specific NOAA-IOOS measure elsewhere.</p>

Comment from National Marine Fisheries Service	Response
for mitigating impacts to NEXRAD weather radar systems. Please note that there really are no clutter	
Comment: Appendix H - Mitigation and Monitoring: "Changing the radar scan strategy to pass over areas with wind turbines" is one of the possible mitigation measures listed for mitigating impacts to NEXRAD weather radar systems. Please note that the job of a radar is to see inclement weather (esp NEXRAD) not look over it. [NOAA/NWS/ROC]	
Section: App H PDF Page: Global Comment: Appendix H - Mitigation and Monitoring: "Using phased array radars to achieve a null in the antenna radiation pattern in the direction of the wind turbine" is one of the possible mitigation measures listed for mitigating impacts to NEXRAD weather radar systems. Please note that this is not a proven concept at this time. [NOAA/NWS/ROC]	
Section: App H PDF Page: Global Comment: Appendix H - Mitigation and Monitoring: Curtailment is one of the possible mitigation measures listed for mitigating impacts to NEXRAD weather radar systems. This can greatly help better observe inclement environmental weather elements. [NOAA/NWS/ROC]	

N.4.1.5. U.S. Army Corps of Engineers

Table N.4-3 Responses to Comments from U.S. Army Corps of Engineers

Comment from U.S. Army Corps of Engineers	Response
What are each agencies authorities in regards to 106, and should they be spelled out in the MOA?	BOEM is the lead federal agency for the Section 106 review process for this undertaking.
USACE have some enforcing authority within 3nm that BOEM does not have	The MOA preamble establishes each federal agency's authority. Each federal agency involved in this undertaking has been invited to consult pursuant to Section 106 of the NHPA and, if the agency accepted BOEM's invitation, sign the MOA as a concurring party. BOEM has determined there are no adverse effects identified within this portion of the marine APE (within 3 nautical miles).

Comment from U.S. Army Corps of Engineers	Response
<p>How does BOEM plan to address concerns in the comment letters by the Nansemond and Upper Mattaponi?</p>	<p>Please refer to responses to comments from the Nansemond Indian Nation (submission 0022) and Upper Mattaponi Indian Tribe (EMAIL-0011) in Section N.6.9, Cultural Resources.</p>
<p>As the 106 package is incomplete at this time with survey work and associated reviews still underway, USACE requests that the final package and revised Draft MOA be provided to our office for review and comment prior to finalization.</p>	<p>BOEM provided information to and scheduled Section 106 consultations with USACE and other consulting parties throughout the Section 106 process for the Project. BOEM consulted with consulting parties on the identified historic properties, assessment of effects, and planning for the resolution of adverse effects under NHPA Section 106. This includes consultation on content included in the Final EIS and Final MOA, including the avoidance, minimization, and mitigation measures to be adopted by the Project.</p> <p>Please refer to response to comment 0022-0006 in Section N.6.9, Cultural Resources, for related information.</p>
<p>Navigation/Appendix I/Appendix L: It is not clear to what extent navigation impacts were assessed for the on-shore/near-shore portions of the project. Our office will need to evaluate the temporary and permanent impacts to navigation that the project may cause to ALL navigable waters of the U.S., not just a 10-nm buffer around the lease area. For example, the onshore portion of the project will need to cross the Atlantic Intracoastal Waterway in Chesapeake, Virginia with an overhead line. We would need to know if construction activities may impact navigation within the canal, such as through temporary closures or the placement of temporary structures/vessels within the waterway that pose a hazard or could block navigation. This may also impact recreational users of the waterway who frequent the area (kayakers, crew teams, fishing, boaters).</p> <p>The navigation assessment should also consider what potential effects the project will cause after construction such as the risk of high masted vessels hitting the hanging overhead lines as they pass under them. In addition, the navigation assessment should assess the impacts occurring offshore during construction between the mean high water line at the cable landing site and the 10-nm buffer around the lease area. For example, how will construction activities or the placement of temporary or permanent structures potentially alter or pose a hazard to general navigation near the shore or near the Atlantic Ocean Channel, such as by installing cofferdams that may redirect traffic or scour protection that larger vessels may strike.</p>	<p>BOEM has reviewed the on- and near-shore information included in Appendix H, <i>Mitigation and Monitoring</i>, and has ensured that any relevant information was carried through Final EIS Section 3.16, <i>Navigation and Vessel Traffic</i>, as appropriate.</p>

Comment from U.S. Army Corps of Engineers	Response
<p>Some additional information regarding the onshore navigable waters crossing was added to Appendix H, but did not carry over to other sections for evaluation. You should ensure that the navigation analysis is consistent and complete throughout the EIS.</p>	
<p>Some of the IPF template language may need to be revised to make it relevant to the individual project. For example, the table references New England Vessel traffic which would not be relevant to that which is seen in Virginia for comparison. Our scope of review does not match was is being evaluated in this table.</p>	<p>BOEM is aware that there are some updates needed to some of the programmatic documents; this will be addressed at a future date.</p>
<p>In Chapter 2, the cable depths below DNODs is discussed, but this text was not changed from the original draft PDEIS. However, in the attached comment spreadsheet, it is indicated it was updated in Section 3.17. These depth descriptions need to match to ensure the depths of the cable in DNODS are below native bottom sediment, not just at a target depth of 3.3 feet (1 meter). Also, it needs to be clarified that the “1.48 feet (4.5 meters) of cover to be added...” is not going to be added as a part of the cable installation but is taking into consideration future dredged material disposal further burying the cables.</p> <p>In the end, I just want to be sure the message is consistent and clear as these depth requirements will be Section 408 permission conditions that Dominion will be required to adhere to.</p>	<p>USACE requirements for cable burial below native bottom sediment are included in Section 3.17.1.1, using wording provided by USACE during review of the Draft EIS.</p>
<p>Dominion has notified us that project modifications will be forthcoming that will require additional wetland delineations confirmations and a need to revise the EIS to reflect the proposed changes to wetland impacts.</p>	<p>Thank you for the comment. BOEM has revised Final EIS Section 3.22, <i>Wetlands</i>, with the most current information provided by Dominion Energy’s 2023 COP update, which addressed various Project modifications and associated wetland impacts. As noted in COP, Section 4.2.1.2 (Dominion Energy 2023), if additional shifts to the alignment are made to Onshore Project components, addendums will be submitted to the USACE, as necessary.</p>

N.4.1.6. U.S. Coast Guard

Table N.4-4 Responses to Comments from U.S. Coast Guard

Comment from U.S. Coast Guard	Response
<p>The USCG supports the selection of a combination of Alternative A-1 and B: Aligning the three substations with the WTGs and exclusion of three WTGs and associated inter-array cables in the northwest corner of the lease. This combination of alternatives complies with current USCG guidance for Offshore Renewable Energy Installations (OREIs) to be aligned in straight rows or columns and to provide multiple lines of orientation and avoid WTGs overlapping the proposed Chesapeake Bay to Delaware Bay: Eastern Approach Cutoff Fairway.</p>	<p>Thank you for your comment. In the Final EIS, Alternative A-1 has become the Proposed Action (Alternative A), which aligns the three OSSs with the WTG array. BOEM has identified Alternative B in combination with Alternative D-1 as its Preferred Alternative.</p>
<p>The DEIS alternatives adequately evaluate the impacts to navigation safety and USCG missions and the USCG concurs with the resulting minor to major adverse impacts.</p>	<p>Thank you for confirming that the USCG agrees with BOEM's evaluation of impacts on navigation.</p>
<p>This project deviates from USCG guidance on Wind Turbine Generator (WTG) spacing to support the proposed action's purpose and need. The proposed minimum distance of 0.75 NM between closest adjacent turbines will likely impact USCG Search and Rescue (SAR). Preferred spacing for USCG aviation assets to safely conduct SAR is at least one nautical mile between turbines, and while 0.75NM project spacing may be unavoidable, certain SAR capabilities may be impacted by adverse weather conditions or other factors. Small variances throughout the wind farm should not significantly affect SAR or navigation safety. The USCG supports the Dominion Energy designed 121-meter buffer to ensure there is no overhang outside of the lease area to include the blades. Careful coordination with the MTS is required for construction and operations to support all users in this busy, complex waterway.</p>	<p>Additional detail on impacts on USCG SAR operations has been added to Final EIS Section 3.17.5.2, <i>National Security and Military Uses</i>.</p>
<p>Approved cable routes must be and have been coordinated with the USCG to mitigate impacts on the Federal and Private Aids to Navigation (ATON) and to facilitate USCG asset operational support for temporary/ permanent changes to the ATON constellation. Additionally, the Project has coordinated with USACE on determining appropriate burial depths along the route and in or near any Federal channels.</p>	<p>Additional detail on USCG ATON requirements has been added to Final EIS Section 3.17.5.2, <i>National Security and Military Uses</i>.</p>
<p>In addition to mitigations listed in Appendix H, the USCG recommends the following: Safety Zones: Establishing safety zones or other regulated navigation areas should not be used as key mitigating factors when considering</p>	<p>The establishment of safety zones has been added to Appendix H, Table H-3, of the Final EIS. Prior to the commencement of offshore construction, Dominion Energy intends to submit a formal request for the establishment of safety zones under 33 CFR Part 147 to promote</p>

Comment from U.S. Coast Guard	Response
<p>risks and impacts. Commander, USCG Fifth District, may consider safety zones in the lease area for construction, major maintenance, or decommissioning. Safety zones will not be created for the sole purpose of keeping project construction on track.</p> <p>Terms and Conditions development: The USCG should be provided the opportunity to request the project implement additional measures that mitigate the negative impacts to SAR mission execution within the windfarm.</p> <p>Post ROD involvement: The USCG requests timely access to construction plans, such as Facility Design Reports and/or Fabrication Installation Reports that may identify activities impacting USCG missions or the MTS, especially Cable Burial Plans and their associated risk and feasibility assessments. Early access may prevent conflicts with planned activities.</p> <p>Amending Mitigations: The USCG should be provided the opportunity to suggest changes to approved mitigations and terms and conditions before, during, and after installation of the wind farm.</p> <p>Re-Evaluation: The USCG should be provided the opportunity to re-evaluate any required analyses submitted by Coastal Virginia Offshore Wind - Commercial, or require additional analysis after installation (e.g., to determine post-installation radar and communications impact).</p>	<p>the safety of life and property on the OCS. When making this request, Dominion Energy will provide an overview of the relevant safety factors the USCG may consider when determining whether safety zones may be required to reduce the risks to life and property. BOEM will coordinate with the USCG on review of the Terms and Conditions of BOEM's COP decision.</p> <p>Prior to the commencement of offshore construction activities, Dominion Energy will provide the USCG with a plan that describes the schedule and process for installing the WTGs and offshore substations, including all planned mitigation measures to be implemented to minimize any adverse impacts on navigation while installation is ongoing. After cable installation is complete, Dominion Energy will submit to the USCG a copy of the final submarine cable system routing positioning list that depicts the precise location and burial depths of the entire cable system.</p>

N.4.2 Cooperating State Agencies

N.4.2.1. Virginia Department of Energy

No comments on the CVOW-C Draft EIS were received from the Virginia Department of Energy.

N.4.3 Participating Federal Agencies

N.4.3.1. Advisory Council on Historic Preservation

Table N.4-5 Responses to Comments from Advisory Council on Historic Preservation

Comment from Advisory Council on Historic Preservation	Response
<p>In response to the recent notification by the Bureau of Ocean Energy Management, the Advisory Council on Historic Preservation (ACHP) will participate in consultation to develop a Section 106 agreement document for the referenced undertaking. Our decision to participate in this consultation is based on the Criteria for Council Involvement in Reviewing Individual Section 106 Cases, contained within the regulations, "Protection of Historic Properties" (36 CFR Part 800) implementing Section 106 of the National Historic Preservation Act. The criteria are met for this proposed undertaking because it has substantial impacts on important historic properties, has the potential for presenting procedural problems, it presents important questions of policy or interpretation, and it presents issues of concern to Indian tribes.</p> <p>Section 800.6(a)(1)(iii) of these regulations requires that we notify you as the head of the agency of our decision to participate in consultation. By copy of this letter, we are also notifying Ms. Jessica Stromberg, Office of Renewable Energy Programs, of this decision. Furthermore, the ACHP will be providing additional recommendations on this consultation and comments on the proposed Section 106 Memorandum of Agreement and supporting technical reports to Mr. Stromberg, via separate correspondence.</p>	<p>BOEM consulted the ACHP throughout its Section 106 review of the Project.</p>

N.4.3.2. National Park Service

Table N.4-6 Responses to Comments from National Park Service

Comment from Advisory Council on Historic Preservation	Response
<p>In previous comments NPS had questioned how BOEM arrived at the conclusion that "nighttime lighting impacts would be restricted to cultural resources for which a dark night sky is a contributing element to their historic integrity, cultural resources stakeholder use at night,</p>	<p>BOEM has considered the impact of nighttime lighting on all known and potential historic properties for which a dark night sky is a character-defining feature contributing to the integrity and significance</p>

Comment from Advisory Council on Historic Preservation	Response
<p>and resources that do not generate a substantial amount of their own light pollution,” and asked for a law or policy citation. In response, BOEM stated that their approach to nighttime lighting impacts is currently being revised. Is this revision complete? NPS is interested in understanding the approach BOEM is (now) planning to use.</p>	<p>of the property. This approach has been clarified in Final EIS Section 3.10, <i>Cultural Resources</i>.</p>
<p>Appendix O – Finding of Adverse Effect for the CVOW Construction and Operations Plan (COP) states that BOEM finds the undertaking would adversely affect the First Cape Henry Lighthouse NHL. BOEM has previously stated that it welcomes further consultation with NPS on the effects to the First Cape Henry Lighthouse. We look forward to further consultation in resolving the effects.</p>	<p>BOEM has consulted with the NPS on the resolution of adverse effects on the First Cape Henry Lighthouse, including on the developing the MOA for the Project.</p>

N.5. Responses to Lessee Comments on the Draft EIS

Table N.5-1 Responses to Comments from Dominion Energy

Comment from Dominion Energy	Response
<p>DEIS Section: 2.1.2.1.1 Onshore Activities and Facilities Page Number: 2-9, 2-10</p> <p>Recommended Revision/DEIS Text: Recommend including a reference to the Virginia State Corporate Commission (SCC) role in the Project in the Executive Summary and Section 2, particularly as it relates to selection of an onshore route for transmission infrastructure.</p> <p>Suggested language: “As a public utility, in order to construct and operate electric utility facilities within the Commonwealth, the Virginia Code requires Dominion Energy to obtain a certificate of public convenience and necessity (CPCN) under Va. Code § 56-265.2 A.1, as well as approval under Va. Code § 56-46.1, from the SCC. For purposes of the CVOW Commercial Project, these approvals are needed for the portion of the Offshore Export Cable from three miles offshore landward, as well as all of the Onshore Project Components. The SCC makes a determination on the location of onshore infrastructure including interconnection cable routes.”</p> <p>Rationale for Dominion Recommendation: In Virginia, the SCC plays a key role in determination of the locations of onshore infrastructure. This</p>	<p>The suggested text has been added to Final EIS Section 2.1.2.1.1.</p>

Comment from Dominion Energy	Response
<p>includes a detailed environmental review of the Project and its selected onshore interconnection cable route. Additional information is provided in Section 1.4 of the COP</p>	
<p>DEIS Section: Table 2- 1/Alternatives Considered for Analysis; 3.6.6 Impacts of Alternatives B and C on Benthic Resources Page Number: 2-3; 3.6-29 Recommended Revision/DEIS Text: "Alternative C would also avoid sand ridge habitat by a combination of: micrositings WTGs, inter-array cables or OSSs (or both) (up to 500 feet); the removal of four WTGs within priority sand ridge habitat, and the relocation of one WTG." Rationale for Dominion Recommendation: The DEIS does not provide the scientific criteria or evidence used to delineate the specific priority sand ridge habitat areas addressed in Alternative C.</p>	<p>BOEM developed Alternative C in coordination with NMFS, the agency with jurisdiction and expertise over benthic habitat resources. The language in the Final EIS includes the possibility for micrositings for offshore wind infrastructure to avoid sensitive habitats including sand ridge areas.</p>
<p>DEIS Section: Section 2.1 Alternatives Analyzed in Detail Page Number: 2-3. 2-27 Recommended Revision/DEIS Text: "The generation capacity under Alternative C would allow Dominion Energy to meet its minimum 2,500-MW need for the Project under the 2020 Virginia Clean Economy Act."</p> <p>Rationale for Dominion Recommendation: While Alternative C would exceed the 2,500-MW minimum included in the Virginia Clean Economy Act of 2,500 to 3,000 MW to be placed in service by 2028, Dominion Energy has determined that this layout would be unrealistic and fail to meet the goals of the project for the following reasons:</p> <p>Offshore Substation Load Balancing</p> <p>The three Offshore Substations need to be electronically balanced with 1/3 of the power routed through each individual substation. WTG locations G1K11, G1K12, G1L06, and G1L07 all feed Offshore Substation T1L11. If four turbines were removed from this OSS, the OSS would require a complete internal redesign to accommodate a change in the number of cables entering the OSS and configuration of the way these cables enter the OSS. It is also important to note that fabrication for these OSS began in 2022. This change would result in significant project delays and cost increases, which would impact Dominion's commitments to the Virginia State Corporation Commission by increasing project costs, which are borne by Dominion Energy's customers through approved rates.</p> <p>Crossing of Inter-Array Cable and Offshore Export Cable</p>	<p>BOEM developed alternatives to address issues raised during the public scoping process, including impacts on benthic habitat, species, and commercial and recreational for-hire fisheries. BOEM developed Alternative C in coordination with NMFS to reduce impacts on priority sand ridge habitat identified by NMFS.</p> <p>BOEM acknowledges that while Alternative C would allow the Project to meet the 2,500 MW minimum included in the Virginia Clean Economy Act of 2,500 to 3,000 MW to be placed in service by 2028, Dominion Energy determined that Alternative C's layout would be technically and economically infeasible for the following reasons:</p> <ol style="list-style-type: none"> Offshore Substation load balancing. If four turbines were removed from OSS T1L11 (the OSS proposed for the southern third of the Lease Area), the OSS would require a complete internal redesign to accommodate a change in the number of cables entering the OSS and configuration of the way these cables enter the OSS. Fabrication for the OSSs began in 2022. This change would result in significant project delays and cost increases, which would affect Dominion Energy's commitments to the Virginia SCC by increasing Project costs, which are borne by Dominion Energy's customers through approved rates. Crossing of inter-array cable and offshore export cable. The Project is designed to have a consistent number of WTGs per inter-array cable string to maintain electrical balance. Removal of WTG locations in Alternative C's priority sand ridge habitat

Comment from Dominion Energy	Response
<p>The removal of WTG locations G1K11, G1K12, G1L06, G1L07, and their associated IAC within the labeled “Priority Sand Ridge Features” would require reconfiguration of IAC that route to OSS T1L11. The Project is designed to have a consistent number of WTGs per IAC string to maintain the electrical balance. Equipment has been ordered to support this design, which could not accommodate a redistribution of power levels. By removing WTG locations G1L06 and G1L07, a new segment of IAC would be required to connect G1L08 with G1M07 which would result in the crossing of the OEC by an IAC as well as a reduction in the number of WTGs along two of the IAC strings. The crossing of an OEC with an IAC is considered technically impractical and a significant technical risk to the Project for the following reasons:</p> <ul style="list-style-type: none"> • Thermal heat dissipation – cable separation is required for heat to be dissipated and placing an IAC on top of an OEC would require a significantly deeper burial depth at each of the crossing locations (three cables exiting the OSS). • In the event of a problem with the IAC, the cable would have to be removed completely. To do that, you would have to pull the OEC up as well, in order to re-bury at a later time. Therefore, a single turbine cable problem will jeopardize the availability of the entire substation during a corrective maintenance activity. Alternatively, it may be possible to cut and remove the IAC, but a new IAC cable would require an omega bight of indeterminate length to avoid having to pull up the OEC. Moreover, it would require special equipment (e.g., an eductor) to retrieve. All of this poses much higher risk to integrity of both cables. • Beyond the technical considerations above, undertaking a prudent vertical separation between the crossing of an IAC and OEC would likely increase cost on the order of millions of dollars per crossing. This additional scope would result in increased project cost, which 	<p>area would require a new inter-array cable string that would result in the crossing of the offshore export cable. The crossing of an offshore export cable with an inter-array cable is considered technically impractical and a technical risk to the Project due to concerns relating to thermal heat dissipation and O&M challenges. Beyond technical risks to the Project, Dominion Energy cited significant costs associated with a vertical separation between the crossing of an inter-array cable and offshore export cable (i.e., in the order of millions of dollars per crossing).</p> <p>3. Would not meet the commitments of the Virginia SCC. A change in the engineering design to move or eliminate WTG locations and reroute cabling would result in significant cost and schedule delays to the Project, outlined by Dominion Energy as:</p> <ol style="list-style-type: none"> a. Increased cost from a combination of remobilizing survey vessels to gather incremental information, additional engineering assessment, and change orders to existing contracts for engineering, fabrication, transportation, and installation. b. Schedule delays resulting from the time and effort to rescope the project layout from unexpected schedule changes and resulting challenges with securing contracted vessels that support the transportation and installation of components. c. Additional risk from delay from manufacturing and potential failure to procure specialized vessels because they may be booked for other projects.² <p>Considering OCSLA Subsection 8(p)(4)(B) (protection of the environment, see Attachment A), Alternative C would have similar impacts on benthic resources as Alternative B. Total disturbance to</p>

² On March 18, 2022, the Virginia SCC issued an affiliates act approval (Case No. PUT-2021-00292) for the Project to contract the use of the Charybdis to install WTGs for the Project. On April 19, 2022, Dominion Energy filed a petition for approval of this arrangement with the North Carolina Utilities Commission (Docket No. E-22, Sub 633), which was approved on January 3, 2023. Charybdis is a U.S.-flagged, Jones Act-compliant wind turbine installation vessel currently under construction and expected to enter service by the end of 2023. Charybdis is contracted for use on projects in the Northeast prior to mobilizing to the Project in the summer of 2025. Dominion Energy is planning to use this vessel from the second quarter of 2025 to the second quarter of 2027; Charybdis is expected to be sought after for offshore wind turbine installation contracts for other projects in the United States.

Comment from Dominion Energy	Response
<p>are borne by Dominion Energy’s customers through approved rates. Dominion Energy has a duty, enforced and overseen by the Virginia State Corporation Commission, to ensure costs are reasonable and decisions are prudent. This is discussed in further detail, below.</p> <p>Would Not Meet the Commitments to the Virginia State Corporation Commission</p> <p>In August 2022, the Virginia State Corporation Commission issued an order specifying 176 WTGs and cost recovery for the Project as proposed. A change in the engineering design to move or eliminate WTG locations and re-route cabling would result in significant cost and schedule delays to the Project, as outlined below:</p> <ul style="list-style-type: none"> • Increased cost would be driven by a combination of re- mobilizing survey vessels to gather incremental information, additional engineering assessment, and change orders to existing contracts for engineering, fabrication, transportation and installation. • Schedule delays will result from the time and effort to re-scope the project layout and from unexpected challenges to contract vessels to support the transportation and installation of components • Additional risk from delay includes risk of delay in manufacturing and potential failure to procure specialized vessels because they are likely booked on other projects. <p>Further, Dominion customers would see an increase in the Levelized Cost of Electricity (\$/MWH) because of cost increases (due to change orders), less clean energy produced annually due to a reduction in number of WTGs, and also a delay in receipt of the clean, renewable energy provided by the Coastal Virginia Offshore Wind project. It is likely the carbon free energy provided by offshore wind would be replaced with more costly fossil fueled energy. Any additional expenses and schedule delays will have financial consequences which will be borne by Dominion customers. Dominion has a duty only to incur reasonable and prudent costs, and with reasoned basis otherwise such expenses and schedule changes should be avoided.</p>	<p>priority sand ridge habitat from inter-array cables and WTGs under Alternative B would be 64.36 acres.³ Compared to Alternative B, Alternative C would reduce impacts on priority sand ridge habitat by 44.85 acres. The long-term impacts on priority sand ridge habitats under either Alternative B or Alternative C equates to a very small percentage of the 3,212-acre priority sand ridge habitat area (64.34 acres or 2.0% under Alternative B, and 19.49 acres or 0.6% under Alternative C). Inter-array cable installation disturbance to modeled sand shoals within the entire Lease Area would also be similar between Alternatives B and C: 132.9 acres or 1.5 percent of modeled shoals under Alternative B and 125.1 acres or 1.4% of modeled shoals under Alternative C.</p> <p>When compared to Alternative B, Alternative C does little to reduce overall environmental impacts and results in approximately 105,398 metric tons of carbon dioxide per year that could be avoided under Alternative B assuming homes would be powered from non-renewable sources absent the CVOW-C Project. Compared to Alternative B, Alternative C would result in a 58.8 MW reduction (- 2.3%) of annual energy production, or enough to power about 20,509 American homes, and would result in a reduced supply of offshore wind energy for the State of Virginia from the Project.⁴ Additionally, and as detailed previously, the Virginia SCC issued an order in August 2022 specifying cost recovery for the Project as proposed by Dominion Energy’s preferred layout. Changes in engineering design to move or eliminate WTG locations and reroute cabling could result in significant cost and schedule delays, compromise Dominion Energy’s commitments to the Virginia SCC, and delay the delivery of renewable energy provided by the Project. For these reasons, and all the reasons described above, BOEM has not identified Alternative C as the Preferred Alternative.</p>

³ Under Alternative B, 63.54 acres of disturbance to priority sand ridge habitat would occur from installation of inter-array cables. An additional 0.8 acre of disturbance would result from five WTGs that would be removed and relocated under Alternative C (each WTG with a scour diameter of 95 feet resulting in 0.16 acre of disturbance per WTG). Total disturbance to priority sand ridge habitat from inter-array cables and WTGs under Alternative B would be 64.34 acres.

⁴ The average U.S. household consumes about 11,000 kilowatt hours (kWh) per year. [Electricity use in homes - U.S. Energy Information Administration \(EIA\)](#)

Comment from Dominion Energy	Response
<p>The mitigations included in the DEIS adequately address concerns regarding crossings of the labeled priority sand ridge habitat area by Project infrastructure.</p>	
<p>DEIS Section: 2.1.2.1 Construction and Installation Page Number: 2-6 Recommended Revision/DEIS Text: "There would be several months of seafloor rest following the completion of offshore export cable installation at one OSS prior to commencement of inter-array cable emplacement associated with the next OSS (BOEM and Dominion Energy 2022)." Rationale for Dominion Recommendation: The construction methods and mitigations mentioned here and in Appendix H adequately address any impacts to sand ridge habitat, and removal of WTGs presented in Alternative C is unnecessary and inappropriate for the reasons detailed above.</p>	<p>BOEM developed alternatives to address issues raised during the public scoping process, including impacts on benthic habitat, species, and commercial and recreational for-hire fisheries. BOEM developed Alternative C in coordination with NMFS to reduce impacts on priority sand ridge habitat identified by NMFS. This Final EIS compares the impacts of Alternative C on benthic habitat to the impacts due to the Proposed Action, including the mitigation measures included in Appendix H, <i>Mitigation and Monitoring</i>. BOEM has included the following language in the Final EIS. As per Dominion Energy’s commitment to seasonal restrictions from November through April, no WTG or OSS foundation installation activities are planned for winter. Monopile and OSS pin pile installation is planned for part of spring (May), summer (June, July, August), and part of fall (September through October) annually. Inter-array and offshore export cable emplacement associated with construction of the WTGs and OSSs would occur during two separate construction seasons within the Lease Area, which would provide a recovery period for sand ridge habitats between the installation of the inter-array and offshore export cables. Additionally, there would be an approximate 1- to 2.5-month period between the beginning of each offshore export cable installation, with the potential for a longer period dependent on weather conditions and operational needs for cable resupply. There would be several months of seafloor rest following the completion of offshore export cable installation at one OSS prior to commencement of inter-array cable emplacement associated with the next OSS.</p>
<p>DEIS Section: Executive Summary; Table 2-3 Page Number: S-4, S-8, 2-33, 2-34, 2-44 Recommended Revision/DEIS Text: “Alternative D— Onshore Habitat Impact Minimization Alternative</p> <ul style="list-style-type: none"> • Alternative D-1—Interconnection Cable Route Option 6 (Hybrid Route) • Alternative D-2—Interconnection Cable Route Option 1” <p>"Onshore, Alternatives D-1 and D-2 would limit the interconnection cable route to either Route Option 6 (Alternative D-1) or Route Option 1</p>	<p>These changes have been implemented in the Final EIS.</p>

Comment from Dominion Energy	Response
<p>(Alternative D-2) to avoid and minimize impacts on onshore sensitive habitats, including wetlands, surface waters, and ecological cores." Alternatives D-1 and D-2 appear to be switched. Alternative D-1 is Onshore Option 1 and Alternative D-2 is Onshore Option 6.</p> <p>Rationale for Dominion Recommendation: Alternative D-1 is Onshore Option 1 and Alternative D-2 is Onshore Option 6. To simplify the discussion and fix the errors, BOEM could remove D-1 and re-label D-2 simply as "Alternative D." References to Alternative D-1 could be changed to Alternative A, since Alternative A/Proposed Action already encompasses Alternative D-1 (e.g., page 3.7-19: "The impacts resulting from individual IPFs under sub-alternative D-1 would be the same as those described under the Proposed Action because the onshore components would stay the same. In contrast to the Proposed Action, Alternative D-2 involves approval of only Hybrid Interconnection Cable Route Option 6 (Alternative D-2), which would be approximately 14.2 miles (22.8 kilometers) long and mostly follow the same route as the Proposed Action, with the exception of the switching station.")</p>	
<p>DEIS Section: Appendix H Page Number: Table H-2 Recommended Revision/DEIS Text: Dominion Energy is evaluating the agency-proposed measures presented in Appendix H, Table H-2 and will incorporate these as appropriate in the revised COP submittal in February 2023. Responses to the measures identified in Table H-2 will be provided to BOEM and reflected in the COP (Executive Summary and elsewhere).</p>	<p>Thank you for your comment.</p>
<p>DEIS Section: Executive Summary, Chapter 1, Chapter 2 Page Number: ES S-10, 1-6, Table 2-3, 2-40 Recommended Revision/DEIS Text: Cumulative impacts in certain places are correctly defined as "incremental" from CVOW compared to No Action Alternative (e.g., DEIS pages 3-5, C-59). However, in other areas the DEIS describes its action alternatives' cumulative impact ratings as "combined" with No Action Alternative.</p> <p>Recommend using consistent evaluation language of "incremental".</p> <p>Rationale for Dominion Recommendation: Cumulative impacts should be consistently defined throughout the DEIS as "incremental" (40 CFR 1508.1(g)(3)), so as to not overstate the impacts attributable to the Project.</p>	<p>This change has been made throughout the Final EIS.</p>

Comment from Dominion Energy	Response
<p>DEIS Section: 3.5.5 Impacts of the Proposed Action on Bats Page Number: 3.5-8</p> <p>Recommended Revision/DEIS Text: "Dominion Energy will conduct presence/absence surveys for bats (acoustic and/or mist-net) along the interconnection cable route for all options and develop avoidance and minimization measures in coordination with the Virginia Department of Wildlife Resources (VDWR), USFWS, and appropriate regulatory agencies to ensure protection of northern long-eared bats." Recommend clarifying that Dominion has conducted surveys of Onshore Route 1 and Route 6 area and not Routes 2-5 which are dismissed from further consideration</p>	<p>Text related to the mist netting that has been conducted and the results of the survey has been added to the Final EIS.</p>
<p>DEIS Section: 3.5.5 Page Number: 3.5-8, 3.5-9</p> <p>Recommended Revision/DEIS Text: "the active season (generally March through November)." Recommend referencing the Virginia time of year restriction guidance for tree clearing which is April 1 - November 15.</p>	<p>This edit is not warranted at first mention in the Final EIS since that text is related to causes of potential variances in impacts rather than applied mitigation for the project. However, text edits have been made at the second occurrence to account for the time of year restriction; additional edits have been made to indicate the restrictions as mitigation.</p>
<p>DEIS Section: 3.5.6 Impacts of the Proposed Action on Benthic Resources Page Number: 3.6-23</p> <p>Recommended Revision/DEIS Text: "The Proposed Action or Alternative A-1 may result in 205 or 202 WTG foundations and 3 OSSs, respectively. Each WTG would require approximately 3.55 acres (14,366.34 square meters) (COP, Table 4.2-17; Dominion Energy 2022) of surface area, most of which is related to the scour protection apron. In total, a maximum of 272 acres (1.1 square kilometers) of seafloor habitat would be permanently affected as a result of the Proposed Action."</p> <p>Rationale for Dominion Recommendation: The 3.55 acres is the total acreage for all WTG monopile foundations (not each WTG). The "most of which is related to scour protection" makes sense conceptually, but needs to be revised to ensure that this acreage describes all WTGS and scour protection. In addition, the total 272 acres refers to the total permanent footprint for the maximum layout Project Components, including all foundations with scour protection, offshore substations with scour protection, and cable protection (punchout location and cable crossings).</p>	<p>Text in Final EIS Section 3.6.5, <i>Impacts of the Proposed Action on Benthic Resources</i>, has been updated to reflect the long-term or permanent impact on benthic habitat from the WTGs and scour to show that under the maximum layout of 202 WTGs would be 191.9 acres, and under the preferred layout of 176 WTGs it would be 103.8 acres.</p>

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<p>DEIS Section: 3.5.6 Impacts of the Proposed Action on Benthic Resources Page Number: 3.6-23</p> <p>Recommended Revision/DEIS Text: "Proposed Action, rock or other hard material would be placed within a 115-foot (35-meter) diameter surrounding each foundation, with an area of 10,387 square feet (965 square meters) of seafloor around each foundation to prevent bottom scour, for a total area of 4198.4 acres (80.3 hectares) within the Lease Area for all WTGs and OSSs combined."</p> <p>Rationale for Dominion Recommendation: Rationale for Dominion Recommendation: The calculations of scour protection do not align with the information provided in the COP. Tables 3.3-3 and 4.2-17 of the COP provide the maximum scour protection diameter of 70m as opposed to 35m referenced in the DEIS. Using the 70m diameter, the correct area of each foundation plus scour protection is 41,546 sq ft (0.95 acres). The total area for the Proposed Action in the DEIS (205 WTGs) should be approximately 195 acres. The 4,198.4 acres appears to be an error</p>	<p>This text has been edited and benthic impact values have been updated to reflect this change in Final EIS Section 3.6.5, <i>Impacts of the Proposed Action on Benthic Resources</i>.</p>
<p>DEIS Section: 3.6.5.2 Impacts of the Proposed Actions on Benthic Resources Page Number: 3.6-28</p> <p>Recommended Revision/DEIS Text: "The benthic impacts resulting from the Proposed Action or Alternative A-1 alone to range from negligible to moderate. However, overall benthic impacts from the Proposed Action or Alternative A-1 would be minor because the effect would be localized, and the benthic environment would recover completely over time without remedial and mitigation actions." These two sentences appear to contradict each other. Recommend impacts be characterized as minor.</p>	<p>Alternative A-1 is no longer under consideration; therefore, text referring to it this alternative has been removed.</p>
<p>DEIS Section: 3.9.3 Impacts of the No Action Alternative on Commercial and Recreational Fisheries Page Number: 3.9-26</p> <p>Recommended Revision/DEIS Text: "The No Action Alternative would forgo any current or planned fisheries monitoring that Dominion Energy has committed to voluntarily perform, the results of which could provide an understanding of the effects of offshore wind development in and around the Project area, benefit future management of commercial and</p>	<p>The suggested text has been added in Section 3.9.3.1.</p>

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<p>for-hire fisheries and inform planning of other offshore developments. However, other ongoing and future surveys could still provide similar data to support similar goals. "Rationale for Dominion Recommendation: Dominion Energy has coordinated directly with the Commonwealth of Virginia, commercial fishermen, and the Virginia Institute of Marine Sciences to design fisheries studies that will fill existing data gaps and provide valuable information on the commercial fishery on the OCS off Virginia. We do not believe current studies or reasonably likely future studies will provide the same coverage or value of the studies that Dominion Energy in conjunction with the CVOW Project will undertake, the benefits of which should extend beyond the Project.</p>	
<p>DEIS Section: 3.9.5 Impacts of the Proposed Action on Commercial Fisheries and For- Hire Recreational Fishing Page Number: 3.9-29; 3.9-31; 3.9-32 Recommended Revision/DEIS Text: The impacts from the presence of structures associated with the "Proposed Action or Alternative A-1 alone on commercial fisheries and for-hire recreational fishing are anticipated to range from negligible to major adverse impacts based on the sub-IPFs identified in Table G-6 and would not increase the impacts across entire fisheries beyond those of the No Action Alternative." "Major" rating assigned to Proposed Action's cumulative impacts as well. Rationale for Dominion Recommendation: "Major" label in first part of statement appears unsupported. Conclusions paragraph on page 3.9-32 reduces impacts to "moderate": "The main impact would be from the presence of structures, which, when combined with other IPFs could lead to moderate adverse impacts on commercial fisheries and for-hire recreational fishing." Rather, the conclusion in the first part of the following sentence on page 3.9-30 should apply throughout the analysis of this resource: "However, because the Project area is considered lightly fished compared to other offshore wind lease areas, the effects of the Proposed Action" or Alternative A-1 alone with respect to fisheries regulations would only marginally increase impacts on commercial and for-hire recreational fisheries beyond those of the No Action Alternative and would be minor."</p>	<p>The "moderate" ranking mentioned in this comment for impacts from presence of structures was an error; it has been corrected to "negligible to major." Although the Project area is lightly fished compared to other WEAs, fishing activity that does occur will likely be disrupted by the presence of the turbines, and BOEM feels a "negligible to major" ranking is more appropriate than "moderate" for this IPF.</p>
<p>DEIS Section: 3.9.8 Proposed Mitigation Measures Page Number: 3.9-34</p>	<p>The sentence has been removed.</p>

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<p>Recommended Revision/DEIS Text: "If cable protection is necessary in "nontrawlable" habitat, such as rocky habitat, then Dominion Energy would use materials that mirror that benthic environment. "Recommend removing this sentence. Rationale for Dominion Recommendation: The term "non-trawlable" is not defined and we do not currently propose to use different scour protection materials in different areas of the Project</p>	
<p>DEIS Section: 3.9.8 Proposed Mitigation Measures Page Number: 3.9-34 Recommended Revision/DEIS Text: "These measures, if adopted, will have the effect of reducing the overall negligible to major impact from the Proposed Action to negligible to moderate." Then still defines cumulative impacts of Proposed Action as "unchanged (major)". Recommend revising the cumulative impacts rating of the Proposed Action to "moderate". Rationale for Dominion Recommendation: DEIS previously defined as "moderate" from Project alone (e.g., page 3.9-32). As stated in applicable regulations and elsewhere in the DEIS the cumulative impacts should only be the Project's incremental impacts</p>	<p>The "moderate" ranking mentioned in this comment for impacts from presence of structures was an error; it has been corrected to "negligible to major."</p>
<p>DEIS Section: 3.9.1.2 Regional Fisheries Economic Value and Landings Page Number: 3.9-6 Recommended Revision/DEIS Text: "top species landed by weight in recent commercial fisheries operating near the Project area (e.g., offshore Virginia) include Atlantic Menhaden...Blue Crab...Striped Bass...and substantial commercial value was derived from harvest of oyster...blue crab...menha"en" Recommend providing context on the prevalence of Atlantic Menhaden, Blue Crab, Striped Bass and Eastern oyster in the Project area. Rationale for Dominion Recommendation: Atlantic menhaden, Striped bass, Blue crab, and Eastern oyster may have slight economic impact closer inshore along the export cable corridor during construction activity, but effects to these fisheries in the Lease Area are unlikely. The DEIS's assumption of impact could skew fishery revenue interpretations and imply greater impact than what is realistic.</p>	<p>A clarification has been added to Section 3.9.1.2 noting that most of the landings and revenue from the mentioned species comes from outside the Project area.</p>
<p>DEIS Section: 3.9.5 Impacts of the Proposed Action on Commercial Fisheries and For- Hire Recreational Fishing Page Number: 3.9-31</p>	<p>This section considers the impacts of climate change on commercial and for-hire recreational fishing, not the Project's impact on climate change. As is discussed in Section 3.9.3, climate change may cause substantial changes to fish migration, habitat, storm frequency,</p>

Comment from Dominion Energy	Response
<p>Recommended Revision/DEIS Text: "The intensity and type of impacts in context of reasonably foreseeable environmental trends and planned actions, including the Proposed Action or Alternative A-1, resulting from climate change are uncertain, but are likely to be moderate adverse." We recommend that BOEM lower the impact rating. Rationale for Dominion Recommendation: "Moderate adverse" impacts do not appear appropriate in the context of the Project's incremental effects, which should be net beneficial for climate change as stated elsewhere in DEIS.</p>	<p>shoreline changes, etc., and BOEM believes a "moderate adverse" impact ranking is warranted.</p>
<p>DEIS Section: Table 2-3 Page Number: 2-35 Recommended Revision/DEIS Text: "The Proposed Action would have major adverse impacts on commercial fisheries and moderate adverse impacts on for-hire recreational fishing in the analysis area, driven largely by the presence of structures from the combination of the Proposed Action and other ongoing and planned activities (including offshore wind activities)." Rationale for Dominion Recommendation: "Major" rating for commercial fisheries cumulative impacts under Proposed Action does not align with only "moderate" anticipated impacts from Proposed Action alone (above text in same column). This finding appears to assign more than the Project's incremental contribution as it relates to the Proposed Action.</p>	<p>The moderate ranking for the Proposed Action alone has been revised to negligible to major in Section 3.9.5.</p>
<p>DEIS Section: Table 3.9-12 Impact Level Definitions for Commercial Fisheries and For- Hire Recreational Fishing Page Number: 3.9-18 Recommended Revision/DEIS Text: "Moderate adverse" defined "s "if proper remedial action is taken." Rationale for Dominion Recommendation: Unclear the specific remedial actions being referenced. The DEIS concludes the Project area is lightly fished to begin with. E.g., page 3.20-17 say": "Overall, watercraft through the Lease Area is considered 'light.' Commercial fishing tracks through the lease area are infrequent and broadly distributed as shown in Figures 4.4-22 through Figure 4.4-25 of the C"P." Based on this context and the DEIS analysis of the Project, mitigation for commercial fishing should not exceed what Dominion Energy is proposing.</p>	<p>The impact ranking definitions have been developed by BOEM to be consistent across all offshore wind projects. Table 3.9-12 has been renumbered as Table 3.9-8.</p>
<p>DEIS Section: 3.9.3 Impacts of the No Action Alternative on Commercial and Recreational Fisheries Page Number: 3.9-21</p>	<p>The data presented in Table 3.9-13 are the best available estimates for revenue exposure in the Project region and are consistent with methodology presented in previous wind energy EISs. Table 3.9-13 has been renumbered as Table 3.9-9.</p>

Comment from Dominion Energy	Response
<p>Recommended Revision/DEIS Text: "Table 3.9-13 shows the annual commercial fishing revenue exposed to offshore wind energy development in the Mid-Atlantic and New England regions by FMP fishery from 2021 through 2030. However, it is only a lower-bound estimate of the maximum exposed revenue, as it is calculated using average historical revenue overlapping the WEAs and is based on vessel trip reporting data, which do not fully capture all fishery operations in the WE"s." Rationale for Dominion Recommendation: Averaging or accumulating across all WEAs results in revenue estimates that are likely overstated relative to the Project. Commercial fishing activities are already substantially lower in the Project area than in New England.</p>	
<p>Page Number: 3.6-29, 3.6-30 Recommended Revision/DEIS Text: "The Proposed Action would have major adverse impacts on commercial fisheries and moderate adverse impacts on for-hire recreational fishing in the analysis area, driven largely by the presence of structures from the combination of the Proposed Action and other ongoing and planned activities (including offshore wind activities)." Rationale for Dominion Recommendation: "Major" rating for commercial fisheries cumulative impacts under Proposed Action does not align with only "moderate" anticipated impacts from Proposed Action alone (above text in same column). This finding appears to assign more than the Project's incremental contribution as it relates to the Proposed Action."</p>	<p>The impact ranking for the Proposed Action has been modified throughout this section to read "negligible to major."</p>
<p>DEIS Section: 3.6.6 Impacts of Alternatives B and C on Benthic Resources Page Number: 3.6-29, 3.6-30 Recommended Revision/DEIS Text: "The Proposed Action would have major adverse impacts on commercial fisheries and moderate adverse impacts on for-hire recreational fishing in the analysis area, driven largely by the presence of structures from the combination of the Proposed Action and other ongoing and planned activities (including offshore wind activities)." Rationale for Dominion Recommendation: "Major" rating for commercial fisheries cumulative impacts under Proposed Action does not align with only "moderate" anticipated impacts from Proposed Action alone (above text in same column). This finding appears to assign more than the Project's incremental contribution as it relates to the Proposed Action.</p>	<p>The impact level for Alternatives B and C for Commercial Fishing and For-Hire Recreational Fishing has been modified to be "negligible to major" for these alternatives and aligns with the determination for the Proposed Action.</p>

Comment from Dominion Energy	Response
<p>DEIS Section: 3.10.3.2 Cumulative Impacts of the No Action Alternative Page Number: 3.10-11, 3.10-15 Recommended Revision/DEIS Text: “If present within a project area, the number, extent, and dispersed character of ASLFs make avoidance impossible in many situations and make extensive archaeological investigations of formerly terrestrial archaeological resources within these features logistically challenging and prohibitively expensive. As a result, offshore construction would result in geographically widespread and permanent adverse impacts on portions of these resources.”</p> <p>“Based on this information, impacts of the Proposed Action or Alternative A-1 on marine cultural resources would be localized, permanent, and range from negligible to major depending on the ability of Dominion Energy to avoid, minimize, or mitigate impacts. More substantial impacts could occur if the final Project design cannot avoid known resources or if previously undiscovered resources are discovered during construction.” Rationale for Dominion Recommendation: The DEIS should recognize that avoidance of ASLFs obviates impacts. BOEM acknowledged as much during its first DEIS public meeting on January 25, 2023, stating that even though the DEIS made a finding of adverse impact for potentially five ASLFs, BOEM has since determined that avoidance measures would result in no adverse effects to these features. The Draft Memorandum of Agreement under Section 106 (e.g., at page 5) also points to avoidance of all ASLFs previously identified during the marine archaeological resources assessment by a distance of at least 141 - 164 feet as obviating any minimization or mitigation measures for marine areas. The DEIS (at page 3.10-15) also reflects that “Dominion Energy will develop an operations plan prior to construction, to ensure that construction activities adhere to the recommended avoidance buffers.”</p> <p>Please also note that of the five known ASLFs within the Lease Area, only one is within the current vertical APE of a project component.</p> <p>On purported anchoring impacts in the DEIS, in the event that ASLFs are discovered during project activities, Dominion has agreed to develop and implement an Unanticipated Discoveries Plan (UDP), which would provide a means and method to identify and study unknown, underwater resources that otherwise would have been too expensive to locate and</p>	<p>The Final EIS indicates that four (4) of the six (6) ancient submerged landform features (ASLFs) identified in Dominion Energy’s investigations are located within the marine APE. The two other ASLFs are outside of but near the marine APE and therefore included in BOEM’s analysis due to their proximity: a fifth ASLF is outside of but immediately adjacent to the horizontal extent of the marine APE; and a sixth is within the horizontal extent but below the vertical extent of the marine APE and therefore not in the marine APE. BOEM’s delineation of the vertical extent of the marine APE considers the proposed depth of Project components as well as anchoring and other Project activities that may disturb the seabed.</p> <p>Additionally, Dominion Energy’s commitment made since the publication of the Draft EIS to avoid ASLFs by adopting a horizontal avoidance buffer around all six identified ASLFs allows BOEM to conclude the Project will have no effect on any ASLFs.</p> <p>The development and implementation of an Unanticipated Discoveries Plan (UDP) is a process required by BOEM per the post-review discoveries stipulation that will be included in the Final MOA under Section 106. A UDP outlines the protocol for handling an unanticipated and/or inadvertent discovery of a cultural resource, including anticipatory training of Project personnel and, in the case of a discovery, procedures for stopping work, notifying the necessary parties, and consultations as appropriate. The UDP is a standard NHPA Section 106 measure intended as a means for minimizing further harm that could be caused to a potential historic property by a project’s activities. As such, and per BOEM’s impact level definitions for cultural resources, the implementation of a UDP for the Project is not considered to have a beneficial impact on cultural resources.</p>

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<p>study. COP at p. 4-376, 4- 377; DEIS at p. 3.10-15. We believe this beneficial impact should be noted as such in the DEIS.</p>	
<p>DEIS Section: Appendix O Page Number: O-23 Recommended Revision/DEIS Text: " However, development of the final Project design is ongoing, and it is currently unclear whether Dominion Energy would be able to avoid effects on the identified ASLFs in the marine APE. As such, the undertaking is anticipated to have adverse effects on the five ASLFs identified in the marine APE." This conclusion should be removed. No ASLF impacts are anticipated.</p>	<p>This conclusion has been revised in the Final EIS to indicate that since Dominion Energy has committed to avoiding these resources and their associated avoidance buffers, BOEM finds that the undertaking would have no effect on the six ASLFs that are historic properties. These measures have been included as stipulations in the Final MOA as conditions for approval of issuance of BOEM's permit (see Appendix O, Attachment A for the MOA).</p>
<p>DEIS Section: Appendix O Page Number: O-1 Recommended Revision/DEIS Text: "5 ancient submerged landform features (ASLFs) with potential archaeological or traditional cultural property (TCP) significance (Table O-6; Section O.3.1.1.2, Ancient Submerged Landform Features)" There are five ancient submerged landforms (ASLFs) located within the APE; but there are six in total. The language referring to ASLFs should reflect that only five are actually within the APE. Please also add "...with potential archaeological [Bold: and] traditional cultural property significance..."</p>	<p>The referenced sections of BOEM's Finding of Adverse Effect have been revised for clarity and to consider Dominion Energy's commitments to implement avoidance buffers around all six of the ancient submerged landform features (ASLFs) identified in the MARA since the publication of the Draft EIS.</p>
<p>DEIS Section: Appendix O Page Number: O-1 Recommended Revision/DEIS Text: "Construction of the Project would cause physical adverse effects on historic properties that are marine cultural (i.e., marine archaeological resources and ASLFs), terrestrial archaeological, and historic aboveground resources as Project components and associated work zones are proposed for locations within the defined areas of these resources (COP, Appendices F, G, and H; Dominion Energy 2022)." Recommend changing marine cultural to submerged cultural resources including ASLFs</p>	<p>BOEM has defined <i>marine cultural resources</i> to be those cultural resources that are submerged underwater and include archaeological resources (such as shipwrecks and other objects) and ASLFs. To maintain consistency throughout its EIS and NHPA Section 106 analyses and consultations for the Project, this recommended change has not been made.</p>
<p>DEIS Section: Appendix O Page Number: O-23 Recommended Revision/DEIS Text: " However, development of the final Project design is ongoing, and it is currently unclear whether Dominion</p>	<p>The referenced section of BOEM's Finding of Adverse Effect has been revised for clarity and to consider Dominion Energy's commitments to implement avoidance buffers around all six of the ancient submerged landform features (ASLFs) identified in the MARA since the publication of the Draft EIS.</p>

Comment from Dominion Energy	Response
<p>Energy would be able to avoid effects on the identified ASLFs in the marine APE. As such, the undertaking is anticipated to have adverse effects on the five ASLFs identified in the marine APE." This conclusion should be removed. No ASLF impacts are anticipated.</p>	
<p>DEIS Section: Appendix O Page Number: O-23 Recommended Revision/DEIS Text: "The avoidance areas were developed based on a 164-foot (50-meter) buffer around the mapped extent of each landform." Rationale for Dominion Recommendation: Please note the avoidance buffer of 1 ASLF (P-02) was recently altered to allow Project undertakings and still protect the resource from impacts.</p>	<p>The Final EIS reflects avoidance measures as revised and as stipulated in the Final MOA.</p>
<p>DEIS Section: 3.11.5 Impacts of the Proposed Action on Demographics, Employment, and Economics; 3.20.5 Impacts of the Proposed Action on Scenic and Visual Resources; Appendix H Page Number: 3.11-16; 3.20-26; H 23, H-24, H-26 Recommended Revision/DEIS Text: The DEIS indicates in some areas that Dominion Energy is evaluating ADLS and others that we have committed to installing ADLS. Subsequent to the May 6, 2022 COP, Dominion Energy has committed to the use of an ADLS as detailed in COP documents provided to BOEM on January 31, 2023. The FEIS should reflect this commitment consistently throughout the document.</p>	<p>Sections 3.11.5 and 3.18.5 have been revised to state that Dominion Energy is committed to using ADLS. Section 3.20.5 already stated Dominion Energy's commitment to ADLS. ADLS is not currently mentioned in Appendix H.</p>
<p>DEIS Section: D.1.9 Environmental Justice Page Number: D-4 Recommended Revision/DEIS Text: "BOEM is attempting to obtain all information essential to a reasoned choice among alternatives for environmental justice impacts." Rationale for Dominion Recommendation: Elsewhere, the DEIS more clearly states that "For these reasons, BOEM does not believe that there is incomplete or unavailable information on [subject resource] that is essential to a reasoned choice among alternatives." The DEIS should include the same latter conclusion for EJ.</p>	<p>Text in Appendix D, Section D.1.9, has been revised to state "For these reasons, BOEM does not believe that there is incomplete or unavailable data for environmental justice that is essential to a reasoned choice among alternatives."</p>
<p>DEIS Section: 3.12 Environmental Justice Page Number: 3.12-3</p>	<p>Block group data from the Census was used to determine environmental justice areas in the geographic analysis area and are outlined on Figure 3.12-2. Due to the small geographic nature of block groups, cities and counties are used in discussion as</p>

Comment from Dominion Energy	Response
<p>Recommended Revision/DEIS Text: The DEIS discussion of environmental justice (EJ) impacts uses entire cities as the units of demographic analysis, rather than the EJ communities themselves, which do not encompass entire cities. Localized impacts will not similarly affect all people within these cities. The DEIS thus overinflates the project’s predicted impacts on EJ communities as “negligible to moderate adverse” when they should be at most “negligible to [Bold, Italics: minor] adverse.” We do concur with the DEIS, even under its overbroad scope, that the Project would not result in disproportionately high and adverse impacts on EJ populations from the Project.</p> <p>Dominion recommends that BOEM use potentially affected census block groups that meet federal and/or state criteria for EJ communities as the geographic area of analysis (GAA) for the EJ analysis, rather than entire cities. BOEM should revise the DEIS’s EJ discussion to reflect this approach, including revising the text on page 3.12-1 instead to: “The geographic analysis area for environmental justice . . . includes [Bold, Italics: all census block groups that satisfy federal and/or state criteria for EJ communities within] the boundaries of the incorporated cities where the proposed onshore infrastructure and potential port cities are located, as well as [Bold, Italics: of] the cities closest to the Offshore Project Area.”</p>	<p>reference points to the related conditions of the area. When discussing specific project impacts, the block groups on Figure 3.12-2 are used to determine if Project components would occur in environmental justice areas, and if impacts would occur.</p>
<p>BOEM should also revise Table 3.12-1 to include data on all census block groups within each of the six cities, and subsequently only analyze potential EJ impacts for those census block groups that satisfy federal and/or state criteria. We further recommend that BOEM revise Figure 3.12-2 accordingly. BOEM should incorporate and build upon the COP’s analysis of the census block groups that either contain and/or are located within one mile of Onshore Project Components and infrastructure, which identified 18 census block groups with potential EJ populations. COP at p. 4-402. See also COP at p. 4-404 (Figure 4.4-7), 4- 405 (Table 4.4-11). Through an analysis of potential impacts to these specific 18 census block groups, Dominion Energy concluded that there would be no predicted disproportionately high and adverse impacts on the 18 identified census block groups. COP at p. 4-405–4-410.</p>	<p>Comment noted.</p>
<p>Finally, on Page 3.12-8, we recommend that BOEM adopt the following revised text to avoid inconsistency with the remainder of the DEIS: “Based on the geographic extent of onshore construction impacts</p>	<p>Text on Final EIs page 3.12-9 has been revised to remove “may” and to add “would not”.</p>

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<p>relative to the location of environmental justice populations, BOEM concludes that environmental justice populations [Deletion, Bold: may] [Bold: would not] experience disproportionately high and adverse effects related to construction, O&M, and decommissioning of onshore infrastructure.”</p> <p>Rationale for Dominion Recommendation: Dominion Energy finds that the DEIS presents an over-inflation of results due to using too large a unit of analysis (i.e., cities) which leads to an incorrectly high “negligible to moderate” impacts rating—although the DEIS properly finds no disproportionately high and adverse impacts on EJ populations from the Project. Dominion Energy recommends that the Census block group level EJ analysis conducted for the on-shore transmission line be considered, consistent with what is presented in the COP, which evaluates several cities for potential EJ implications but ultimately provides more detailed analysis on specific census block groups that meet federal and/or state criteria for “EJ community” status.</p>	
<p>The DEIS defines the GAA for EJ to include proposed onshore infrastructure and potential port cities are located, as well as the incorporated cities closest to the Offshore Project area” which include the City of Virginia Beach, City of Norfolk, City of Portsmouth, City of Chesapeake, City of Hampton, and City of Newport News. DEIS at p. 3.12-1. At the same time, the DEIS acknowledges that “environmental justice communities within the geographic analysis area occur in” these cities, “which contain populations that meet the income and/or minority criteria,” DEIS at p. 3.12-3, but do not encompass the entirety of these cities (and, therefore, the GAA used for the DEIS’s EJ analysis). By defining the GAA to include 6 cities, BOEM has artificially inflated the affected minority or low-income community’s representation within the selected unit of analysis, producing overstated predicted EJ impacts because not all residents of those cities are in geographic areas (census block groups) that meet the criteria for an EJ community and not all geographic areas within those cities that do meet the definition for an EJ community are located near enough to the project to experience any adverse effects.</p>	<p>Comment noted.</p>
<p>See Federal Interagency Working Group on Environmental Justice & NEPA Committee, Promising Practices for EJ Methodologies in NEPA</p>	<p>Comment noted.</p>

Comment from Dominion Energy	Response
<p>Reviews at p. 21, 26 (March 2016) (cautioning against using too large of a geographic area for EJ assessments); Council on Environmental Quality, Environmental Justice Guidance Under the National Environmental Policy Act at p. 26 (1997) (same).</p>	
<p>Not all potential impacts and benefits from the project apply equally to entire cities. Many potential environmental impacts, for instance, stemming from IPFs have more localized effects, rendering a smaller unit of analysis more appropriate. Although certain project impacts and benefits, such as economic benefits, may have broader city- and region-wide implications, for purposes of conducting an accurate EJ analysis, the implications for the actual EJ populations within the cities should be considered.</p>	<p>Comment noted.</p>
<p>Instead of defining the GAA as six entire cities, BOEM’s analysis should define the GAA as the census block groups—the smallest geographic unit for which U.S. Census Bureau demographic data is available—that satisfy federal and/or state criteria for “EJ community” status. Analyzing census block groups that meet federal or Virginia definitions of a potential EJ community allows for a more precise, targeted, and accurate assessment of the Project’s potential impacts on EJ communities than assessing the Project’s potential impacts on entire cities. In Virginia, cities are county-level equivalents, and especially in the southeastern part of the state, cover large areas. Using census block groups as the GAA for the EJ assessment also comports with federal guidance. Promising Practices for EJ Methodologies in NEPA Reviews at p. 21-27. Dominion used this approach in the COP. COP at p. 4-401– 4-405; COP Appendix EE-2 at 1–4, passim (identifying census block groups potentially impacted by onshore transmission routes). Revising BOEM’s methodology accordingly would result in lower, and more accurate, predicted impact ratings to EJ populations.</p>	<p>Block group data from the Census was used to determine environmental justice areas in the geographic analysis area and are outlined on Figure 3.12-2. Due to the small geographic nature of block groups, cities and counties are used in discussion as reference points to the related conditions of the area. When discussing specific project impacts, the block groups on Figure 3.12-2 are used to determine if Project components would occur in environmental justice areas, and if impacts would occur.</p>
<p>BOEM’s predicted impact levels for EJ populations should also be lowered to “negligible to minor” to align with its conclusions for all individual IPFs assessed for potential EJ impacts. BOEM assigns an impact rating of minor or negligible for all individual IPFs considered for EJ except for presence of structures, which Dominion believes is overstated and should be adjusted from “minor to moderate” to “negligible to minor.” DEIS at p. 3.12-18– 3.12-22.</p>	<p>The overall impact levels are the sum of all the individual IPF impacts. If an IPF has a range that extends to moderate (or if it were a higher impact) that becomes the highest extent of the range of impacts overall and can therefore not be lowered. Additionally, the presence of structures IPF impacts in question range from minor to moderate because they are inferred from Section 3.20, <i>Scenic and Visual Resources</i>.</p>
<p>DEIS Section: 3.12 Environmental Justice</p>	<p>Because ASLF may have major impacts on cultural resources, they are mentioned in Section 3.12, <i>Environmental Justice</i>, as awareness</p>

Comment from Dominion Energy	Response
<p>Page Number: 3.12-8 Recommended Revision/DEIS Text: DEIS references to “pre-contact Native American landscapes” or ASLFs do not raise EJ concerns regarding the Project. Rationale for Dominion Recommendation: See our above comments regarding ASLFs and avoidance of impacts thereto.</p>	<p>and potential analysis if impacts are determined through consultation. NHPA Section 106 consultation and government-to-government consultation are ongoing and this information will be updated as necessary.</p>
<p>DEIS Section: 3.14.5 Impacts of the Proposed Action on Land Use and Coastal Infrastructure Page Number: 3.14-7, 3.14-8 Recommended Revision/DEIS Text: Two sections discuss port infrastructure somewhat differently: "The Proposed Action or Alternative A-1 would not directly require any upgrades to port infrastructure but would make productive use of existing ports." and "Port utilization: The Proposed Action includes no port expansion activities but would use ports that would expand to support the wind energy industry generally." Recommend using the second sentence for consistency and accuracy. Rationale for Dominion Recommendation: As described in the COP, the Project will be utilizing existing ports. Some of those ports (e.g., the Portsmouth Marine Terminal [PMT]) are making upgrades to support the offshore wind industry. PMT is an existing port facility. Dominion Energy and the Port of Virginia have executed a lease agreement for PMT to support the staging of components and construction vessels for the Project.</p>	<p>Text in the Final EIS has been revised to reflect the recommended change: “The Proposed Action includes no port expansion activities but would use ports that would expand to support the wind energy industry in general”.</p>
<p>DEIS Section: 3.15.5 impact of proposed action on marine mammals Page Number: 3.15-29 Recommended Revision/DEIS Text: “The Project will implement soft-start procedures during impact pile driving of the WTG and OSS foundations as soft-start is not feasible for vibratory pile-driving operations, as well as marine mammal monitoring, which will reduce the overall time piling is conducted with the highest hammer energy.” Recommend revising last clause to “which will [Bold, Italics: minimize impacts to marine mammals]”. Rationale for Dominion Recommendation: This statement seems to indicate that softstarts would cut back on total time at the maximum energy. While the soft-start increases the time to initiating maximum hammer energy, it does not necessarily reduce the amount of time at that energy in all situations.</p>	<p>This suggested revision has been incorporated into Final EIS Section 3.15.5.</p>
<p>DEIS Section: 3.15.5 impact of proposed action on marine mammals Page Number: 3.15-29 Recommended Revision/DEIS Text: “The Project will implement a 4.0-mile (6.5- meter) clearance zone that will be</p>	<p>The suggested revision has been incorporated Final EIS Section 3.15.5; a table with all the clearance and shutdown zones from the</p>

Comment from Dominion Energy	Response
<p>monitored for at least 60 minutes prior to the start of pile driving to ensure no marine mammals are present when pile driving begins (Tetra Tech 2022).” Recommend revising to “The Project will [Bold, Italics: implement clearance zones] for at least 60 minutes prior to the start of the pile driving to ensure no marine mammals are present when pile driving begins [Bold, Italics: as specified in the Letter of Application (LOA) application] (Tetra Tech 2022).” Rationale for Dominion Recommendation: The LOA application specifies different clearance zones for different pile driving scenarios (e.g., 1 pile per day vs 2 piles per day)</p>	<p>LOA application has been added to distinguish between the piling scenarios per Dominion Energy’s suggestion.</p>
<p>DEIS Section: Appendix J Page Number: J-8 Recommended Revision/DEIS Text: The paragraph beginning “Scenarios 1 through 8 occur at representative WTG locations while Scenario 9 occurs at the cofferdam locations at the Near shore Trenchless Installation Area.” includes information from the 2021 COP Appendix Z. It should be updated to include information from the 2022 COP Appendix Z.</p>	<p>This suggested revision has been incorporated into Final EIS Appendix J, <i>Noise Modeling Report</i>.</p>
<p>DEIS Section: Appendix J, Page J- 7 Page Number: J-7 Recommended Revision/DEIS Text: Paragraph beginning “To determine the ranges to the defined threshold isopleths, a maximum received level-over-depth approach was used.” This text should be changed to: “To determine the ranges to the defined threshold isopleths, a maximum received level-over-depth approach was used. This approach uses the maximum received level that occurs within the water column at each calculation point. Both the Rmax and the R95% ranges were calculated for each of the regulatory thresholds. The Rmax is the maximum range in the model at which the sound level was calculated. The R95% excludes major outliers or protruding areas associated with the underwater acoustic modeling environment. The R95% range is determined by calculating the radius based on 95% of the area of the threshold isopleths. This is conducted by generating a circle approximating the extent of the sound contour isopleths and then calculating the associated radius using the following equation: $R_{95\%} \text{ Radius (m)} = \sqrt{((\text{Area} * 0.95) / \pi)}$ The intent is to determine the predicted range encompassing at least 95 percent of the threshold isopleth area that would be exposed to sound from the source at or above the specified threshold level. All distances to injury thresholds presented in this Underwater Acoustic Assessment Report are presented in terms of the R95% range. Based on the site- specific conditions and review of the resultant acoustic model output, even</p>	<p>This suggested revision has been incorporated into Final EIS Appendix J, <i>Noise Modeling Report</i>.</p>

Comment from Dominion Energy	Response
<p>though this methodology for evaluating threshold ranges may differ from other acoustic models and may result in some slight irregularities in data trends (i.e., inconsistencies in predictions in the near-field relative to pile driving activities), this methodology is representative of expected Project-related underwater acoustic impacts."</p>	
<p>DEIS Section 3.16.5 Impacts of the Proposed Action on Navigation and Vessel Traffic Page Number: 3.16-25 Recommended Revision/DEIS Text: "However, because Alternative A-1 would still introduce up to 202 WTGs and three OSSs where no such structures currently exist, impacts on navigation and vessel traffic would remain localized, long term, continuous, and major." We recommend that BOEM lower the impact rating. Rationale for Dominion Recommendation: "Major" rating appears not to align with the preceding discussion.</p>	<p>In the Final EIS, Alternative A-1 has been renamed to Alternative A. The impact of the Proposed Action and all alternatives analyzed in the Final EIS would be minor to moderate adverse impacts, The cumulative impacts (in the context of other reasonably foreseeable environmental trends) for the Proposed Action and all alternatives would be minor to major.</p>
<p>DEIS Section: Cumulative Impacts of the Proposed Action Page Number: 3.19-22 Recommended Revision/DEIS Text: "In the context of reasonably foreseeable environmental trends, the combined vessel traffic impacts from ongoing and planned actions, including the Proposed Action or Alternative A-1, would be expected to be similar to the impacts under the No Action Alternative and would be expected to be moderate." Rationale for Dominion Recommendation: Suggest changing impact classification from moderate to minor to match Impact Level Definitions (for Proposed Action and No Action Alternative). DEIS states Proposed Action: Vessel Strike impact would be similar to No Action Alternative. The No Action Alternative states "despite potential for individual fatalities, no population-level impacts on sea turtles are expected" (pg. 3.19- 14). Minor impact is defined as no result in population-level effects (pg 3.19-6).</p>	<p>Impact determinations have been reviewed and revised, as applicable in Final EIS Section 3.19.5.1, <i>Cumulative Impacts of the Proposed Action</i>.</p>
<p>DEIS Section: 3.19.5 Impacts of the Proposed Action on Sea Turtles Page Number: 3.19-22, 3.19-23 Recommended Revision/DEIS Text: "Therefore, the overall impacts on sea turtles are expected to be moderate, as the overall effect would be notable, but the resource is expected to recover completely with remedial or mitigating action."</p>	<p>The overall impact determinations have been reviewed and modified, as applicable, in Final EIS Section 3.19, <i>Sea Turtles</i>.</p>

Comment from Dominion Energy	Response
<p>Rationale for Dominion Recommendation: Recommend rating be revised to “minor” from Project because of nominal increase in vessel traffic, and noise and structure presence are not identified as key drivers (e.g., page 3-19.24).</p>	
<p>DEIS Section: 3.21 Water Quality Page Number: 3.21-19 Recommended Revision/DEIS Text: “These activities in the context of reasonably foreseeable environmental trends, including the Proposed Action or Alternative A-1, would likely be temporary and minor to moderate.” Text on page 3.21-15 describes sediment impacts as negligible to minor; conclusion describes them as minor to moderate. Recommend revising impact ratings, and updating 3.21.5.2 impact rating for consistency.</p>	<p>This mistake has been fixed on page 3.21-19 in the Final EIS and now states “...would likely to be temporary and minor to moderate.” The moderate rating only applies to the potential for a large accidental release.</p>
<p>DEIS Section: Table 2-3 Page Number: 2-47 Recommended Revision/DEIS Text: Wetland impacts "moderate to major" from action alternatives. Rationale for Dominion Recommendation: The table omits additional mitigation; however, it should reference mitigation legally required under CWA 404, which would remove any major impacts.</p>	<p>Thank you for the comment. BOEM and the Cooperating Agencies have reviewed the impact level determination for the action alternatives and have found that a moderate to major impact rating is appropriate. As noted in Table 3.22-2 of the EIS, “moderate” adverse impacts on wetlands are those that would be minimized but would result in unavoidable permanent impacts requiring compensatory mitigation found to have a high probability of success. While an impact level rating of “major” would indicate regionally detectable permanent impacts and extensive compensatory mitigation (the success of which would be marginal or have an unknown probability of success), BOEM and the cooperating agencies have determined that impacts from construction of the action alternatives would likely have moderate to major impacts on wetlands.</p>
<p>DEIS Section: Appendix H Page Number: H-58 Recommended Revision/DEIS Text: "Dominion Energy must conduct archaeological monitoring during onshore construction in areas identified as having high or moderate archaeological sensitivity and must prepare and implement a terrestrial archaeological post-review discovery plan." Recommend revising to “must conduct archaeological monitoring during onshore construction in areas identified as having high or moderate archaeological sensitivity [Bold, italics: as documented in the TARA Mitigation Plan...”]</p>	<p>The suggested edit has been made to the Final EIS.</p>

Comment from Dominion Energy	Response
Rationale for Dominion Recommendation: The TARA Mitigation Plan specifies an archaeological monitor will be on-call during construction.	

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

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N.6.1 Purpose and Need

Table N.6.1-1 Responses to Comments on the Purpose and Need

Comment No.	Comment	Response
0013-0034	<p>President Biden’s Executive Order 14008 is Irrelevant to Purpose and Need of CVOW Project.</p> <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>BOEM has authority under the 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 Dominion Energy’s COP, not to regulate carbon dioxide emissions.</p>
0013-0042	<p>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>The purpose and need of the proposed action are described in EIS Section 1.2, <i>Purpose and Need of the Proposed Action</i>.</p>
0017-0005	<p>Section 1.2 of the DEIS (Purpose and Need of the Proposed Action) notes that “Dominion Energy’s goal is to develop a commercial-scale offshore wind energy facility in the Lease Area, to provide between 2,500 and 3,000 MW of energy. Dominion Energy’s goal of 2,500 to 3,000 MW of offshore wind energy in service by 2028 is mandated for Dominion Energy under the 2020 Virginia Clean Economy Act.” This section also notes that BOEM’s purpose is to prepare the EIS to support review of Dominion Energy’s proposal, and that the agency’s need is to further U.S. policy goals related to renewable energy generation.</p> <p>Dominion Energy’s and Virginia’s “need” to generate 2,500 MW of wind energy is referenced throughout the section describing alternatives considered but not analyzed in detail (pages 2-3, 2-25, 227). The use of the term “need” in these contexts is concerning given the very specific meaning of the term under NEPA as it implies that the EIS will not consider smaller scale projects in order to reduce environmental and socioeconomic impacts. It also implies that a state law – the 2020 Virginia Clean Economy Act – can constrain federal decisions outside of the state’s jurisdiction.</p> <p>Furthermore, the minimum number of turbines that would meet BOEM’s DEIS purpose and need is unclear given that it is implied but not directly stated that 2,500 MW is the minimum electrical output for the project. This poses challenges for determining which final configurations of the alternatives (or additional</p>	<p>BOEM is not bound by state law or by the proposed size of the project. BOEM may consider and ultimately select a smaller project than what is proposed or may require mitigation measures. For this project, BOEM considered reasonable alternatives during the EIS development process that would avoid or minimize adverse impacts in accordance with NEPA implementing regulations. Under the NEPA regulations at 40 CFR 1508.1(z), “reasonable alternatives means a reasonable range of alternatives that are technically and economically feasible, and meet the purpose and need for the proposed action, and, where applicable, meet the goals of the applicant.” In the case of Dominion Energy, an alternative that would not meet Dominion’s Energy’s goal of 2,500–3,000 megawatts (MW)</p>

Comment No.	Comment	Response
	<p>modified alternatives) could also meet BOEM's purpose and need, while reducing the negative environmental and socioeconomic impacts of the project.</p> <p>We recommend that the FEIS for this project, as well as future DEIS and FEIS documents for other wind projects, more clearly indicate that BOEM is not bound to considering approval only of projects that can produce a certain amount of electricity. BOEM should consider federal and state renewable energy targets and mandates as well as existing procurements when preparing an EIS and determining whether to approve a project. However, it should be made clearer that BOEM retains the ability to reduce the potential negative environmental and socioeconomic impacts of the project by approving a smaller project than that proposed by the developer or that has been procured.</p> <p>We suggest expanding on this 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.</p>	<p>would not meet the mandated level of offshore wind energy in service under the 2020 Virginia Clean Economy Act.</p>
0033-0002	<p>the purpose and need section, it seems to imply but not explicitly say that the project needs to produce at least 2,500 megawatts to achieve the minimum amount of electricity that's needed, and that the alternatives seem to be kind of structured around that, and I think these two things together useful to think about in terms of what is the minimum number of turbines to meet the purpose and need, but it's kind of hard to know that exactly without knowing, without that 2,500 megawatt value being explicitly stated as it has to meet this minimum value in order to be considered, that's implied but not stated so some kind of concerns about challenges with formulating helpful comments without having a good understanding of what those kind of specific boundaries are there</p>	<p>The range of "not less than 2,500 and not more than 3,000 MW" was mandated by the 2020 Virginia Clean Energy Economy Act. This has been clarified in Section 1.2, <i>Purpose and Need of the Proposed Action</i>.</p>

N.6.2 Proposed Action and Alternatives

Table N.6.2-1 Responses to Comments on the Proposed Action and Alternatives

Comment No.	Comment	Response
No Action		
0019-0007	As an initial point, it is interesting to note that BOEM’s conclusion as to the impact of the “No Action Alternative” on Commercial Fisheries and For-hire Recreational Fishing is that it will have a moderate to major impact. This is because, according to the DEIS, continuation of existing environmental trends and activities under the No Action Alternative would result in moderate to major impacts on commercial fisheries and minor to moderate impacts on for-hire recreational fishing. The No Action Alternative combined with all planned activities (including other offshore wind activities) would result in a major adverse cumulative impact because some commercial fisheries and fishing operations would experience substantial long-term disruptions. This impact rating is primarily driven by the presence of offshore structures, regulated fishing effort, and climate change. Thus, it seems BOEM is making a finding that not constructing the Project, consisting of over 200 wind turbines and many miles of undersea cable arrays, will have the same impact on commercial fishing as constructing the Project. The reason given for this assertion is that previously approved BOEM projects, NOAA, and climate change will generate the same adverse impacts to the fishermen as this Project will.	Thank you for your comment. The No Action Alternative considers all planned activities, including multiple other planned offshore wind projects. It is necessary to consider all potential impacts from reasonably foreseeable planned activities, including other planned offshore wind impacts as whole as part of the No Action Alternative.
0026-0010	[Bold: Framing of the No Action Alternative] In the DEISs, the No Action Alternative assumes only the Proposed Action will not occur. “[A]ll other past and ongoing impact-producing activities would continue.” This assumes full buildout of existing and foreseeable future activities - including other energy developments - without also providing information or comparison of alternatives against an undeveloped (no construction) region. As presented, the DEISs presuppose the approval of future OSW projects that have not even begun an environmental assessment, nor have the public had the opportunity to provide input to. This results in multiple issues: -The DEIS provides the public with misleading information as it presumes construction of OSW in all the leases in the region. Project approval	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. Ongoing activities include permitted offshore wind projects. The EIS also separately analyzes the continuation of all other existing and reasonably foreseeable future activities. Reasonably foreseeable future actions include the build-out of executed renewable energy lease areas. “No construction” was not included in the evaluation of alternatives because decisions that were made regarding other projects are

Comment No.	Comment	Response
	<p>must not be expected preemptively. - The public cannot reasonably differentiate and assess if a specific project and regional OSW development are worth the impacts they will cause; both known and unknown. - The impacts of these projects are diluted and obscured as they are only compared against regional buildout rather than no development. - Contribution of each project to cumulative impacts is minimized. One project may not seem “that bad” in comparison to the potential buildout of all leases and WEAs in the region, but the cumulative impacts of all these projects will be the most harmful to the marine environment and ocean users.</p>	<p>not part of the decision-making process for this Project.</p>
0026-0010	<p>At a minimum, an additional alternative should be analyzed and compared against the design envelope of the project for which the DEIS has been prepared: a [Bold: No Development Alternative.] The No Action Alternative as presented should still be included in the DEISs but a complimentary No Development Alternative should be provided to the public also. Again, this demonstrates the need for a robust cumulative impact assessment and mitigation measures aimed to address cumulative impacts to understand the true impacts of OSW in the Atlantic.</p>	<p>The No Action Alternative for all resource areas describes both the impacts of (1) existing environmental trends and ongoing activities, and (2) the cumulative impacts of all reasonably foreseeable planned activities.</p>
Alternative B		
0024-0010	<p>The information provided in the DEIS is not sufficient for TNC to reach a conclusion about the impact that Alternative B would have on the sand ridge habitat feature. Conversations that we have had with BOEM, NOAA Fisheries, and Dominion Energy about this possibility were similarly inconclusive.</p>	<p>Additional discussion on the impacts to benthic habitat have been added to the Final EIS.</p>
Alternative C		
0024-0010	<p>Meanwhile, communications with Dominion suggest that Alternative C may not be a buildable alternative.</p>	<p>BOEM developed Alternative C based on its guidance for identifying alternatives⁵ and in coordination with Dominion Energy and NMFS.</p>
0017-0012	<p>Alternative C includes the same layout as Alternative B, avoiding the fish haven area and the proposed vessel traffic fairway, and also removes four additional turbines to avoid sand ridge habitat. This would result in a maximum total number of 172 turbines and a 2,528 MW facility. Only 14 MW turbines are under consideration for this</p>	<p>BOEM coordinated with NMFS, the agency with jurisdiction and expertise over benthic habitat resources, to identify priority sand ridge habitat based on data provided by Dominion Energy in the COP. The four WTG locations removed were identified to</p>

⁵ BOEM’s guidance on the process for identifying alternatives for environmental reviews of offshore wind COPs pursuant to NEPA is available at: <https://www.boem.gov/sites/default/files/documents/renewable-energy/BOEM%20COP%20EIS%20Alternatives-2022-06-22.pdf>.

Comment No.	Comment	Response
	<p>alternative. The description of this alternative is very brief and does not provide enough details on the importance of sand ridge habitat. Additional information on the data used to define these areas should be provided to help readers understand why these four specific locations were chosen for removal.</p>	<p>minimize potential linear seafloor impacts on sand ridge habitats. BOEM believes that the information provided in the Final EIS provides sufficient description for analysis of the alternative.</p>
0017-0013	<p>we compared the distribution of sand ridge features identified via BOEM and NOAA’s shoalMATE analysis (Pickens and Taylor 2020) [Footnote 2: Pickens, BA, Taylor JC, editors. 2020. 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 NOAA NCCOS Technical Memorandum 270. https://doi.org/10.25923/akzd-8556. 362 pp] to the priority sand ridge areas and the overall lease area. Based on this data set, there are many sand ridges outside of the exclusion areas identified in Alternative C, including within the export cable corridors. Even under Alternative C, these additional sand ridges will be affected by placement of turbine foundations, site preparation, and trenching for interarray and export cables. Our understanding is that when installing cables in areas with larger sand bedforms (waves or shoals), the bedforms are first removed, and then trenching occurs below this baseline depth. These activities will have substantial impacts on sand ridges occurring throughout the project area.</p>	<p>Offshore wind projects commonly cover large geographic areas. It is difficult to design and construct such projects to completely avoid all sensitive resources, including sand ridges outside the exclusion areas identified in Alternative C, given the prevalence of these features within and beyond the Lease Area. BOEM is required to disclose these potential impacts in the EIS.</p> <p>The priority sand ridge habitat area under Alternative C was identified based on mapping areas defined as “benthic features” in the <i>NMFS GARFO March 2021 Essential Fish Habitat Mapping Recommendations</i> (NMFS 2021). The majority of the bottom type characterized in this portion of the Lease Area is not considered “complex habitat” as defined in the recommendations document (NMFS 2021). Similar types of sand ridge features and isolated shoals as those identified in the priority sand ridge habitat area exist on the Mid-Atlantic OCS and are identified by BOEM’s Marine Minerals Program as sand resource areas and dredged by USACE, as they typically consist of beach-quality sand that can be used for beach nourishment or shoreline restoration projects. Within the 112,799-acre Lease Area, approximately 8% (8,976 acres) is modeled as sand shoals (Pickens et al. 2020).</p> <p>Total disturbance to priority sand ridge habitat from inter-array cables and WTGs under Alternative B would be 64.36 acres.⁶ Compared to Alternative B,</p>

⁶ Under Alternative B, 63.54 acres of disturbance to priority sand ridge habitat would occur from installation of inter-array cables. An additional 0.8 acre of disturbance would result from five WTGs that would be removed and relocated under Alternative C (each WTG with a scour diameter of 95 feet resulting in 0.16 acre of disturbance per WTG). Total disturbance to priority sand ridge habitat from inter-array cables and WTGs under Alternative B would be 64.34 acres.

Comment No.	Comment	Response
		<p>Alternative C would reduce impacts on priority sand ridge habitat by 44.85 acres. The long-term impacts on priority sand ridge habitats under either Alternative B or Alternative C equates to a very small percentage of the 3,212-acre priority sand ridge habitat area (64.34 acres or 2.0% under Alternative B, and 19.49 acres or 0.6% under Alternative C). Inter-array cable installation disturbance to modeled sand shoals within the entire Lease Area would also be similar between Alternatives B and C: 132.9 acres or 1.5% of modeled shoals under Alternative B and 125.1 acres or 1.4% of modeled shoals under Alternative C.</p> <p>Seabed preparation and cable installation activities for this Project would sidecast the sand, thus, keeping sand in the system and providing the potential for the system to equilibrate. BOEM's research regarding the biological recovery of sand shoals on the OCS has been primarily focused on recovery after dredging and has found that sand shoal habitat recovery typically occurs within a 2- to 3-year period after dredging (Michel et al. 2013). While existing research cannot say definitively if the sand shoals in OCS-A-0483 will recover as quickly due to the deeper depths of WTG and cable installation, these features are a persistent feature of the landscape in this area.</p>
0017-0017	<p>We recommend approval of a combination of Alternatives C and D to reduce the potential for negative impacts to the area referred to as the fish haven, the proposed vessel traffic fairway, sand ridges, and sensitive onshore habitats. We also recommend that BOEM remove additional locations that overlap with sand ridges, for example as shown in the figure on the previous page. We recommend working with NOAA Fisheries habitat staff to optimize the final turbine and offshore substation locations to minimize impacts to sand ridges.</p>	<p>Thank you for your comment. After consideration of the public comments on the Draft EIS and analysis of those comments and other information (including the adverse and beneficial impacts of each alternative), BOEM has identified a preferred alternative in the Final EIS.</p>
Alternative D		
0024-0028	<p>The Nature Conservancy is the owner and manager of several properties along the various alternative routes for onshore</p>	<p>Thank you for your comment.</p>

Comment No.	Comment	Response
	transmission. Interconnection Cable Route Option 1 or Interconnection Cable Route Option 6 (Hybrid Route), as described in the COP (Dominion Energy 2021) would cross the North Landing River Preserve, however we found that this alternative would cause the least impact to the areas' concentration of wetlands, intact forest cores, and conservation lands. We also note that Dominion has undertaken measures to minimize impacts to intact forests along the existing right-of-way at The Nature Conservancy's request. We support either cable route Option 1 or Option 6.	
General Alternatives		
0026-0038	Confusion is further compounded as the different alternatives can be combined for the Final EIS. The alternatives listed in each 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) 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.	The Preferred Alternative is included in the Final EIS, consistent with 40 CFR 1502.14, and identifies which of the original alternatives are included.
0017-0062	The DEIS analyzes multiple alternatives and states that BOEM may "mix and match" these alternatives "to develop the preferred alternative provided that the design parameters are compatible, and the preferred alternative would still meet the purpose of and need for the Proposed Action" (page 2-1). As described above, the threshold for meeting the purpose and need (e.g., a minimum total MW or a different metric) is not clear. This poses challenges for providing comments on which specific configurations of the alternatives may be preferred.	
0017-0053	Additional information should be provided regarding why 14-16 MW turbines are considered under Alternative A, but only 14 MW	Consistent with BOEM's draft guidance, ⁷ Dominion Energy's COP proposes the Project using a PDE

⁷ BOEM's draft guidance on the use of design envelopes in a COP is available at: <https://www.boem.gov/sites/default/files/renewable-energy-program/Draft-Design-Envelope-Guidance.pdf>.

Comment No.	Comment	Response
	<p>turbines are considered under Alternatives B and C. The DEIS states that “Dominion Energy would use only 14 MW WTGs, each capable of generating up to 14.7 MW using power boost capability, to avoid impacts due to construction and operation of WTGs” (page 2-15). The meaning of and rationale for this statement on impacts is unclear. Additionally, later sections of the document (e.g., page 2-26) indicate that 16 MW turbines are not currently commercially or technically available, Dominion Energy has already selected and contracted for 14 MW turbines, and revised layouts based on 16 MW turbines would likely require an additional future NEPA review. This calls into question why a 16 MW turbine is considered in the DEIS at all. Different turbine sizes will have different impacts tradeoffs. For example, fewer larger turbines can produce the same amount of electricity as more smaller turbines. However, installation of larger turbines would generate more pile driving noise per turbine compared to smaller turbines. These tradeoffs are of interest to the Councils. However, the statements in the DEIS call into question the utility of providing comments regarding these tradeoffs if the turbine size has already been determined.</p>	<p>concept. This concept allows Dominion Energy 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. The Proposed Action includes the range of turbine sizes proposed in Dominion Energy’s COP. Alternatives B and C only include the 14-MW WTGs, because this allows for a comparison of impacts with those of the larger WTG size included in the Proposed Action.</p>
0033-0001	<p>the specifics of the alternatives in terms of the PDE suggests that there is a range of turbines under consideration from 14 to 16 megawatts but then in some of the descriptions of some of the alternatives themselves, it seems to suggest that only 14 megawatts is actually likely to be used and that poses some challenges in terms of thinking about how to comment on like the specific configuration of the project and the number and size of the turbines that could be used because those have -- those determine what the impacts are and there could be tradeoffs with using fewer bigger turbines to produce the same amount of electricity but maybe have fewer of some types of impacts, but if only the 14 megawatt turbine is really possible, then that kind of limits the ability to consider those tradeoffs and make comments on those lines.</p>	
0026-0040	<p>Avoidance is the first step of impact minimization under NEPA. For the fishing industry, avoidance is most readily achieved by constructing the fewest turbines, as turbines will displace fishing activity. Power agreements often drive the number of turbines a developer will use in a lease area, but size also influences how many turbines will be needed. Clearly the developer has an</p>	<p><i>Executive Summary</i> Section S.4.2 the range of turbine sizes considered in Dominion Energy’s COP, consistent with what is described in Chapter 2, Section 2.1.2, <i>Alternative A—Proposed Action</i>. The Proposed Action includes the range of turbine sizes proposed in Dominion Energy’s COP. Alternatives B</p>

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	<p>anticipated turbine size they intend to use as the number of turbines and wind farm capacity are stated in Appendix E of the DEISs. Therefore, the turbine size should be easily available in the Executive Summary of the DEIS. Should the developer anticipate using the largest turbines available at the time of construction, this should be clearly stated and a range of anticipated turbine size should still be provided.</p>	<p>and C only include the 14-MW WTGs, because that allows for a comparison of impacts with those of the larger WTG size included in the Proposed Action. BOEM considered all comments received on the Draft EIS during development of the Preferred Alternative.</p>
0026-0014	<p>It is imperative the public is able to differentiate impacts from the various alternatives presented in the DEISs to understand the suitability of prospective project alternatives. The DEISs analyze the impacts of multiple grouped alternatives primarily as modifications to the Proposed Action, rather than against each other. Using fisheries as an example, the DEISs present Impacts Analysis for Commercial and For-Hire Recreational Fisheries for each of the Alternatives together. That each DEIS acknowledges major adverse impacts on commercial fisheries is much appreciated. [Footnote 21: See Sunrise DEIS Table ES-2; CVOW DEIS Table 2-3] 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 DEISs assume would be the most likely "Alternative". From discussions with leaseholders in other project areas, it is our understanding that technical constraints may be realized after DEIS completion that make the Proposed Actions unfeasible. Yet, it is still the project design that all other alternatives are compared against.</p>	<p>The impacts of each alternative are compared to the impacts of the Proposed Action to reduce duplication in the EIS analysis. However, the impact of each alternative for each resource area has its own conclusion of impact level. BOEM identifies the Preferred Alternative in the Final EIS and will select an alternative(s) in the Record of Decision (ROD).</p>
Proposed Action / Project Design Envelope		
0017-0052	<p>Under Alternative A, the three offshore substations would be placed in offset positions between the gridded turbine layout. This offset position is not considered for any other wind energy projects that we are aware of, and we recommend that it be removed from consideration due to navigational impacts. Alternative A-1 is the same as Alternative A but would place the offshore substations within the gridded turbine layout, taking the place of three turbines and reducing the total maximum number of turbines to 202.</p>	<p>Alternative A has been revised from the Draft EIS to the Final EIS to remove the offset OSSs.</p>
0026-0045	<p>BOEM has yet to include a clear decommissioning plan in any of their DEISs to date. While it is BOEM's mandate to remove all foundations from 15 feet below the mudline, there is no clear designation of how harm will be quantified and what analyses will be</p>	<p>Final EIS Section 2.1.2.3, <i>Decommissioning</i>, includes a description of planned decommissioning. Per BOEM regulations, Dominion Energy would be required to remove all cables and clear the seafloor of all</p>

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	<p>conducted. We strongly encourage BOEM to not be over reliant on “conceptual” decommissioning and require developers to include a full decommissioning plan.</p> <p>Impact analyses for O&M are based upon a 35-year operational term. Yet, it is anticipated that some projects may last longer. If it is anticipated that installation will remain longer, or even permanent, analyses in the EIS must reflect these longer time periods. This is noteworthy for other ocean users, such as the fishing industry, who may be anticipating the re-opening of certain areas to fishing for future generations.</p>	<p>obstructions created by the Project. Dominion Energy would need to obtain separate and subsequent approval from BOEM to retire in place any portion of the Project. Approval of such activities would require compliance under NEPA and other federal statutes and implementing regulations. Dominion Energy would have to apply for an extension to operate the Project for more than the operations term.</p>
0026-0046	<p>We are encouraged that a bond is to be held by the U.S. government to cover the costs of decommissioning. BOEM should disclose the bond amount to the public along with the estimated costs of decommissioning, to allow the public to consider the sufficiency of the bond and ease or raise any concerns over responsibility for uncovered expenses. Additional information on how the turbines will be disposed of after decommissioning should be provided and analyzed in future documents including the EIS.</p>	<p>If the COP is approved or approved with modifications, Dominion Energy would have to submit a bond that would be held by the U.S. government to cover the cost of decommissioning the entire facility if Dominion Energy would not otherwise be able to decommission the facility. Information related to the bond is public information but is not subject to public comment.</p>
0026-0047	<p>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. It is possible that large amounts of materials required for OSW projects could remain in the ocean, e.g., scour protection materials and cables. This would represent the permanent conversion of soft sediment areas to those with hard structure.</p> <p>Qualitative conclusions of soft to hard substrate as beneficial, as this is generally believed to create habitat, fails to discuss impacts to species reliant on soft sediments. It is unclear whether this newly created, harder habitat will give other species a competitive advantage over species that prefer, or require 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>BOEM would require Dominion Energy to submit a decommissioning application, which BOEM would approve, approve with conditions, or disapprove. BOEM would conduct technical and environmental reviews, which would include an opportunity for public comment and consultation with municipal, state, and federal management agencies.</p>

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0037-0014	<p>-Chapter 2, Page 2-12: What happens during the decommissioning period?</p> <p>--How is the determination made to retire in place or remove materials? Will we be consulted during this process? (section 2.1.2.3)</p> <p>--If removed, who pays the rebuild/restoration and what is the timeframe?</p>	<p>Final EIS Section 2.1.2.3, <i>Decommissioning</i>, includes a description of planned decommissioning. BOEM would require Dominion Energy to submit a decommissioning application, which BOEM would approve, approve with conditions, or disapprove. BOEM would conduct technical and environmental reviews, which would include an opportunity for public comment and consultation with municipal, state, and federal management agencies.</p> <p>If the COP is approved or approved with modifications, Dominion Energy would have to submit a bond that would be held by the U.S. government to cover the cost of decommissioning the entire facility if Dominion Energy would not otherwise be able to decommission the facility.</p>
0037-0015	<p>--Has an assessment been conducted of the long-term impact of capping the materials and letting them remain in the earth? (section 2.1.2.3.1)</p>	<p>BOEM would require Dominion Energy to submit a decommissioning application, which BOEM would approve, approve with conditions, or disapprove. BOEM would conduct technical and environmental reviews, which would include an opportunity for public comment and consultation with municipal, state, and federal management agencies.</p>
0037-0026	<p>-Chapter 2, pg. 2-14: "Materials would be recycled as appropriate." - [Bold: Is there a commitment for a percentage of items to be recycled, with a proposed recycling plan?]</p>	<p>BOEM would conduct technical and environmental reviews, which would include an opportunity for public comment and consultation with municipal, state, and federal management agencies.</p>
0037-0013	<p>-Chapter 2, Page 2-13: Does routine maintenance include testing for soils (leakage)?</p>	<p>Planned routine maintenance activities do not include soil testing for oil leaks (Dominion Energy 2023). Export and inter-array cables do not contain any liquids or oils. Due to the marine environment, water depth, and nature of oils used in WTGs and OSSs, the potential for leakage into soils is extremely remote.</p>
0037-0027	<p>-Chapter 2, Page 2-28: How does this apply to onshore severe weather/natural events? (Section 2.2)</p>	<p>An explanation of onshore severe weather events has been added to the Final EIS, Section 2.3, <i>Non-Routine Activities and Events</i>.</p>
0037-0006	<p>--What steps will be taken to deal with potential impacts from unforeseen barriers or accidents during HDD installation?</p>	<p>Additional information on addressing HDD installation impacts has been added to the Final EIS, Section 2.3, <i>Non-Routine Activities and Events</i>.</p> <p>Further, Dominion Energy would monitor work activities and track drilling fluid pressures during HDD</p>

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		operations, would discontinue work in the event of indications of a potential inadvertent return, and would equip installation teams with appropriate response equipment and personnel to quickly address and remediate any inadvertent returns (Dominion Energy 2023).
0037-0005	-Chapter 2, Page 2-9: RE: term “diameter necessary” - seems rather vague. Is there a more approximate measure to commit to staying in range of, during activity?	Final EIS Section 2.1.2.1.1, <i>Onshore Activities and Facilities</i> , text has been revised to clarify the HDD diameter would be 1.5 times the diameter of the cable.
Alternatives Considered but Not Analyzed		
0026-0037	<p>Since the scoping period for these DEISs, BOEM issued a new policy that has the effect of excluding alternatives from environmental review that would in fact reduce or mitigate fisheries impacts. The “Process for Identifying Alternatives for Environmental Reviews of Offshore Wind Construction and Operations Plans pursuant to the NEPA” [Footnote 18: See https://www.boem.gov/sites/default/files/documents/renewableenergy/BOEM%20COP%20EIS%20Alternatives-2022-06-22.pdf] released in June 2022 standardizes the alternatives BOEM will consider during the NEPA process and clarifies BOEM’s policy of considering only a narrow range of alternatives consistent with a developer’s preferred project plans. [Footnote 19: This document was issued without any opportunity for the public to participate in or provide input on its development, thus to our knowledge has not been the subject of any public comment] Indeed, it affords the terms of cost-competitive procurement agreements “more deference than a typical contract between two private for-profit entities,” although such contracts are nearly entirely driven by profit and energy maximization and without environmental review. The document only references mitigation in the context of what should not be considered as a NEPA alternative; that is, it suggests actions with “substantially similar effects” to other options should be considered outside of the range of alternatives. [Footnote 20: This statement contradicts NEPA’s implementing regulations, which specify the alternatives of an Environmental Analysis or Environmental Impact Statement must “include appropriate mitigation measures not</p>	<p>BOEM’s regulations require BOEM to analyze Dominion Energy’s proposal to build a commercial-scale wind energy facility on the Lease Area. As a result, BOEM’s <i>Process for Identifying Alternatives for Environmental Reviews of Offshore Wind Construction and Operations Plans pursuant to the National Environmental Policy Act (NEPA)</i> includes consideration of whether an alternative meets the primary goals of the applicant.</p> <p>The analysis of impacts in the Final EIS considers the implementation of mitigation measures for all alternatives. Mitigation measures proposed by the applicant and required by BOEM, including those to reduce impacts on fisheries, are included in Final EIS Appendix H, <i>Mitigation and Monitoring</i>.</p>

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	<p>already included in the proposed action or alternatives.” 40 C.F.R. § 1502.14(e)]</p> <p>[Bold: We urge BOEM to reconsider this policy. Specifically, for these projects and all other proposed OSW projects, the agency should include alternatives for analysis in each of its environmental review documents describing specific fisheries mitigation solutions and afford these full, neutral consideration.] Stand-alone alternatives will more clearly inform public comment and allow better evaluation of potential mutual benefits or tradeoffs. As a public agency, BOEM’s consideration of alternatives should include those that reasonably mitigate impacts to fishing and businesses dependent upon fishing, whether or not a developer has voluntarily proposed to incorporate them in its Construction and Operations Plan (COP) and whether or not they could require reasonable modifications to private contracts.</p>	
Foundation Types		
0021-0113	<p>We are concerned that the DEIS did not consider alternative turbine foundation technologies, such as quiet foundations (e.g., gravity-based or suction bucket foundations) which significantly reduce noise-related impacts to the marine ecosystem. Instead, the various alternatives evaluated in the DEIS mostly focus on layout changes of offshore WTGs as well as some variation in onshore cable routes. [Footnote 21: CVOW-C DEIS at S-7-8.]</p>	<p>In Draft EIS (Chapter 2, <i>Alternatives Including the Proposed Action</i>, Table 2-2) BOEM considered but dismissed from further consideration alternatives for non–pile-driven foundations. BOEM’s regulations require BOEM to analyze Dominion Energy’s proposal to build a commercial-scale wind energy facility in the Lease Area. Since that proposal includes only pile-driven foundations, analyzing or selecting an alternative using non-pile-driven foundations would be tantamount to selecting the No Action Alternative.</p>
0021-0004	<p>By far the most effective way to reduce noise during construction is to install quieter foundation types. Dominion’s Construction and Operations Plan (“COP”) eliminates from consideration alternate turbine foundation technologies for the CVOW-C Project:</p> <p>Alternative, non-pile-driven foundations considered but not carried forward include suction buckets, gravity-based structures, and floating foundations. Dominion Energy determined that these foundation types were not suitable for CVOW-C due to site conditions including soil sediment composition and water depth. ...Because non–pile-driven foundations are technically infeasible for the CVOW-C Project area, they were eliminated from detailed analysis. [Footnote 23: CVOW-C DEIS at 2-27.]</p> <p>BOEM does not confirm that Dominion’s conclusion is correct, it merely refers to Section 2.2.2 of its COP, an analysis that was not</p>	

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	<p>provided to the public for review. [Footnote 24: Id.] BOEM should evaluate and provide for public review a more robust array of foundations, like quiet foundations, which would significantly reduce impacts to the marine environment. We furthermore encourage BOEM to do more to bring gravity-based foundations and suction buckets online in the United States. In addition to reducing impacts to the marine environment, this evolution may ultimately provide developers with more flexibility (e.g., wider construction schedules, the possibility of installing foundations at night), at least in some areas.</p>	
0021-0119	<p>As the agency is aware, underwater noise pollution has harmful consequences for most marine life and represents a significant stressor to marine mammals, including North Atlantic right whales. As discussed above, BOEM dismisses from consideration any use of quiet foundations in the CVOW-C Project, despite the fact that the use of such foundations is the most effective way to reduce noise during construction. We reiterate the need for BOEM to conduct and provide for public review an analysis of quiet foundations, which would significantly reduce impacts to the marine environment.</p>	
0021-0070	<p>Finally, as discussed above, a wealth of research exists on the impacts of continuous noise—such as operational noise from offshore wind turbines—on marine life, and the importance of reducing this impact. Pending further study, we recommend the use of direct drive turbines as opposed to turbines with a gear box. Direct drive turbines may emit lower noise levels and reduce risk of behavioral disturbance or habitat displacement of right whales and other marine mammal species, and also reduce impacts to key marine mammal prey species, during the operation phase of development.</p>	
0024-0026	<p>The Nature Conservancy recommended that BOEM analyze the environmental impact of a project alternative that uses non-pile driven foundations (also known as quiet foundations) as opposed to the use of monopiles. We reasoned that while the submitted construction and operations plan (COP) indicates monopiles will be used, all potential options should be considered in order to have a full understanding of the costs and benefits of particular scenarios and to transparently inform the record of decision on permit conditions designed to avoid, minimize, and mitigate construction</p>	

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	impacts. The DEIS does not contain this analysis. We request that BOEM either include such an analysis in the Final EIS or explain why this was considered unnecessary.	
Relocate Project Outside the Lease Area		
0013-0054	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.	In Draft EIS Chapter 2, <i>Proposed Action and Alternatives</i> , Table 2-2) BOEM considered but dismissed from further consideration alternatives for alternate locations for the wind energy facility outside of the Lease Area. Since that proposal includes only pile-driven foundations, analyzing or selecting an alternative using non-pile-driven foundations would be tantamount to selecting the No Action Alternative.
Other Alternatives		
0021-0100	the DEIS only considers two alternatives with respect to the Project's onshore components: Dominion's Preferred Option and the Hybrid Option. Similar to the point we raise there with respect to BOEM's analysis of onshore habitat impacts, NEPA requires consideration of the environmental justice impacts of a reasonable range of alternatives for the interconnection cable route. [Footnote 299: 42 U.S.C. § 4332(C)(iii), (E).] We therefore urge BOEM to consider a broader range of cable routes, and to evaluate and compare the potential environmental justice impacts of those different alternatives.	BOEM analyzed the Proposed Action (i.e., the Project as described in Dominion Energy's COP), as well as a reasonable range of alternatives.
0021-0006	We emphasized the need for BOEM to consider, and fully assess the impacts of, a broad range of reasonable alternatives. [Footnote 31: Scoping Comments at 81.] We also explained that BOEM's assessment of alternatives should compare the impacts of the different techniques for installing overhead and underground cables, as well as different combinations of underground and overhead cable routes. [Footnote 32: Id. at 86.] Instead, BOEM, at Dominion's request, has removed from consideration all of the remaining cable route alternatives set forth in the COP. [Footnote 33: See CVOW-C DEIS at 2-10.] In doing so, BOEM merely notes in the DEIS that Option 1 is Dominion's preferred route, and that on August 5, 2022, the Virginia State Corporation Commission ("SCC") approved this option by issuing a certificate of public convenience and need. [Footnote 34:	BOEM's regulations require BOEM to analyze Dominion Energy's proposal to build a commercial-scale wind energy facility on the Lease Area. Dominion Energy formally notified BOEM on October 7, 2022, that the Virginia SCC had authorized only Interconnection Cable Route Option 1, thereby notifying BOEM that further consideration of the Interconnection Cable Route Options 2, 3, 4, and 5 was not technically or economically feasible. Per the Department of the Interior's NEPA implementing regulations at 43 CFR 46.420(b), reasonable alternatives include alternatives that "are technically and economically practical or feasible and meet the purpose and need of the proposed action."

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	<p>See id. at 2-9.] The SCC’s assessment is based on state law, however, and does not purport to consider NEPA. Under NEPA, the fundamental purpose of an EIS is to force an agency to take a “hard look” at a proposed project, including the need for the project, the environmental consequences, and a reasonable range of alternatives, before reaching a conclusion. [Footnote 35: Baltimore Gas & Elec. Co. v. NRDC, 462 U.S. 87, 97 (1983).] BOEM cannot substitute the SCC’s conclusion for its own obligation under NEPA to assess a reasonable range of alternatives.</p>	<p>In November 2022, BOEM completed a screening of evaluation criteria justifying dismissal of Interconnection Cable Route Options 2, 3, 4 and 5 from analysis in the Draft EIS. The screening criteria and BOEM’s justification were shared with cooperating agencies on November 14, 2022. Criteria justifying dismissal of Interconnection Cable Route Options 2, 3, 4, and 5 included that these cable route options would not meet the primary goals of the applicant (i.e., selection of any of these cable route options could delay the development and service of the Project due to the need to acquire easements for the necessary private lands), and that Interconnection Cable Route Options 2, 3, 4, and 5 would not be environmentally feasible in comparison to Interconnection Cable Route Option 1 or 6; BOEM’s desktop screening indicated that Interconnection Cable Route Options 2, 3, 4, and 5 would have greater impacts on wetlands, especially permanent impacts, compared to Interconnection Cable Route Options 1 and 6.</p> <p>The EIS still contains and analyzes Interconnection Cable Route Option 6 (the hybrid overhead-underground route) in Alternative D.</p>
0026-0013	<p>The CVOW DEIS includes alternatives designed to accommodate fish haven and navigation as well as one accommodating sand ridge habitat. While inclusion of these alternatives is appreciated, and we agree minimizing impacts to important habitat features is important; these do very little to protect the dependent recreational and commercial fishing communities. We recommend other habitat features important to fisheries in the lease area be afforded similar protection as well. This would ensure that disruptions to our nation’s food security is minimized and reduce the potential for negative impacts to shoreside business dependent upon the seafood harvested in the lease area.</p>	<p>In the Draft EIS (Chapter 2, Table 2-2) BOEM considered but dismissed from further consideration alternatives related to impacts on fisheries and navigation, including Project and inter-array cable orientation to avoid specific benthic features. BOEM developed Alternative C in coordination with NMFS to minimize impacts on offshore priority benthic habitats. Potential impacts associated with offshore cables and foundations have been reviewed and disclosed in Chapter 3, <i>Affected Environment and Environmental Consequences</i>, of this EIS for relevant affected resources. As applicable, BOEM could also choose to implement additional mitigation measures to further reduce or avoid impacts.</p>

N.6.3 Air Quality

Table N.6.3-1 Responses to Comments on Air Quality

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0013-0015	billions of tons will have to be mined and refined to produce the thousands of batteries that will compose the large-scale battery facilities Dominion plans to use to back up and regulate the electricity produced by the CVOWP project. The DEIS should but does not analyze this impact. (South Fork Band of W. Shoshone v. U.S. Dep't of Interior, 558 F.3d 718, 725 (9th Cir. 2009) ["air quality impacts associated with transport and off- site processing of five million tons of refractory ore are prime examples of indirect effects that NEPA requires be considered."].)	BOEM acknowledges that upstream processes such as materials extraction, component manufacturing, and transport, as well as downstream processes such as materials recycling and disposal, create emissions as part of the life cycle of an offshore wind project. Information has been added to the Final EIS describing life cycle considerations and providing references to recent life cycle analyses of offshore wind.
0013-0016	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 CVOW 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.	
0013-0026	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 CVOW 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 CVOWP project will have profound emission implications far beyond the area considered by BOEM and assessed in the DEIS.	
0013-0055	The DEIS also fails to adequately assess impacts from decommissioning the wind turbines. Because of their composition, turbines are exorbitantly expensive, if not impossible, to recycle. As a result, most decommissioned turbines are dismantled, cut up and crushed, transported to, and stored in landfills. BOEM's	

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	EIS specifically states Dominion is required to “reuse, recycle, or responsibly dispose of all materials” from the operation of the CVOWP project upon decommissioning, and the company is also required to submit a plan to do so. There is no evidence that BOEM considered the air quality or environmental justice impacts of the decommissioning in its EIS for the CVOWP.	
0013-0040	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, 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 Project by itself would not result in a net reduction of CO ₂ in the atmosphere. Rather, it would reduce the rate at which human activities add CO ₂ to the atmosphere by displacing fossil-fuel energy and, therefore, reducing GHG emissions. Because CO ₂ increases the amount of heat trapped in the atmosphere, the GHG reductions due to the Project are expected to contribute to lessening the rate of increase in temperature.
0013-0041	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.	EIS Section 3.11, <i>Demographics, Employment, and Economics</i> , discusses the Project’s economic impact. Hiring local workers would stimulate economic activity through increased demand for housing, food, transportation, entertainment, and other goods and services. BOEM expects that increases in GHG emissions from these activities would be much less than the emissions reductions brought about by the Project’s displacement of fossil-fuel energy.
0013-0059	DEIS Fails to Acknowledge Increases in that Wind and Solar Energy Generation since 2009 Have Replaced Reliable, Zero-Emissions Nuclear Power, Not Fossil-Fuel Generated Energy; Thus “Renewable” Power Has Not Reduced Emissions. Between 2009 and 2021 all of the emissions reductions in PJM 13 state regional grid and Virginia have come from natural gas replacing coal as seen in the table below. Despite state mandates for wind and solar power by 2021, they only accounted for 2.6% of electric demand, and only covered some of the demand growth. Renewables played little or no role in reducing fossil fuels. With nuclear power projected to decline in the future BOEM and Dominion Energy must demonstrate how this trend will change in the future.	Past trends are of limited usefulness in predicting the impact of offshore wind energy because very little such energy has entered the power market to date. BOEM expects that offshore wind energy will be offered to the grid at relatively low prices and that the market will respond by purchasing wind energy in preference to fossil-fuel energy.

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0021-0106	We urge BOEM to expand its analysis of the CVOW-C Project’s beneficial climate impacts. The DEIS details many of the pressing impacts that climate change presents to communities, people, wildlife, and natural resources, as well as the benefits offshore wind brings from carbon and other pollutant emissions reductions. However, the DEIS does not account for the climate benefits of displacing full life-cycle emissions of gas generation, which includes emissions of methane (which has a global warming potential 84 times that of CO2 on a 20-year time frame) during the extraction and in the transmission of gas. The DEIS also does not monetize these climate benefits using the social cost of carbon to illustrate differences between the social benefits of the Projects and the relative social cost of the alternatives.	Analysis of social cost of greenhouse gases (SC-GHG) for the Project has been added to the EIS.
0021-0109	We recommend integrating the social and environmental costs of GHG emissions into the evaluation of project impacts and impacts of alternatives.	Analysis of SC-GHG for the Project has been added to the EIS.
0013-0020	The process and machinery required to decommission, recycle, transport, or otherwise properly dispose of decommissioned and dismantled wind turbines and associated materials—batteries, magnets, wiring, electronics, transformers, and other materials— will produce air emissions that are unaccounted for in BOEM’s CVOWP EIS.	BOEM acknowledges that upstream processes such as materials extraction, component manufacturing, and transport create emissions as part of the life cycle of an offshore wind project. Information has been added to the EIS describing life cycle considerations and providing references to recent life cycle analyses of offshore wind.
0014-0026	According to the DEQ Office of Air Data Analysis and Planning (ADAP), the project is of significant importance to the Commonwealth in several ways including clean energy generation, long term air quality improvement, and economic development opportunity. CVOW will provide 2,587 Megawatts of clean energy generation capacity to Virginia, which will help to displace current criteria and climate air pollutant emitting fossil fuel generation. In this way, the project supports the existing statutory goals and requirements of both the Virginia Energy Plan and Clean Economy Act. An estimate of the long term fossil fuel emissions that will be avoided from the CVOW project over its projected 30 year operational lifetime is 90 million tons of carbon dioxide, and 57,000 tons of oxides of nitrogen (avoided emissions calculated using Dominion Energy project generation estimates combined with 2021 Energy Information Administration Virginia power sector average emission rates for CO2 and NOX). This long term reduction in air pollutant emissions will far exceed any combined air pollutant emissions generated from the construction and operation of project as discussed below.	Comment acknowledged.

Comment No.	Comment	Response
	<p>As identified in the DEIS, a substantial amount of air pollutants will be generated by the project during its construction phase (2023-2027). A much lesser amount of air pollutants will be emitted annually during the operational phase. However, the majority of these emissions will occur within the project boundary and out in the Atlantic Ocean. An Outer Continental Shelf (OCS) air quality permit is currently being developed and will be issued to the project for these emissions by the US Environmental Protection Agency (USEPA). It should be noted here that the closest land area to the project in Virginia is Hampton Roads which is currently an air quality maintenance area for the 1997 Ozone National Ambient Air Quality Standard (NAAQS).</p> <p>A small portion of the construction, operation, and maintenance emissions from the project will occur in onshore areas and state water inside the Hampton Roads maintenance area that will not be covered by the previously mentioned OCS air permit. To account for these emissions, DEQ has worked with Dominion Energy to include them in the pending updated Hampton Roads Maintenance Plan for the 1997 Ozone NAAQS. This action will serve as a demonstration of conformity of the project to maintenance plan, if it is determined that such a demonstration is needed. The proposed maintenance plan has been submitted to the USEPA for approval on September 9, 2022.</p>	<p>BOEM updated Section 3.4 of the Final EIS with the information in Dominion Energy’s air quality permit application.</p> <p>Comment acknowledged.</p>
0037-0010	<p>-Chapter 3: Pages 3-4 -3-11: How will the impacts of heavy equipment be controlled and mitigated during the installation? (Section 3.4.5.2)</p>	<p>CVOW has proposed avoidance, minimization, and mitigation measures (AMMMs) to address potential air quality impacts. EIS Appendix H, <i>Mitigation and Monitoring</i>, discusses AMMMs.</p>

N.6.4 Bats

Table N.6.4-1 Responses to Comments on Bats

Comment No.	Comment	Response
0014-0035	<p>Due to the potential for the project area to support populations of rare bats including the Northern long-eared bat, the Tri-colored bat and the Eastern big-eared bat (<i>Corynorhinus rafinesquii macrotis</i>, G3G4T3/S2/NL/LE), DCR-DNH supports conducting presence/absence surveys for bats along the interconnection cable route, the development of avoidance and minimization measures, and continued coordination with the U.S. Fish and Wildlife Service (USFWS) and Virginia Department of Wildlife Resources (DWR) (DEIS, Section 3.5.5-Impacts of the Proposed Action on Bats, page 3.5-8 0). DCR-DNH also recommends the use of mist netting as standard practice to supplement acoustic surveys for determining presence/absence.</p>	<p>Results of mist netting surveys conducted for the Project (COP Appendix O-3) have been added to the Final EIS.</p>
0018-0023	<p>We document Federally Threatened State Threatened Northern Long-Eared Bats (NLEB) from the project area. Roost trees supporting this species have been identified within the project area. The identified trees are located along Mt. Pleasant Road in Chesapeake. Their location can be viewed using the NLEB Winter Habitat and Roost Tree application online at https://dwr.virgima.uov/wildlifebats/northern-long-earedbatapplicator . The federal up-listing of NLEB from Threatened to Endangered should occur by March 31, 2023. Upon up-listing, almost any project that proposes tree removal in Virginia will need to consider potential impacts upon NLEB and what is necessary to protect them. Given that the onshore activities supporting the CVOW project are proposed to occur in Virginia Beach and Chesapeake, within suitable habitat for NLEB and in proximity to known NLEB roost trees and will entail more than one acre of tree clearing, we recommend coordinating with the USFWS (Service) Virginia Field Office on how to best protect this federally-listed species from impacts resulting from the construction and operation of the proposed onshore components of the CVOW project.</p>	<p>Text has been edited to update the status of the NLEB. BOEM is conducting ESA Section 7 Consultation with USFWS. Final EIS Appendix H, <i>Mitigation and Monitoring</i>, includes the mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on bats. A framework for an avian and bat post-construction monitoring program would be developed and implemented in coordination with applicable federal resource agencies (see Final EIS Appendix H for details). Additional mitigation and monitoring measures may arise from consultation and coordination with federal and state resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision.</p>

Comment No.	Comment	Response
0018-0024	<p>State Endangered Rafinesque's Eastern Big-Eared Bats also have been documented from the project area. These animals inhabit lowland hardwood forests, suitable abandoned structures, and bridges in southeastern Virginia. To ensure protection of this species, we recommended that a Rafinesque's Big-eared Bat habitat assessment be performed within forested habitat, of abandoned structures, and of bridges or large culverts located along the project corridor and within facility sites. We recommended that the habitat assessment be performed by a qualified biologist and clearly depict, via narrative and photographic description, all forested habitats proposed for impacts.</p>	<p>Results of mist netting surveys conducted for the Project (COP, Appendix O-3) have been added to the Final EIS.</p> <p>Final EIS Appendix H, <i>Mitigation and Monitoring</i>, includes the mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on bats. A framework for an avian and bat post-construction monitoring program would be developed and implemented in coordination with applicable federal resource agencies (see Final EIS Appendix H for details). Additional mitigation and monitoring measures may arise from consultation and coordination with federal and state resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision.</p>
0018-0003	<p>Regional bat populations are heavily stressed, leading to concerns about species population viability and potential extinctions (Frick et al., 2017 and Hein et al., 2021). As such, careful consideration of potential impacts upon them, resulting from construction and operation of the CVOW, is warranted. Because there is still uncertainty within the scientific community about whether the proposed wind turbines will serve to concentrate bats and/or birds, we are not supportive of statements made in the DEIS such as that "Unlike terrestrial migration routes, there are no offshore landscape features that would concentrate migrating tree bats and increase exposure to the offshore wind lease area on the OCS" (Baerwald and Barclay, 2009; Cryan and Barclay, 2009; Fiedler, 2004; Hamilton, 2012; Smith and McWilliams, 2016). If the CVOW facility is constructed it will be several times larger in both area and structure size (turbine height) than sites where bat activity off the East Coast has been studied (e.g., Sequin Island, Appledore Island, etc.), and would seemingly act as an offshore landscape feature that could increase bat activity within the offshore wind lease area. In addition, the results of multiple studies demonstrate that bat and insect activity occur offshore (Dominion Energy, 2022b; Lagerveld et al.,</p>	<p>The EIS acknowledges that bats may be attracted to offshore structures and that bats do occur offshore; however, the presence of and associated exposure risk of all species is expected to be minimal to low.</p> <p>BOEM will require that Dominion Energy develop and implements a post-construction monitoring program based on Dominion Energy's Proposed Bird and Bat Monitoring Framework in coordination with USFWS and other relevant regulatory agencies.</p>

Comment No.	Comment	Response
	<p>2017; Lagerveld et al., 2020; McGuire et al., 2012; Pelletier, 2013; Peterson, 2018; and Schuster et al., 2015) and that there is evidence of bat attraction to wind turbines (Cryan, 2008; Foo et al., 2017; and Jameson, 2014). This indicates that bats will be present at the proposed offshore wind turbines, increasing the potential for those turbines to have a negative impact on bat populations, thereby elevating our concerns for the long-term viability of bats in this region.</p>	
0018-0005	<p>We have reviewed the information in the DEIS related to bats and have determined that the conclusion presented in Section 3.5. Bats on potential initial and cumulative impacts to bats resulting from implementation of any of the alternatives is not consistent with the science concerning the impacts of wind turbines on bats. For each alternative, the conclusion resulting from an assessment of both initial and cumulative impacts is cited as negligible to minor based on the distance of the project from shore. While some studies observed decreasing acoustic activity with distance from shore (Petersen, 2016), others have shown nearly equal activity for migratory bats between coastal and inland sites (Pelletier, 2013). Regardless of bat passage activity levels, multiple studies demonstrate no correlation between pre-construction passage activity and post-construction fatality rates (Hein et al., 2013; Heist, 2014; Kunz et al., 2007; and Smallwood and Bell, 2020), indicating distance from shore is not a predictor of potential impacts to bats. Further, given a project life span of 25 to 30 years and the potential for multiple offshore wind facilities to be developed from Maine to Florida, drawing a conclusion that the impacts are at least moderate, meaning that "Impacts are unavoidable but would not result in population level effects or threaten overall habitat function" seems more reasonable.</p>	<p>The EIS uses the best available information and, therefore, complies with the procedural requirements of NEPA to predict potential impacts on bats from the Proposed Action</p>
0018-0006	<p>The statement in [Italics: Section D.1.2 Bats] that reads "...the analysis provided in the Final EIS is sufficient to support sound scientific judgements and informed decisionmaking...as well as to the potential for collision risk of bats" seems inconsistent with the current scientific literature and the results of the pre-construction surveys specific to the project. Multiple studies assessing correlation between pre-construction passage rates and post-construction fatality rates have found that no such correlation exists. Kunz et al. (2007) initially noted that "A fundamental gap in our knowledge of preconstruction assessment of risk is that no linkages exist between preconstruction assessments and post-construction fatalities for nocturnal wildlife." Hein et al. (2013) synthesized available data from 94 pre-construction bat activity and 75 postconstruction bat fatality studies. For 12 of the sites that included pre- and postconstruction comparative data they found their analysis to suggest "a weak</p>	<p>The EIS uses the best available information and, therefore, complies with the procedural requirements of NEPA to predict potential impacts on bats from the Proposed Action.</p> <p>Final EIS Appendix H, <i>Mitigation and Monitoring</i>, includes the mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on bats. A framework for an avian and bat post-construction monitoring program would be developed and implemented in</p>

Comment No.	Comment	Response
	<p>relationship between pre-construction bat activity and post-construction bat fatality. However, . . . the precision in the estimated relationship was poor as evidenced by the low adjusted R2 value and wide prediction intervals." This study demonstrates that no statistically significant relationship existed between bat fatalities and bat passes and only a small portion of the variation in fatalities was explained by bat activity. Heist (2014) in a study to "assess bat and bird fatality risk at wind farm sites using acoustic detectors" concluded that "No relations between bat pass rates and fatality rates among wind farms were found." Recently, Solick et al. ran simple linear regressions on bat activity rates and fatality rates from 49 paired pre- and post-construction studies across the U.S. and Canada. They concluded that "Bat activity rates did not predict bat fatality rates at wind energy facilities by detector height, by call frequency category of bats, or by season ($P > 0.10$)." Smallwood (2013) noted, "Many fatality estimates have been made across North America, but they have varied greatly in field and analytical methods, monitoring duration, and in the size and height of the wind turbines monitored for fatalities, and few benefited from scientific peer review;" concluding, "Given high variability in field and analytical methods, it remains questionable whether valid comparisons can be made of reported fatality rate estimates among wind-energy projects." While the CVOW Pilot study incorporated acoustic detectors on the two turbines that were constructed, no attempt to correlate acoustic activity to fatality rates was made, providing no site-specific information to assist with informed decision-making for this project.</p>	<p>coordination with applicable federal resource agencies (see Final EIS Appendix H for details). Additional mitigation and monitoring measures may arise from consultation and coordination with federal and state resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision.</p>
0018-0009	<p>Lack of correlation between pre-construction acoustic surveys and post-construction impacts precludes risk assessment based on such surveys. Lintott et al. (2016) assessed how well Environmental Impact Assessments (EIAs; i.e. risk assessment) predicted risk of bat casualties across 29 EIAs in the UK. They concluded that "they [EIAs] do not predict the risks to bats accurately, and even in those cases where high risk was correctly identified, the mitigation deployed did not avert the risk." They further noted that, "Acoustic surveys are widely used to provide an estimate of bat activity from which collision risk is inferred. However, bat activity is highly variable — both spatially and temporally. It is therefore unclear whether the survey protocols currently employed assess bat activity with sufficient precision and repeatability to be of practical value in inferring risk for developments." While their focus was on avian species, Ferrer et al. (2012) noted, "Our results suggest there is no clear relationship between predicted risk identified during EIAs and actual mortality of birds (particularly raptors) after wind farms have been constructed." These findings show that</p>	<p>Final EIS Appendix H, <i>Mitigation and Monitoring</i>, includes the mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on bats. A framework for an avian and bat post-construction monitoring program would be developed and implemented in coordination with applicable federal resource agencies (see Final EIS Appendix H for details). Additional mitigation and monitoring measures may arise from consultation and coordination with federal and state resource agencies. These additional mitigation measures</p>

Comment No.	Comment	Response
	<p>presence/absence or count data preconstruction does not predict risk postconstruction. Therefore, we have determined that the only way to accurately assess impacts to bats resulting from the construction and operation of the CVOW Commercial Project will be through post-construction monitoring studies that include a fatality assessment. Additional data will need to be collected post-construction to best inform decision-making related to avoidance, minimization, and/or mitigation of impacts upon bats. We look forward to working with Dominion and our conservation partners on the development of such post-construction assessments and acting upon their results to address any concerns related to bats.</p>	<p>could be considered by decision makers and incorporated into the Record of Decision.</p>
0021-0127	<p>Regarding the potential impacts from construction of the proposed Harper Switching Station under the Preferred Option, the DEIS indicates that, although the switching station itself would be located in a semi-developed area, it would be adjacent to nondisturbed areas. BOEM thus concludes that “there is potential for impacts on bat habitat due to the small amount of anticipated tree clearing in mixed forest and woody wetland[s].” [Footnote 190: Id.] Under the Hybrid Option, BOEM notes that the proposed Chicory Switching Station would predominantly occur on previously undisturbed forest/wetland habitats, “with potential for habitat loss/fragmentation for bats dues to tree clearing.” [Footnote 191: Id. at 3.5-13.] Finally, under both the Preferred and the Hybrid Options, the existing Fentress Substation would need to be expanded. BOEM indicates in the DEIS that such expansion would require clearing of forested and wetland areas, but concludes, without more detail, that impacts on bat habitat “could occur but are unlikely.” [Footnote 192: Id. at 3.5-10. The statement in the DEIS that Indiana bats have also been acoustically detected within 12-14 mi of the cable landing area also seems to indicate that this species likewise has been acoustically detected within 12-14 mi from the Fentress Substation, but the wording is ambiguous. See id.]</p>	<p>Information has been added to the Final EIS related to time of year restrictions for tree clearing activities and BOEM-required monitoring that will occur to mitigate impacts on bats.</p> <p>Text has been edited in the Final EIS to note that impacts will occur on potentially suitable roosting or foraging habitat or bats but will be limited.</p> <p>Text in the Final EIS has also been edited to clarify where Indiana bat acoustic detections have occurred.</p>
0021-0128	<p>Despite the presence of federally listed bat species in the onshore project area and “expected” impacts on the NLEB as a result of the interconnection cable routes, BOEM concludes that only minor habitat impacts may occur. BOEM’s conclusion rests in part on avoidance and minimization measures that would be undertaken. BOEM states that Dominion “would conduct presence/absence surveys for bats (acoustic and/or mist-net) along the Onshore Project area and would develop avoidance and minimization measures in coordination with [DWR], USFWS, and appropriate regulatory agencies to ensure protection of [NLEBs], limiting the potential for direct injury or mortality from the removal of occupied roost trees.” [Footnote 193: Id. at 3.5-9.] In addition, according to the</p>	<p>A mist netting survey was conducted, and results have been incorporated into the Final EIS. Information has also been added to the Final EIS related to time of year restrictions for tree-clearing activities and BOEM-required monitoring that will occur.</p> <p>Final EIS Appendix H, <i>Mitigation and Monitoring</i>, EIS includes the mitigation and monitoring measures that would be</p>

Comment No.	Comment	Response
	<p>DEIS, Dominion’s clearing activities “would avoid trees favorable for bat maternity roosting locations and would be conducted outside of the roosting season to avoid bat maternity roosting locations to the extent practicable.” [Footnote 194: Id. at 3.5-10. BOEM also notes in the DEIS that, “due to the potential impacts, monitoring and mitigation during all seasons may be required.” Id. (emphasis added). We recommend that year-round monitoring and mitigation should be required.] Dominion also “would maintain a minimum no-tree- clearing buffer of 150 feet...around any known [NLEB] maternity roosts and would conduct mist-netting surveys along portions of the [proposed] interconnection cable route[s]...that would require tree removal.” [Footnote 195: Id.]</p>	<p>implemented to avoid, minimize, and mitigate adverse impacts on bats. A framework for an avian and bat post-construction monitoring program would be developed and implemented in coordination with applicable federal resource agencies (see Final EIS Appendix H for details). Additional mitigation and monitoring measures may arise from consultation and coordination with federal and state resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision.</p>
0021-0129	<p>BOEM’s conclusion that impacts on bats under either the Preferred Option or the Hybrid Option would range from “negligible to minor” is unwarranted. [Footnote 196: See id. at 3.5-13-14.] Despite the proposed avoidance and mitigation measures, the fact remains that the NLEB, and potentially the Indiana bat—both federally listed species—are likely present in the onshore project area and may be affected by the project. Nor can BOEM’s conclusion be squared with the fact that populations of both the NLEB and the Indiana bat have plummeted precipitously, and that any additional stressor could lead to further population declines in the region.</p>	<p>The EIS uses the best available information and, therefore, complies with the procedural requirements of NEPA to predict potential impacts on bats from the Proposed Action.</p>
0021-0130	<p>Few data exist on bats’ use of the offshore environment and their interactions with offshore WTGs. However, research at land-based wind facilities reveals that bat fatalities are common, [Footnote 199: Edward B. Arnett & Erin F. Baerwald. Impacts of wind energy development on bats: Implications for conservation, in BAT EVOLUTION, ECOLOGY, & CONSERVATION, 435-56 (Rick A. Adams & Scott C. Pedersen eds., 2013).] and Dominion’s COP recognizes that the Project has the potential for cumulative impacts that could cause population-level declines. [Footnote 200: Dominion COP, Appendix O-1, at 2 (PDF p. 32); see also Winifred F. Frick et al., Fatalities at wind turbines may threaten population viability of a migratory bat, BIOLOGICAL CONSERVATION (May 2017); ELEC. POWER RSCH. INST. (EPRI), Population-level risk to hoary bats amid continued wind energy development: Assessing fatality reduction targets under broad uncertainty (Mar. 27, 2020); Nicholas A Friedenbergl & Winifred F. Frick, Assessing fatality minimization for hoary bats amid continued wind energy</p>	<p>Final EIS Appendix H, <i>Mitigation and Monitoring</i>, includes the mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on bats. A framework for an avian and bat post-construction monitoring program would be developed and implemented in coordination with applicable federal resource agencies (see Final EIS Appendix H for details). Additional mitigation and monitoring measures may arise from consultation and coordination with federal and state resource agencies.</p>

Comment No.	Comment	Response
	<p>development, BIOLOGICAL CONSERVATION (Oct. 2021).] Because most of the bat species present in the Project Area have documented collisions with land-based wind energy facilities, all bats with the potential to occur within the Lease Area are vulnerable to collision. [Footnote 201: See Dominion COP at 4-187. Of the 14 bat species that may occur in or adjacent to the project area, all but southeastern myotis and Rafinesque’s big-eared bat have been documented killed at wind facilities. Arnett & Baerwald, supra note 199. See also Dominion COP, Appendix O-1, at 2 (PDF p. 32).] Moreover, as significant uncertainties exist around bats’ use of the offshore environment, [Footnote 202: These uncertainties are repeatedly acknowledged in Dominion’s COP. See, e.g., Dominion COP, Appendix O-1, at 12, 14.] BOEM should not interpret a lack of data as a lack of impacts and should work with Dominion, the Regional Wildlife Science Collaborative for Offshore Wind (“RWSC”), and other developers to implement monitoring regimes to enable better understanding of bat impacts from offshore wind development.</p>	<p>These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision.</p>
0021-0131	<p>A survey of available research on bat migration does not support BOEM’s rationale for their more limited scope of analysis in the DEIS. 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 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 208: Kaleigh J.O. Norquay et al., Long-distance movements of little brown bats (<i>Myotis lucifugus</i>), J. MAMMALOGY (Apr. 16, 2013).] 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 5 mi. [Footnote 209: BIRD STUDIES CAN., Motus Wildlife Tracking System (last visited Feb. 13, 2023), https://motus.org/ [hereinafter “Bird Studies Canada”].] Hoary bats, which are capable of long distance flights over water, [Footnote 210: Hoary bats have colonized the Hawaiian Islands from the mainland multiple times. Amy L. Russell et al., Two tickets to paradise: Multiple dispersal events in the founding of hoary bat populations in Hawaii, PLOS ONE (June 17, 2015).] have been recorded traveling over 1,000 km (621 mi) [Footnote 211: Theodore J. Weller et al., First direct evidence of long-distance seasonal movements and hibernation in a migratory bat, NATURE SCI. REPORTS (Oct. 4, 2016).] and are thought capable of migrations in excess of 2,000 km (1,243 mi). [Footnote 212: Paul M. Cryan et al., Stable hydrogen</p>	<p>Given that bats typically follow a relatively straight-line path from winter hibernacula to summer maternity sites (Roby et al. 2019), BOEM believes it is reasonable to assert that individuals that would potentially be exposed to the proposed Project during migration would not be expected to use habitats far inland, and projects that occur far inland are not expected to affect the same individuals as the proposed Project. The onshore limit is 5 miles (8 kilometers) inland to cover onshore habitats used by the species that may be affected by offshore components of the proposed Project as well as those species that could be affected by proposed onshore Project components. Most of the Project components and associated impacts would occur offshore.</p>

Comment No.	Comment	Response
	<p>isotope analysis of bat hair as evidence for seasonal molt and long- distance migration, J. MAMMALOGY (Oct. 20, 2004).] Furthermore, in addition to little brown bats, Motus data track movements of individual silver-haired bats, eastern red bats, hoary bats, eastern small-footed bats, and Indiana bats from coastal areas on the east coast to areas in excess of 100 mi inland. [Footnote 213: Bird Studies Canada.] These movements do not support a geographic analysis area that extends only 5 mi 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>	
0021-0132	<p>The DEIS supports their assertions of low expected bat presence (and therefore low bat impacts) within the offshore Project Area by noting that “[u]nlike terrestrial migration routes, there are no offshore landscape features that would concentrate migrating tree bats and increase exposure to the offshore wind lease area on the OCS[.]” [Footnote 217: CVOW-C DEIS at 3.5-6.] However, the Proposed Action would add up to 205 new WTGs, which could represent novel “landscape” features that would attract bats. Given the addition of structures post-construction and bats’ known attraction to structures, [Footnote 218: Note that several bats were documented as roosting on the survey vessels used for CVOW-C. See Dominion COP, Appendix O-1, at 9.] including wind turbines, basing post-construction impact analyses on preconstruction acoustic data is inappropriate.</p>	<p>The EIS uses the best available information and, therefore, complies with the procedural requirements of NEPA to predict potential impacts on bats from the Proposed Action.</p>
0021-0133	<p>At land-based wind facilities, pre-construction bat activity does not correlate with post- construction fatalities, [Footnote 219: Donald Solick et al., Bat activity rates do not predict bat fatality rates at wind energy facilities, ACTA CHIROPTERA (June 2020); Cris D. Hein et al., Relating pre-construction bat activity and post-construction bat fatality to predict risk at wind energy facilities: A synthesis, NAT’L RENEWABLE ENERGY LAB. (NREL) (Mar. 2013).] likely due to bats’ attraction to turbine structures. [Footnote 220: Additionally, low levels of bat calls in acoustic surveys do not necessarily indicate that bats are not present. Aaron J. Corcoran et al., Inconspicuous echolocation in hoary bats (<i>Lasiurus cinereus</i>), PROCEEDINGS ROYAL SOC’Y B (May 2, 2018).] Furthermore, recent research at buoys, vessels, and the two Pilot Project turbines found considerable differences in bat activity in the presence of turbines as compared to open water. [Footnote 221: J. Clerc & Julia R. Willmott, Towards understanding the potential for offshore wind to impact bats (Presentation to the State of the Science Virtual Session, Sept. 21, 2022). Dominion’s COP notes that research from the Pilot Project turbines will be incorporated into the impact analyses. See Dominion</p>	<p>Information has been added to the Final EIS related to post-construction monitoring survey data at both Block Island Wind and CVOW.</p> <p>The EIS uses the best available information and, therefore, complies with the procedural requirements of NEPA to predict potential impacts on bats from the Proposed Action.</p> <p>Final EIS Appendix H, <i>Mitigation and Monitoring</i>, includes the mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on bats. A</p>

Comment No.	Comment	Response
	COP, Appendix O-1, at 10.] This once again underscores that BOEM should not draw conclusions about collision impacts to bats from CVOW-C based on sparse offshore acoustic data collected over open water.	framework for an avian and bat post-construction monitoring program would be developed and implemented in coordination with applicable federal resource agencies (see Final EIS Appendix H for details).
0021-0134	A lack of data on offshore movements of cave-hibernating bats, such as [<i>Italics: Myotis</i>] bats, including the ESA-listed Indiana bat and NLEB, does not imply a lack of impacts. Despite acknowledgements within the COP of the uncertainties around how bats, [Footnote 225: See, e.g., Dominion COP, Appendix O-1, at 12.] including Indiana bats and NLEBs, [Footnote 226: <i>Id.</i> , Appendix O-1, at 14.] use the offshore environment, the COP nevertheless concludes that cave-hibernating bats “would only occur on rare occasions [in the Lease Area,]” [Footnote 227: <i>Id.</i> , Appendix O-1, at 3 (PDF p. 33).] and that “[c]ave bats (including the federally and state listed [NLEB] and Indiana bat) do not tend to fly offshore (even during migrations) and, therefore, exposure to...the rotor swept zone (“RSZ”) of operating WTGs in the lease areas is expected to be negligible, if exposure occurs at all[.]” [Footnote 228: CVOW-C DEIS at 3.5-5.] However, cave-hibernating bats may be found offshore more frequently and at greater distance than the assessments in the COP and DEIS indicate. Acoustic survey efforts in the Mid-Atlantic identified [<i>Italics: Myotis</i>] calls at 63 percent of sites surveyed, and [<i>Italics: Myotis</i>] species were present at 89 percent of sites surveyed across the Gulf of Maine, Mid-Atlantic, and Great Lakes. [Footnote 229: Trevor S. Peterson et al., Long-Term Bat Monitoring on Islands, Offshore Structures, and Coastal Sites in the Gulf of Maine, Mid-Atlantic, and Great Lakes—Final Report, U.S. DEP’T OF ENERGY (DOE) (Jan. 15, 2016).] Additionally, unidentified [<i>Italics: Myotis</i>] bats have been recorded offshore up to 85 mi (137 km) from the mainland. [Footnote 230: Dominion COP, Appendix O-2, at O-2-5.]	Additional information related to the occurrence of bats offshore has been added to Final EIS Section 3.5.1, <i>Description of the Affected Environment for Bats</i> . The EIS uses the best available information and, therefore, complies with the procedural requirements of NEPA to predict potential impacts on bats from the Proposed Action.
0021-0135	While limited offshore movement data exist for bats, an Indiana bat was tracked making a potential cross-water flight over Long Island Sound, as well as cross-water flights between Cape Cod and Nantucket, [Footnote 236: The tagged Indiana bat tracked across Long Island Sound is labeled as “Indiana Bat 2403” in Motus and was detected on September 20, 2015. Bird Studies Canada.] and the presence of NLEBs on both Martha’s Vineyard and Nantucket indicates that this species can cross open water and NLEBs have been tracked making long distance flights over water in the Gulf of Maine. [Footnote 237: <i>Id.</i>] Moreover, a NLEB was acoustically detected 34 km offshore around South Fork Wind Farm.	The EIS acknowledges that many bat species can occur offshore, and additional information related to the occurrence of bats offshore has been added to Final EIS Section 3.5.1, <i>Description of the Affected Environment for Bats</i> . Additional information can be found in the Coastal Virginia Offshore Wind

Comment No.	Comment	Response
	<p>[Footnote 238: REVOLUTION WIND, CONSTRUCTION & OPERATIONS PLAN: REVOLUTION WIND FARM (Apr. 29, 2021), available at https://www.boem.gov/Revolution-Wind, § 4.3.7.1, 516.] Given the potential for these species to use the offshore environment and the lack of survey effort to provide evidence of absence, BOEM should not consider exposure and risk to NLEBs, Indiana bats, or other cave bats to be negligible and instead consult with the U.S. Fish and Wildlife Service on potential collision impacts and require CVOW-C to conduct or support monitoring to better understand the potential presence of and collision risk to cave bats in the offshore Project Area.</p>	<p>Commercial Project U.S. Fish and Wildlife Service Biological Assessment.</p>
0021-0136	<p>[Bold: Fatality Monitoring]: Dominion plans to report dead or injured bats found on vessels and project structures. [Footnote 249: Id., Appendix H, at H-28.] 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 250: We recommend BOEM consult with Manuela Huso, Research Statistician at USGS Forest and Rangeland Ecosystem Science Center, prior to making any inferences about total fatalities based on carcasses recovered from structures.]</p>	<p>Final EIS Appendix H, <i>Mitigation and Monitoring</i>, includes the mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on bats. A framework for an avian and bat post-construction monitoring program would be developed and implemented in coordination with applicable federal resource agencies (see Final EIS Appendix H for details). Additional mitigation and monitoring measures may arise from consultation and coordination with federal and state resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision.</p>
0021-0079	<p>BOEM identifies two types of potential impacts on bats as a result of the onshore components of the Project: injury or mortality of individuals—particularly juveniles who are not yet able to fly—if construction activities were to occur during bats’ active season (i.e., generally March through November); and habitat impacts as a result of the potential loss of suitable roosting or foraging habitat. [Footnote 183: See CVOWC DEIS at 3.5-9.] BOEM considers the potential impacts on bats from the Project’s onshore components under both the preferred option (“Preferred Option” or “Option 1”) and one alternative (“Hybrid Option” or “Option 6”). [Footnote 184: See infra Section III.D.] BOEM first notes that the cable landing location, because of its location in a proposed parking lot, would be “highly unlikely” to provide suitable habitat for any bat species.</p>	<p>Impacts on bats have been assessed within the Final EIS for the resource as a whole and not discussed on an individual species level; impacts are anticipated to be the same or similar for all species present in the Project area.</p>

Comment No.	Comment	Response
	<p>[Footnote 185: VOW-C DEIS at 3.5-9. The proposed cable landing location is the same for both the Preferred and the Hybrid Options, as is the export cable route.] BOEM notes in the DEIS, however, that “there have been acoustic detections of Indiana bats in the region (12-14 mi)...from the cable landing location,” [Footnote 186: Id. at 3.5-10.] and yet BOEM fails to assess whether and the extent to which Indiana bats may be affected. BOEM next notes generally that bats may be present in habitat adjacent to the onshore export cable but concludes that exposure “is expected to be limited” because “much of the routing is collocated with existing roads.” [Footnote 187: Id. at 3.5-9.]</p>	
0021-0081	<p>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 have the potential to cause significant population-level declines. [Footnote 203: Frick et al. (2017); EPRI (2020); Friedenber & Frick (2021), supra note 200.] Although the DEIS notes that “adverse impacts on bats from collisions with operating WTGs cannot be quantified,” [Footnote 204: CVOW-C DEIS at 3.5-5] the DEIS nevertheless states that that collision impacts (from the presence of structures) from the Proposed Action and other reasonably foreseeable projects will result in minor adverse cumulative impacts to bats. [Footnote 205: Id. at 3.5-10-11.] Insufficient research is provided to support this claim.</p>	<p>No land-based foreseeable projects were identified in the Planned Activities Scenario (only offshore projects), so cumulative impacts related to onshore wind projects have not been addressed in this analysis.</p> <p>The EIS uses the best available information and, therefore, complies with the procedural requirements of NEPA to predict potential impacts on bats from the Proposed Action.</p>
0021-0082	<p>Of particular concern for the accuracy of BOEM’s cumulative impact analysis for bats is the geographic analysis area. BOEM defined the geographic analysis area as 100 mi offshore and 5.0 mi inland. [Footnote 206: Id. at 3.5-1.] This is at odds with the geographic analysis area used for bats for Vineyard Wind 1, where the area extended 100 mi inland. [Footnote 207: VINEYARD WIND 1 OFFSHORE WIND ENERGY PROJECT, FINAL ENVIRONMENTAL IMPACT STATEMENT, VOLUME I, BOEM (Mar. 2021), https://www.boem.gov/sites/default/files/documents/renewableenergy/state-activities/Vineyard-Wind-1-FEIS-Volume-1.pdf, at A-10.] BOEM presents no research in the DEIS to support the assumption that bats found offshore exclusively use near-coast habitat on land (i.e., <5.0 mi from the coast) to support this limited geographic scope.</p>	<p>Given that bats typically follow a relatively straight-line path from winter hibernacula to summer maternity sites (Roby et al. 2019), BOEM believes it is reasonable to assert that individuals that would potentially be exposed to the proposed Project during migration would not be expected to use habitats far inland, and projects that occur far inland are not expected to affect the same individuals as the proposed Project. The onshore limit is 5 miles (8 kilometers) inland to cover onshore habitats used by the species that may be affected by offshore components of the proposed Project as well as those species that could be affected by proposed onshore Project components. Most of the</p>

Comment No.	Comment	Response
		Project components and associated impacts will occur offshore.
0021-0083	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 not only be exposed to multiple offshore wind facilities but also be exposed to land-based wind energy projects.	Given that bats typically follow a relatively straight-line path from winter hibernacula to summer maternity sites (Roby et al. 2019), BOEM believes it is reasonable to assert that individuals that would potentially be exposed to the proposed Project during migration would not be expected to use habitats far inland, and projects that occur far inland are not expected to affect the same individuals as the proposed Project. The onshore limit is 5 miles (8 kilometers) inland to cover onshore habitats used by the species that may be affected by offshore components of the proposed Project as well as those species that could be affected by proposed onshore Project components. Most of the Project components and associated impacts will occur offshore.
0021-0084	Although the COP and DEIS acknowledge bats' attractions to wind turbines, [Footnote 222: See, e.g., CVOW-C DEIS at 3.5-6; Dominion COP, Appendix O-1, at 2.] this attraction is not clearly factored into the impact analyses as to how it could increase collision risk. In fact, the DEIS explicitly states that the wide spacing of the turbines in the offshore environment will allow bats "to avoid operating WTGs." [Footnote 223: CVOW-C DEIS at 3.5-6.] This assertion is starkly at odds with the best available scientific information on bats and wind turbines which indicates that bats will change course not to avoid, but to approach wind turbines. [Footnote 224: Cryan et al. (2014), supra note 216.] 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.	Text to address the attraction of bats to WTGs has been added to the Final EIS.
0021-0085	Although ESA-listed NLEBs and Indiana bats may be present around the onshore project area, potential collision impacts from offshore components of the project are largely dismissed. [Footnote 231: CVOW-C DEIS at 3.5-5; Dominion COP at 4-197; Appendix O-1 at 14; Appendix O-1 at 3 (PDF p. 33).] The COP and DEIS point to the lack of confirmed acoustic calls from these two	The EIS acknowledges that many bat species can occur offshore, and additional information related to the occurrence of bats offshore has been added to Final EIS

Comment No.	Comment	Response
	<p>species to substantiate the claim that federally-listed bats would not be exposed to the Lease Area. [Footnote 232: CVOWC DEIS at 3.5-1; Dominion COP, Appendix O-1, at 14.] However, the lack of confirmed acoustic calls from these two species in surveys of CVOW-C's Lease Area does not necessarily indicate that Indiana bats and NLEBs would not be found in the offshore Project Area: numerous unknown, high frequency calls, which could have come from NLEB and/or Indiana bats (a fact which is acknowledged in the COP and DEIS [Footnote 233: See, e.g., CVOW-C DEIS at 3.5-1; Dominion COP, Appendix O-1, at 9, 13-14; Dominion COP at 4-190.]), were recorded within the Lease Area [Footnote 234: Dominion COP, Appendix O-2, at O-2-10.] —in fact, the highest activity rates within the surveys were from unknown, high frequency calls. [Footnote 235: Id., Appendix O-2, at O-2-12.]</p>	<p>Section 3.5.1, <i>Description of the Affected Environment for Bats</i>.</p>
0021-0086	<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 CVOW-C's operations. We applaud BOEM for noting that they may require CVOWC to implement new monitoring technologies as they become available for use in offshore environments, [Footnote 239: CVOW-C DEIS, Appendix H, at H-71.] and we strongly recommend that BOEM strengthen this to a firm requirement that, as new technologies become available for monitoring impacts (e.g., offshore turbine strike detection technology), CVOW-C must commit to deploying these technologies. Furthermore, as part of BOEM's ability to require reasonable revisions to the Bird and Bat Monitoring Plan, [Footnote 240: Id.] if monitoring reveals that impacts to bats are significant, BOEM should require CVOW-C to employ best available minimization strategies and deterrent technologies.</p>	<p>Final EIS Appendix H, <i>Mitigation and Monitoring</i>, includes the mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on bats. A framework for an avian and bat post-construction monitoring program would be developed and implemented in coordination with applicable federal resource agencies (see Final EIS Appendix H for details). Additional mitigation and monitoring measures may arise from consultation and coordination with federal and state resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision.</p>
0021-0087	<p>[Bold: Post-construction Monitoring]: 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. We appreciate that BOEM will require the data from bat surveys to be made accessible to agencies and that Dominion must work with BOEM to ensure data are publicly available, [Footnote 242: Id., Appendix H, at H-71-72.] and we encourage such data sharing to be required for all post-construction</p>	<p>Final EIS Appendix H, <i>Mitigation and Monitoring</i>, includes the mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on bats. A framework for an avian and bat post-construction monitoring program would be developed and implemented in</p>

Comment No.	Comment	Response
	<p>monitoring data. [Bold: Acoustic Monitoring]: Dominion’s proposal to install one acoustic monitoring system to collect two years of post-construction acoustic data [Footnote 243: Id., Appendix H, at H-26.] is an excellent first step. We recommend that Dominion install the acoustic detector station at nacelle height so as to detect activity when bats are in the rotor swept zone and at greater risk of collision. Dominion and BOEM should confer with bat researchers to determine how many acoustic detectors should be deployed and how many years of post-construction data collected in order to best inform impact analyses. BOEM should require that all acoustic data collected be reported and submitted to NABat [Footnote 244: U.S. GEOLOGICAL SURVEY (USGS), NABat Status and Trends (last visited Feb. 13, 2023), https://sciencebase.usgs.gov/nabat/.] and/or the Bat Acoustic Monitoring Portal, BatAMP. [Footnote 245: CONSERVATION BIOLOGY INST., Bat Acoustic Monitoring Portal (last visited Feb. 13, 2023), https://batamp.databasin.org/.]</p>	<p>coordination with applicable federal resource agencies (see Final EIS Appendix H for details). Additional mitigation and monitoring measures may arise from consultation and coordination with federal and state resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision.</p>
0021-0088	<p>[Bold: Radiotelemetry Monitoring (Motus)]: We are excited to see that Dominion is proposing to upgrade [Footnote 246: CVOW-C DEIS, Appendix H, at H-27.] and potentially install additional [Footnote 247: Id., Appendix H, at H-28.] Motus towers and support radio-tagging of ESA-listed birds. [Footnote 248: Id., Appendix H, at H26-27.] We recommend that Dominion also support the tagging of bats, which are underrepresented in Motus, to support understanding of bat activity offshore. We also urge Dominion to keep Motus towers deployed, active, and maintained for as much of the lifetime of the project as possible. Data from these towers will not only inform CVOW-C’s adaptive management but also, as multiple offshore wind projects are developed, provide a long-term network of Motus towers in the offshore environment that can shed much needed light on species’ movements offshore.</p>	<p>Final EIS Appendix H, <i>Mitigation and Monitoring</i>, includes the mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on bats. A framework for an avian and bat post-construction monitoring program would be developed and implemented in coordination with applicable federal resource agencies (see Final EIS Appendix H for details). Additional mitigation and monitoring measures may arise from consultation and coordination with federal and state resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision.</p>
0021-0009	<p>- [Italics: For bats,] BOEM should: (1) require Dominion to deploy strike detection technologies once commercially available; (2) update its Bird and Bat Monitoring Plan to indicate how impacts to bats will be determined from monitoring data as well as what monitoring results will trigger adaptive management; and (3) work with the U.S. Fish and Wildlife Service (“USFWS”) to assess potential offshore collision impacts to northern long-eared bats (“NLEB”) and Indiana bats.</p>	<p>Final EIS Appendix H, <i>Mitigation and Monitoring</i>, includes the mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on bats. A framework for an avian and bat post-</p>

Comment No.	Comment	Response
		<p>construction monitoring program would be developed and implemented in coordination with applicable federal resource agencies (see Final EIS Appendix H for details). Additional mitigation and monitoring measures may arise from consultation and coordination with federal and state resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision.</p>
0024-0012	<p>According to the DEIS, the portion of the onshore transmission route that passes through the forested and wetland areas associated with the North Landing River likely provides quality roosting and/or foraging habitat for bats. The DEIS does not include results of mist netting surveys conducted during the summer of 2022; these results need to be incorporated into the biological opinion and final EIS. There is the potential to directly impact individuals or summer habitat for the state and federally listed northern long-eared bat and tricolored bat, as well as the state listed Rafinesque's eastern big-eared bat. The U.S. Fish and Wildlife Service (USFWS) has reclassified two of the federally listed species from threatened to endangered under the Endangered Species Act; northern long-eared bats effective March 2022 and tricolored bats effective in September 2022 (USFWS 2022a,b). Tricolored bats and Rafinesque's eastern big-eared bats are State-listed Endangered and northern long-eared bats are State-listed threatened. Removal of forested habitat may adversely affect northern long-eared bats, tricolored bats, and Rafinesque's eastern big-eared bats, particularly if activities occur while they are present in the summer months.</p>	<p>Results of the mist netting survey have been incorporated into the Final EIS, and the federal and state listing status of the bats has been updated to reflect recent changes.</p>

N.6.5 Benthic Resources

Table N.6.5-1 Responses to Comments on Benthic Resources

Comment No.	Comment	Response
0014-0046	Additional long-term environmental concerns include potential adverse impacts from transmission cable EMF and increased seabed temperatures along transmission routes. The DEIS provides analyses of EMF demonstrating that adverse effects are highly unlikely; however, seabed temperature anomalies are not addressed. Seabed temperature increases are expected along the transmission route, evidenced by the proposed method of using seabed temperature for determination of cable integrity and proper transmission operation. VIMS has discussed this concern with Dominion Energy personnel and is confident that this will be analyzed in the near future using existing data.	Cable heat has been addressed in the EMF IPF and recent literature added to Final EIS Section 3.6.5, <i>Impacts of the Proposed Action on Benthic Resources</i> , under <i>New cable emplacement and maintenance</i> .
0014-0048	Long-term environmental concerns throughout the operational phase and within the lease area include the conversion of a soft bottom environment to a rocky habitat. The monopiles, sub stations, and scour protection around each are reported to cover a total of 272 acres of the benthos, which is proportionally minor within the lease area. Rocky and fouling habitats can provide unique substitute ecological benefits to a select suite of marine fauna, but the beneficial level of mitigation resulting from this habitat conversion is unknown at this time. Habitat conversions will also require altered harvesting models for commercial and recreational fisheries, but VIMS is aware that these are being studied by Dominion Energy and will be addressed upon completion of all studies.	Comment noted. The upcoming need for altered harvesting models has been addressed in Final EIS Section 3.6.5, <i>Impacts of the Proposed Action on Benthic Resources</i> , under <i>Regulated fishing effort</i> .
0017-0025	The DEIS does not provide data or figures on the locations of sand ridges. This makes it challenging for readers to consider the impacts of turbines, offshore substations, and cables on sand ridges. The EFH impacts analysis in section 3.13.6 notes that 17 turbine positions overlap sand ridges; however, only four locations are proposed for removal under Alternative C. Our understanding is that the locations flagged for removal overlap the largest ridges in the project area, but that the entire southwestern corner of the project contains ridge and trough features. The FEIS should provide information on the locations of sand ridges relative to the locations of turbines, offshore substations, interarray cables, and the offshore export cables so the public can evaluate the impacts determinations fully.	The raw data of sand ridge locations from mapping surveys was not provided within the COP. The text on sand ridges has been revised with the level of detail provided in the COP for Project-specific details in Final EIS
0017-0026	The FEIS and COP should fully analyze the impacts of cable installation on sand ridge habitats and associated benthic communities, including a more detailed description of expected recovery times. This is especially important because the	The text on sand ridges has been revised with the level of detail provided in the COP for Project-specific details in Final EIS

Comment No.	Comment	Response
	<p>export cable corridors converge in the southwestern corner of the lease area where these habitats occur. The ridges and troughs run roughly north to south, and the cable corridors run east to west and have the potential to crosscut the ridges. A variety of cable installation methods (jet plowing, mechanical plowing, etc., COP, Section 3, page 3-14) are under consideration and the specific methods used will influence the impacts and recovery times. The DEIS also indicates that pre-sweeping to smooth the seafloor by removing ridges and edges may be required in areas of the submarine export cable corridor with sand waves (page 2-12). The DEIS states that “any impacts would likely be short term, considering the natural mobility of sand waves in the Project area and offshore export cable corridor, although full recovery of the benthic faunal assemblage may require several years...Recovery rates of these disturbed surfaces would depend on species present and their recovery capabilities, the extent of disturbance, and the nature of the protection material” (pages 3.6-20 and 3.6-21). The DEIS also states that “The impacts related to jet-plowing would be very localized and temporary and would recover completely without mitigation” (page 3.13-28) and that “secondary minimization will develop by extending the cross-cutting trenching activities between two summer construction seasons. Separating the construction seasons with a 6-month recovery period will allow the ridge habitats to recover and reestablish their unique sand ridge benthic invertebrate and finfish assemblages” (page 3.13-31).</p>	<p>Section 3.6.5, <i>Impacts of the Proposed Action on Benthic Resources</i>, under <i>New cable emplacement and maintenance</i>.</p>
0017-0029	<p>We are concerned about the ability of sand ridges to reform if bisected by cable installation. The ridges and troughs exist as a system and have distinct biological communities (Slacum et al., 2010) [Footnote 4: 4 H. Ward Slacum Jr. , William H. Burton , Elizabeth T. Methratta , Edward D. Weber , Roberto J. Llansó & Jodi DewBaxter (2010) Assemblage Structure in Shoal and Flat-Bottom Habitats on the Inner Continental Shelf of the Middle Atlantic Bight, USA, <i>Marine and Coastal Fisheries</i>, 2:1, 277-298, DOI: 10.1577/C09-012.1] The FEIS should provide more details on the range of anticipated impacts to sand ridge habitats including specific recovery times, and should note where uncertainty exists (e.g., if previous studies are based on methods or habitats that are not directly analogous to this project).</p>	<p>The text on sand ridges has been revised with the level of detail provided in the COP for Project-specific details in Final EIS Section 3.6.5, <i>Impacts of the Proposed Action on Benthic Resources</i>, under <i>New cable emplacement and maintenance</i>.</p>
0017-0030	<p>The FEIS should also consider whether removal or substantial changes to one ridge might affect the maintenance of adjacent ridges. Information to support the 6-month recovery period referenced in the Finfish, Invertebrates, and EFH analysis should be provided. Some studies referenced in the COP are not relevant for evaluating the impacts of these methods of cable installation to</p>	<p>This text appears to be misplaced, and likely should be addressed in EIS Section 3.13, <i>Finfish, Invertebrates and Essential Fish Habitat</i>. Information about the impacts of fishing gear on benthic resources and the presence of structure impacts on</p>

Comment No.	Comment	Response
	large-scale bedforms and associated fauna; we disagree that fishing gear impacts are analogous to cable installation impacts.	commercial fishing has been included in Final EIS, Section 3.6.5, <i>Impacts of the Proposed Action on Benthic Resources</i> , under <i>Regulated fishing effort</i> .
0017-0061	The DEIS suggests that hydrodynamic effects and disturbances on benthic resources will result from the project, however, their extent may be underestimated. We are especially concerned that impacts to the Mid-Atlantic Cold Pool are not referenced in the sections of the DEIS which address potential impacts of the project. Impacts to the Mid-Atlantic Cold Pool could change regional-scale water temperatures, mixing, larval transport of important commercial and recreational fish species, and temperature corridors used for migration for multiple important fishery species. This is an area of ongoing research. [Footnote 5: 5 For example, two reports on potential impacts of offshore wind energy development on the Cold Pool are available at the following links: https://scemfis.org/wpcontent/uploads/2021/01/ColdPoolReview.pdf ; https://rucool.marine.rutgers.edu/wpcontent/uploads/2020/10/PartnersWorkshop_WhitePaper_Final.pdf] The FEIS should clearly document what is known about potential impacts to the Cold Pool and resulting potential impacts to marine species and fisheries. The FEIS should acknowledge data gaps and ongoing research and should fully consider potential impacts resulting from this project, as well as cumulative impacts from all planned wind energy projects throughout the region.	Text about hydrodynamics has been expanded with current literature references. Information about the Mid-Atlantic Bight Cold Pool has also been included in Final EIS Section 3.6.5, <i>Impacts of the Proposed Action on Benthic Resources</i> , under <i>Presence of structures</i> .
0024-0011	The analysis of alternatives in the Final EIS should clearly describe the value of and potential damage to and recovery of the sand ridge feature, analyze the extent to which avoidance of the feature jeopardizes the viability of CVOW-C, and assess the tradeoffs between the renewable energy generated through this project and the risk to the sand ridge habitat and its associated species, including Atlantic sturgeon.	The text on sand ridges has been revised with the level of detail provided in the COP for Project-specific details. Text has been added to address the valuable habitat they provide in Final EIS Section 3.6.5, <i>Impacts of the Proposed Action on Benthic Resources</i> , under <i>New cable emplacement and maintenance</i> .
0024-0022	The DEIS is unclear as to the reasoning behind the proposed protection of a sand ridge feature in Alternative C. Some sand ridge habitats, particularly those with high relief such as the one identified for possible protection in the DEIS, are persistent features that form over the scale of centuries or more. Furthermore, the ridge/swale habitats provided by these features are known to be important for certain fish species, including Atlantic sturgeon. The final EIS should contain	The text on sand ridges has been revised with the level of detail provided in the COP for Project-specific details.

Comment No.	Comment	Response
	more information about the persistence over time and the density distribution of this type of feature within and near the CVOW area to clarify the significance of this particular sand ridge. In addition, more detail should be provided on the degree to which it would be disturbed by construction, the likelihood and timing of its reformation, the impacts to marine life that are known to use this area, and options for mitigation especially related to cable laying procedures.	Addressed in Section 3.6.5, <i>Impacts of the Proposed Action on Benthic Resources</i> , under <i>New cable emplacement</i> .

N.6.6 Birds

Table N.6.6-1 Responses to Comments on Birds

Comment No.	Comment	Response
0018-0017	<p>Virginia currently supports a breeding population of 162 federal and state threatened Piping Plover pairs. All breeding activity is confined to the barrier islands located along the seaward fringe of the Eastern Shore. This population has experienced a 44% decline since 2016. In the fall, Piping Plovers migrate nocturnally on nights with supportive winds. They move directly across the mid-Atlantic Bight, from breeding areas in southern New England, which supports over 40% of the Atlantic coast breeding population, to stopover sites between New York and North Carolina (Loring et al., 2020). Loring et al. (2020) documented offshore migratory flights at altitudes of 288 m (range of model uncertainty: 36-1,031 m) or just above the CVOW proposed maximum blade tip of 265 meters AMSL, proposed in the DEIS. We caution that if a significant proportion of adult and fledged young of the Atlantic coast population follows a migratory route like the southern New England breeding plovers, they may fly close enough to the CVOW project to put them at risk of collision. This is a genuine concern for the declining breeding population in Virginia.</p>	<p>Additional text has been added to Final EIS Sections 3.7.3 and 3.7.5 to further explain why the overall negative risks of mortality from collisions are low for projects on the Atlantic OCS.</p> <p>Additional information can be found in the Coastal Virginia Offshore Wind Commercial Project Biological Assessment, where both the Band Model (Band 2012) and Stochastic Collision Risk Assessment for Movement (SCRAM) (Gilbert et al. 2022) were used. Results indicated that the chance of a fatality due to collision is extremely unlikely; thus, the estimated annual number of fatalities from collision for migrating piping plover is zero.</p>
0018-0018	<p>The barrier islands also support a number of other breeding shorebirds, seabirds, and songbirds and provide important migratory stopover habitat for migratory species such as the federal and state threatened Red Knot. Loring et al. (2018) outfitted 388 rufa Red Knots with digital VHF transmitters at major stopover areas in Canada and the US Atlantic coast during southbound migration. They developed novel movement modeling techniques to assess the frequency and extent of offshore movements over Federal waters and wind energy areas (lease areas and planning areas, WEA) within the study area. Of the 388 tagged birds, 8% were detected passing through one or more WEAs during fall migration, including at least two individuals that may have passed through the Virginia WEA. Three quarters of the flights across WEAs were within the wind turbine rotor swept zone (20 to 200 m), however, the error around the estimated flight heights was very large (typically 100 to 200 m; Loring et al., 2018). The diversity and large number of waterbirds that nest, forage and rest along the barrier island chain throughout the annual cycle increases the chances the CVOW may pose a significant risk to some species under certain conditions, such as periods of low visibility. While the monitoring efforts at the CVOW Pilot Project revealed some interesting patterns in avian activity and detections</p>	<p>Text has been added to Section 3.7.3 of the EIS to clarify the beneficial impacts. Additional text has been added in Sections 3.7.3 and 3.7.5 to further explain why the overall negative risks of mortality from collisions are low for projects on the Atlantic OCS.</p> <p>Additional information can be found in the Coastal Virginia Offshore Wind Commercial Project Biological Assessment where both the Band Model (Band 2012) and SCRAM (Gilbert et al. 2022) were used. Results indicated that the chance of a fatality due to collision is extremely unlikely; thus, the estimated annual number of fatalities from collision for migrating red knot is near zero.</p>

Comment No.	Comment	Response
	related to barometric pressure, air temperature and wind direction, very little is known about the actual exposure to collision risks and potential mortality rates. Further, if the diversity and abundance of available marine prey increases due to the installation of the wind turbines, this may result in a greater risk of collision for avian piscivores.	The EIS also addresses how low visibility and weather conditions may play a role in potential impacts.
0021-0122	When studied, underwater hearing abilities for diving bird taxa have been found to be more sensitive than expected, with hearing thresholds in the frequency band 1-4 kilohertz (kHz), comparable to those measured in seals and toothed whales. [Footnote 158: Kirstin A. Hansen et al., Great cormorants (<i>Phalacrocorax carbo</i>) can detect auditory cues while diving, <i>SCI. OF NATURE</i> (May 5, 2017).] Diving birds foraging <100 kilometer (km) away from seismic operations change their foraging direction during acoustic disturbance, increasing the distance between feeding areas and the sound source. [Footnote 159: Lorien Pichegru et al., Avoidance of seismic survey activities by penguins, <i>SCIENTIFIC REPORTS</i> (Nov. 24, 2017).] Avoidance distances by diving seabirds to the sounds generated from these anthropogenic activities manifest at spatial scales up to tens of kilometers, very similar to the displacement distances reported from seismic surveys in cetaceans. [Footnote 160: Jonathan Gordon et al., A review of the effects of seismic surveys on marine mammals, <i>MARINE TECH. SOC'Y J.</i> (2003).]	Thank you for your comment. The disturbance impacts on birds have been addressed in the EIS, and the proposed Project will not be conducting any seismic surveys.
0024-0015	TNC's comments on the Notice of Intent to Prepare an Environmental Impact Statement for Proposed Wind Energy Facility Offshore Virginia included the statement that conclusions in the COP [Bold and italics: understated exposure risk and potential impacts to migratory bird populations.] We find that the DEIS continues to minimize this concern. Though a species may only pass through the wind energy area for a certain period of the year, that exposure could be significant because large percentages of that species population migrate through this area, thus; significant population-level impacts could occur. Given that CVOW is located within a globally important migratory corridor for several species of shorebirds, the lack of scientific clarity on the specifics of these species' movements, and the potential for impacts to certain populations, should be acknowledged. Little information currently exists regarding the altitude of migratory flights for species that migrate through or over the CVOW area. This uncertainty should be acknowledged, and the potential for population-level impacts, if migratory flight occurs within the rotor swept area, should be discussed in the final EIS.	Text has been added to Final EIS Sections 3.7.3 and 3.7.5 to further explain why the overall negative risks of mortality from collisions are low for projects on the Atlantic OCS. Additional information can be found in the Coastal Virginia Offshore Wind Commercial Project Biological Assessment where both the Band Model (Band 2012) and SCRAM (Gilbert et al. 2022) were used to assess impacts on listed species. Appendix D of the EIS identifies and acknowledges incomplete and unavailable information relative to each resource. The EIS uses the best available information, and thus complies with the procedural requirements of NEPA to predict potential

Comment No.	Comment	Response
		impacts on birds from the Proposed Action.
0024-0016	<p>Section [Bold: 3.7.1.3 Migratory Birds] cites Watts (2010) to state that within the Atlantic Flyway along the North American Atlantic coast, much of the bird activity is concentrated along the coastline. The DEIS fails however to cite Watts et al. (2022) finding that a considerable percentage of (42.9%) whimbrel leaving the Virginia eastern shore crossed the Outer Continental Shelf (OCS) along a southeast-northwest axis, and flew through either the CVOW or Kitty Hawk Wind lease areas. An estimated 40,000 Whimbrel, possibly 100% of the eastern population, use the mudflats and marshes within Virginia’s lagoon system as their last coastal stopover before heading to breeding areas in the Arctic (Watts and Truitt 2011). If these bird transit wind leases within the rotor swept area of the wind turbines, this population could experience very significant effects from collision.</p>	<p>Watts et al. (2022) has been added to the EIS. Additional text has been added in Sections 3.7.3 and 3.7.5 to further explain why the overall negative risks of mortality from collisions are low for projects on the Atlantic OCS.</p> <p>Additional information can be found in the Coastal Virginia Offshore Wind Commercial Project Biological Assessment where both the Band Model (Band 2012) and SCRAM (Gilbert et al. 2022) were used to assess impacts on listed species.</p>
0024-0017	<p>We appreciate that Dominion has taken the step of funding a tracking study underway by the Center for Conservation Biology at William and Mary, and the Nature Conservancy that will assess the altitude at which whimbrel are flying during migration. In addition, The Nature Conservancy has secured private funding for a similar study of willet. While we hope to learn that this facility will not adversely affect either of these species, we must await the results of these tracking studies in order to be able to draw conclusions about the risk to these species and this uncertainty should be reflected in the Final EIS</p>	<p>Appendix D of the EIS identifies and acknowledges incomplete and unavailable information relative to each resource. The EIS uses the best available information, and thus complies with the procedural requirements of NEPA to predict potential impacts on birds from the Proposed Action.</p> <p>Appendix H of the EIS includes the mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. A framework for an avian and bat post-construction monitoring program would be developed and implemented in coordination with applicable federal resource agencies (see Appendix H for details). Additional mitigation and monitoring measures may arise from consultations and coordination with federal and state resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision.</p>

Comment No.	Comment	Response
0024-0018	<p>Section [Bold: 3.7.1.4 Special-Status Species] states that “Three species of federally endangered or threatened birds can occur onshore and in coastal and marine waters offshore during part of the year, although these species are expected to have limited exposure to the Project and, thus, risk to individuals is unlikely (COP, Appendix O-1; Dominion Energy 2022).” The Nature Conservancy finds this conclusion to be unsupported by evidence. The Virginia barrier island coastline supports 12% of the federally Threatened Atlantic Coast population of Piping Plovers representing 75% of the Southern Recovery Unit population (USFWS 2019). During spring migration, the barrier islands annually are home to as much as 25% of the federally threatened Red Knot [<i>rufa</i>] subspecies population (Watts and Truitt 2014) and Virginia is part of the recently identified “migration focal area” in the Draft Recovery Plan (USFWS 2021). The risk to individuals of either of these species cannot be known without further information on their migratory pathways and altitudes. We are aware that Dominion is supporting efforts by the USFWS to tag piping plovers in 2023, and that they have supported expansion of the onshore MOTUS network and installed bidirectional MOTUS receivers on the two operating research turbines at CVOW. In the absence of the results of tracking studies it is not possible to conclude that there will not be risk to individuals and this uncertainty should be reflected in the Final EIS.</p>	<p>Text has been added to Final EIS Sections 3.7.3 and 3.7.5 to further explain why the overall negative risks of mortality from collisions are low for projects on the Atlantic OCS.</p> <p>Additional information can be found in the Coastal Virginia Offshore Wind Commercial Project Biological Assessment where both the Band Model (Band 2012) and SCRAM (Gilbert et al. 2022) were used. Results indicated that the chance of a fatality due to collision is extremely unlikely, and thus the estimated annual number of fatalities for migrating red knot and piping plover is zero.</p> <p>Appendix D of the EIS identifies and acknowledges incomplete and unavailable information relative to each resource. The EIS uses the best available information, and thus complies with the procedural requirements of NEPA to predict potential impacts on birds from the Proposed Action.</p> <p>Appendix H of the EIS includes the mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. A framework for an avian and bat post-construction monitoring program would be developed and implemented in coordination with applicable federal resource agencies (see Appendix H for details). Additional mitigation and monitoring measures may arise from consultations and coordination with federal and state resource agencies. These additional mitigation measures could be</p>

Comment No.	Comment	Response
		considered by decision makers and incorporated into the Record of Decision.
0024-0019	<p>Section [Bold: 3.7.5 Impacts of the Proposed Action on Birds; Placement of Structures] states “Due to the anticipated use of flashing red tower lights, the restricted time period of exposure during migration, and a small number of migrants that could cross the WDA, BOEM and USFWS conclude that the effects of the Proposed Action or Alternative A-1 would be negligible for federally listed species (e.g., red knot, piping plover, and roseate tern), the protected bald eagles, and the black-capped petrel, which is a candidate species”. In the Final EIS, this section should also address birds protected by the Migratory Bird Treaty Act (MBTA). The assumption that a small number of migrants could cross the WDA is not supported by evidence, and the assumption that a restricted time period of exposure limits risk is oversimplified. If a large proportion of a population transits a wind area, there could be a significant number of individuals, albeit of a few species. Even if the window of time over which the exposure occurs is small, there is an opportunity for a very significant adverse interaction between that population and the Wind Generating Turbines (WTGs). This possibility and the necessary steps to adaptively manage and mitigate for such an occurrence should be included in the Final EIS.</p>	<p>Additional text has been added to Final EIS Sections 3.7.3 and 3.7.5 to further explain why the overall negative risks of mortality from collisions are low for projects on the Atlantic OCS.</p> <p>Impacts on birds have been assessed in the EIS for the resource as a whole, including birds protected by the MBTA, and not discussed on an individual species level; impacts are anticipated to be the same or similar for all species present in the Project area. Additional information can be found in the Coastal Virginia Offshore Wind Commercial Project Biological Assessment.</p> <p>Appendix D of the EIS identifies and acknowledges incomplete and unavailable information relative to each resource. The EIS uses the best available information, and thus complies with the procedural requirements of NEPA to predict potential impacts on birds from the Proposed Action.</p> <p>Appendix H of the EIS includes the mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. A framework for an avian and bat post-construction monitoring program would be developed and implemented in coordination with applicable federal resource agencies (see Appendix H for details). Additional mitigation and monitoring measures may arise from consultations and coordination with federal and state resource agencies. These</p>

Comment No.	Comment	Response
		additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision.

N.6.7 Coastal Habitat and Fauna

Table N.6.7-1 Responses to Comments on Coastal Habitat

Comment No.	Comment	Response
0014-0029	DCR-DNH notes that it previously provided comments on the proposed CVOW project on July 9, 2021, August 2, 2021, October 28, 2021, December 29, 2021, January 14, 2022, and October 14, 2022. DCR reiterates its previous comments below that have not been addressed in the DEIS and offers supplemental information in response to project information contained within the DEIS.	Comment is noted.
0014-0050	DEQ-OWLGAP finds that the proposed project is located outside of the locally designated Chesapeake Bay Preservation Areas in both the City of Chesapeake and City of Virginia Beach, and as such, is not subject to the Bay Act and Regulations.	Text has been added to the Final EIS to include this information.
0014-0053	According to the information currently in DCR files, the [Bold: Oceana Ponds and Forest Conservation Site], the [Bold: West Neck Creek Conservation Site] and the [Bold: North Landing River Conservation Site] are located within the proposed onshore preferred alignment received from Dominion Energy on January 10, 2023, titled Proposed Right-Of-Way. The route depicted in the Proposed Right-of-Way shapefile aligns with Alternative A- Proposed Action and all other alternatives except Alternative D-2 (Chicory Substation). [Bold: Oceana Ponds and Forest Conservation Site] has been given a biodiversity significance ranking of 2, which represents a site of very high significance and is considered as an irreplaceable conservation site. The natural heritage resources of concern at this site are: -[Italics: <i>Ludwigia brevipes</i>], Long beach seedbox (G2G3/S2/NL/NL) -[Italics: <i>Perimyotis subflavus</i>], Tri-colored bat (G2G3/S1S3/SOC/LE) Long beach seedbox is a state rare herb in the evening-primrose family that inhabits interdunal swales, low wet places, pond shores, gravel pits and wetlands underlain by sand. Since 2008 there has been a significant decline in population numbers (greater than 90%) for this bat species due to white nose syndrome. The Tri-colored bat was state-listed as endangered on April 1, 2016, by the Virginia Department of Wildlife Resources (DWR). See DCR-DNH comments attached for detailed information on these natural heritage resources. [Bold: West Neck Creek Conservation Site] has been given a biodiversity significance ranking of B5, which represents a site of general significance. The natural heritage resources of concern at this site are: -[Italics: <i>Trillium pusillum</i> var. <i>virginianum</i>], Virginia least trillium (G4T3/S2/SOC/NL) Occurrences of Virginia least trillium at West Neck Creek Conservation Site	Text has been added to the Final EIS to include this information.

Comment No.	Comment	Response
	<p>have been confirmed based on recent survey work conducted by a DCR biologist in conjunction with Dominion Energy staff for the CVOW project. This species is currently tracked as a species of concern by the U.S. Fish and Wildlife Service (USFWS), however this designation has no official legal status. See DCR-DNH comments attached for detailed information on this natural heritage resource. [Bold: North Landing River Conservation Site] has been given a biodiversity significance ranking of B1, which represents a site of outstanding significance. The natural heritage resources of concern at this site are: -[Italics: <i>Euphyes dukesi</i>], Dukes' skipper (G3/S2/NL/NL) -[Italics: <i>Trillium pusillum</i> var. <i>virginianum</i>] Virginia least trillium (G3T2/S2/SOC/NL) -Non-riverine Swamp Forest (Tupelo – Bald Cypress Type) (G2G3/S1S2/NL/NL) -Bald Cypress – Mixed Tupelo Intermediate Swamp (G3G4/S3S4/NL/NL) Based on more recent survey work conducted by a DCR-DNH biologist in conjunction with Dominion Energy staff on April 20, 2022, for the CVOW project, multiple additional occurrences of Virginia least trillium have been documented in the proposed project footprint within the North Landing River Conservation Site. See DCR-DNH comments attached for detailed information on these natural heritage resources.</p>	
0014-0054	<p>According to a DCR-DNH zoologist, there is a potential for Little Metalmark (<i>Calephelis virginiensis</i>, G4/SH/NL/NL) and additional populations of Dukes' skipper (<i>Euphyes dukesi</i>, G3/S2/NL/NL) to occur within the proposed route if suitable habitat exists on site. The Little Metalmark is a butterfly of the southeastern United States, from Virginia to Florida and west to Texas (Cech and Tudor, 2005)). In Virginia, it is documented only in three southeastern counties (VDCR-DNH and VDGIF, 2013). The Dukes' skipper is a small, orange-brown and yellow butterfly species which ranges along coastal areas from southeastern Virginia to central Florida, and up the Mississippi River valley from Louisiana to Illinois, and with a pocket in northwestern Ohio and northeastern Indiana (Glassberg, 1999). In Virginia, it is only recorded from the southeastern outer coastal plain.</p>	<p>Text has been added to the Final EIS to include this information.</p>
0014-0055	<p>DCR-DNH finds that the proposed project will fragment C2, C3, C4 and C5 Ecological Cores as identified in the Virginia Natural Landscape Assessment, one of a suite of tools in Virginia Conservation Vision that identify and prioritize lands for conservation and protection. Mapped cores in the project area can be viewed via the Virginia Natural Heritage Data Explorer. DCR-DNH notes that the DEIS (page 3.8-2) includes a land cover impact analysis including ecological cores, and estimated impacts to ecological cores are provided (DEIS, Table 3.8-3, pages 3.8-18 and 3.9- 19). Based on shapefiles provided by Dominion Energy</p>	<p>The methodology Dominion Energy and BOEM applied for assessing impacts on ecological cores was based on a Virginia Natural Landscape Assessment (VaLNA) evaluation of the dataset in comparison to ground based surveys and proposed project impacts. To complete this evaluation, the ecological core dataset was</p>

Comment No.	Comment	Response
	<p>on January 10, 2023, DCRDNH conducted an ecological core impact analysis in order to provide estimates of direct and indirect impacts to the C2, C3, C4 and C5 cores within the project site. This analysis estimates 12.1 acres of direct impact and 0 acres of indirect impact to the C2 core, and 20.8 acres of direct impact and 588.6 acres of indirect impact to the C3, C4, and C5 cores cumulatively (Figure 1). Based on these acreage estimates; mitigation activities of afforestation, avoided deforestation, and/or forest enhancement; and mitigation ratios, DCR estimates a total mitigation acreage of 1,241.7 (Figure 2). See DCR-DNH comments attached for detailed information on these natural heritage resources.</p>	<p>intersected with Project GIS to determine which components of the Project intersect with unfragmented ecological cores. Dominion Energy modified this evaluation to account for existing fragmentation where the ecological core dataset did not reflect any fragmentation had occurred historically (existing rights-of-way, existing access roads, etc.). For example, the Project is routed between C2 and C3 cores through Gum Swamp. However, impacts on ecological cores would be minor to nonexistent in this location, because the routing follows previously developed easements and access roads, which would have already produced edge habitat from the parent cores. These existing features do not appear to have been considered in the DCR evaluation.</p> <p>The ruleset Dominion Energy applied for the assessment of impacts on ecological cores is as follows.</p> <ul style="list-style-type: none"> • Overhead Interconnection Cable: Existing ROW = No Impact; Proposed/New ROW = Permanent Impact. • Underground Interconnection Cable: Existing ROW = No Impact; Proposed/New ROW – HDD/Microtunnel = No Impact; Proposed/New ROW – Surface Trench = Permanent Impact. • Special rules: Manholes, transmission poles, and other structures are considered full impact (permanent). Fence lines are considered permanent

Comment No.	Comment	Response
		<p>impact at switching stations and onshore substation.</p> <p>Refer to Appendix H, <i>Mitigation and Monitoring</i>, for a description of avoidance, minimization, and mitigation measures, including Dominion’s proposed measures to coordinate with the Virginia Natural Heritage Program on Project-related impacts.</p>
0014-0056	DCR files do not indicate the presence of any State Natural Area Preserves under the agency’s jurisdiction in the project vicinity.	Text has been added to the Final EIS to include this information.
0021-0138	Moreover, such a conclusion cannot be squared with BOEM’s assessment, discussed below, regarding the impacts on wetlands from the Project. Clearly “coastal habitat” comprises these wetlands and the species that depend upon them, and yet BOEM artificially separates the discussion of impacts on coastal habitat from that of the discussion on wetlands. BOEM’s conclusion that the Project could have major impacts on wetlands contradicts and undermines any notion that the impacts on “coastal habitat and fauna” would be minor.	Text has been added to the Final EIS to reflect this information.
0021-0142	According to the COP, the Navy has also documented potential habitat for both the eastern chicken turtle and the barking treefrog at Naval Air Station Oceana during surveys conducted in 2013. [Footnote 288: Id. at 4-157, 4-134. No individuals were found at the time, however.] Virginia’s 2015 Wildlife Action Plan indicates that the loss of suitable wetland habitat constitutes the greatest threat to the barking tree frog. [Footnote 289: See VA. DEP’T GAME & INLAND FISHERIES, VIRGINIA’S 2015 WILDLIFE ACTION PLAN at Appendix A, 26-1, http://bewildvirginia.org/wildlifeaction-plan/pdf/Final%20SGCN%20List%20Appendix%20A%20July%202016.pdf .] Therefore, BOEM should assess the potential for this species to be present in any of the wetland areas in the vicinity of the onshore components.	Text has been added to the Final EIS to include this information.
0021-0093	Certainly the information on the number of acres and the rankings of ecological core areas that would be impacted—by either the Preferred Option or the Hybrid Option— is important, but it is not the whole story. The DEIS only provides general information on the type of impacts that may be expected as a result of noise and land disturbance from construction; [Footnote 269: For example, BOEM notes that the Proposed Act “would likely result in local impacts (disturbance, injury, mortality, habitat degradation, habitat conversion) that would not alter the overall character of coastal habitat and fauna resources in	Text has been added to the Final EIS to include this information regarding specific species and land areas that would have impacts.

Comment No.	Comment	Response
	<p>the geographic analysis area.” DEIS at 3.8-21. With respect to the Hybrid Option, the DEIS indicates that noise and land disturbance from onshore construction activities “would result in behavioral and habitat loss/fragmentation impacts on coastal habitat and fauna as a result of temporary disturbance and clearing.” Id. at 3.8-23.] otherwise it provides very little analysis. Without a more thorough assessment, the conclusion that the impacts would be “minor” is unwarranted.</p>	
0021-0096	<p>In our scoping comments, we pointed out that the construction of Dominion’s onshore components may impact several state-listed or rare species and that BOEM must thoroughly assess the potential impacts on each of these species and evaluate the suitability and effectiveness of possible avoidance and mitigation measures. [Footnote 286: See Scoping Comments at 84, 88.] The DEIS, however, contains [Bold: no] discussion of any of these species. To repeat the information provided in our scoping comments, the state listed species that may be impacted are: the canebrake rattlesnake ([Italics: <i>Crotalus horridus atricaudatus</i>]) (state endangered), the eastern chicken turtle ([Italics: <i>Deirochelys reticularia</i>]) (state endangered), and the barking treefrog ([Italics: <i>Hyla gratiosa</i>]) (state threatened). In addition, the Project may impact two rare plant species: the long beach seedbox ([Italics: <i>Ludwigia brevipes</i>]), state-ranked as S2 (imperiled); and the multiflowered mud plantain ([Italics: <i>Heteranthera multiflora</i>]), state-ranked as S1 (critically imperiled).</p>	<p>Text has been added to the Final EIS to discuss these species.</p>
0037-0009	<p>-Section 3.8, pg. 3.8-9: “Rifle Ridge Road” on SMR (Camp Pendleton) [Bold: Change to Rifle Range Road]</p>	<p>Text has been revised to the Final EIS to refer to “Rifle Range Road” instead of “Rifle Ridge Road.”</p>
0018-0026	<p>We also recommend that, prior to the start of construction, all contractors are trained in the identification, basic natural history, and legal status of Canebrake Rattlesnakes. This could be accomplished via an appropriate information sheet distributed to those working on the project (attached).</p>	<p>Thank you for the comment. Per COP, Section 4.2.2.3, Table 4.2-9, Dominion Energy would coordinate with the VDWR and Virginia Natural Heritage Program and implement avoidance, minimization and mitigation measures for state listed reptile and amphibian species, including the canebrake rattlesnake. Final Section 3.8.5, <i>Impacts of the Proposed Action on Coastal Habitat and Fauna</i>, has been revised to include this information and a cross-reference to COP, Table 4.2.9.</p>

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N.6.8 Commercial Fisheries and For-Hire Recreational Fishing

Table N.6.8-1 Responses to Comments on Commercial Fisheries and For-Hire Recreational Fishing

Comment No.	Comment	Response
0013-0043	According to the DEIS, “BOEM anticipates that the impacts from ongoing and planned actions, including the Proposed Action would result in [Bold for emphasis: major adverse impacts] on commercial fisheries and moderate adverse impacts on for-hire recreational fishing in the analysis area, driven largely by the presence of structures. Impacts would include the temporary or permanent reduction in catch or loss of access to fishing areas due to the presence of construction activities or changes in fish and shellfish populations that are the basis of fishing activities. This could include abandonment of fishing locations due to difficulty in maneuvering fishing vessels, fear of allisions increased risk of collisions with construction or lay vessels, and fear of damage or loss of deployed gear. Impacts could also include alterations in the management of fisheries resources due to changes in fishing effort (duration, location, methodology), which may impact quota allocation in certain sectors.” The DEIS, however, fails to identify or describe any alternative that would reduce or avoid this impact and still meet most of the project objectives. Nor does the DEIS recommend adequate mitigation measures for reducing this impact.	The Project design includes the 1 nautical mile (nm) spacing between WTGs to reduce allision/collision as agreed to with the fishing industry; therefore, additional mitigation is not necessary. In addition, the offshore substations are in alignment with WTGs (Alt A-1 in DEIS, Alt A in Final EIS).
0014-0017	The Proposed Action makes no recommendation to ensure those sensitive habitats for black sea bass are maintained. This federally regulated fishery is spatially limited in the project area and will be subject to significant impacts from the Proposed Action. Creation of artificial reefs may result in an increase in black sea bass habitat and species diversity but may alter the existing predator/prey relationship between whelk and their predator species and other similar species dynamics. Additionally, these new reef areas will change the historic fishing use and introduce the potential for an increase in conflicts between users.	Species-specific monitoring plans have been created for key species, including black sea bass, to help in identification of species-specific impacts during Project implementation.
0014-0047	Primary environmental concerns from the construction and operation of this proposed wind generation facility include potential effects to commercial and recreational fisheries, the ecosystem within and adjacent to the lease area and transmission corridor, transitory and migratory species, and benthic/seabed resources. Actions which may have large scale effects on offshore resources include the placement of all infrastructure components, electromagnetic forces (EMF) and temperature anomalies from the transmission of electricity, conversions of soft benthic habitats to hard substrate, and the fate of traditional commercial and recreational fishing.	Comment noted.
0014-0005	Overall, the VMRC has concerns that the CVOW-C COP and DEIS are based on limited fisheries data to quantify those ecological, socioeconomic, and community impacts	Fisheries data in Section 3.9.1 have been updated to include the most recent available data from NMFS.

Comment No.	Comment	Response
0014-0008	Overall, neither the CVOW-C COP nor the CVOW-C DEIS include adequate fisheries characterization or resource information to make informed conclusions regarding the proposed alternatives. Dominion Energy has verbally committed to producing fisheries resource and economic surveys with academic partners at the Virginia Institute of Marine Science for the black sea bass, whelk, and surf clam fisheries. However, these research plans are still in development and a final plan is not included in the COP. Therefore, the conclusions being made in the CVOW-C DEIS lack credible scientific foundation due to a lack of adequate fisheries data	Fisheries data in Section 3.9.1 have been updated to include the most recent available data from NMFS.
0014-0009	The DEIS states the CVOW-C COP Chapter 4.4 identifies the value of fisheries based on their data synthesis, input from NOAA NMFS, VMS, and VTR, among the sources. But many of these sources do not sufficiently include those non-regulated, data poor species such as whelk nor did it include surf clam. VMRC appreciates the May 2022 revised CVOW-C COP effort to synthesize the fisheries and socioeconomic value of the project area by including potentially affected fishing activity of squid and scallop, however, it lacked the same detail of those most active fisheries within the lease area, whelk and spiny dogfish and the re-emerging surf clam fishery. In 2022, the surf clam industry landed more than \$2.5M in product in eight months and spent approximately \$5M in fuel, trucking and labor in the Commonwealth. The surf clam industry has stated that catch rates in the area were approximately 15 times greater than off the coast of New Jersey predicting this to be a lucrative opportunity for the Commonwealth.	No known data on data-poor species are publicly available. The Final EIS has been updated to include the most recent fisheries data available from NMFS.
0015-0005	The DEIS states the CVOW-C COP Chapter 4.4 identifies the value of fisheries based on their data synthesis, input from NOAA NMFS, VMS, and VTR, among the sources. But many of these sources do not sufficiently include those non-regulated, data poor species such as whelk nor did it include surf clam. We appreciate the May 2022 revised CVOW-C COP effort to synthesize the fisheries and socioeconomic value of the project area by including potentially affected fishing activity of squid and scallop, however, it lacked the same detail of those most active fisheries within the lease area, whelk and spiny dogfish and the re-emerging surf clam fishery. In 2022, the surf clam industry landed more than \$2.5M in product in eight months and spent approximately \$5M in fuel, trucking and labor in the Commonwealth. The surf clam industry has stated that catch rates in the area were approximately 15 times greater than off the coast of New Jersey predicting this to be a lucrative opportunity for the Commonwealth	
0015-0015	The VMRC appreciates this consideration for whelk but takes issue with BOEM stating “there is no indication that whelk movement would be hindered by the presence of inter array cables” because this statement lacks peer-reviewed scientific documentation to characterize the relationship between whelk and electromagnetic field (EMF) from submarine cables. While the DEIS cites EMF exposure research related to the behavioral characterization of mussels, this sessile species is a poor surrogate for those commercially	Comment noted.

Comment No.	Comment	Response
	sought whelk species. Research is needed regarding the effects on whelk species, as it relates to both AC and DC current to characterize behavior change to mid-Atlantic, commercially sought whelk species to allow for recommendations for avoidance or mitigation	
0015-0016	The Proposed Action makes no recommendation to ensure those sensitive habitats for black sea bass are maintained. This federally regulated fishery is spatially limited in the project area and will be subject to significant impacts from the Proposed Action. Creation of artificial reefs may result in an increase in black sea bass habitat and species diversity but may alter the existing predator/prey relationship between whelk and their predator species and other similar species dynamics. Additionally, these new reef areas will change the historic fishing use and introduce the potential for an increase in conflicts between users.	Species-specific monitoring plans have been created for key species, including black sea bass, to help in identification of species-specific impacts during the course of the Project.
0015-0002	Additionally, the CVOW-C DEIS Concludes (DEIS Vol 1, Chapter 3, Section 3.9, Sub 3.9.5.2) “the Proposed Action or Alternative A-1 would result in [Bold and italicized: major] adverse impacts on commercial fisheries and [Bold and italicized: moderate] adverse impacts on for-hire recreational fishing”. The Proposed Action neither [Bold and italicized: avoids nor mitigates] the impacts to commercial fisheries. All of the alternatives fail to accurately address the whelk, surf clam, and spiny dogfish fisheries.	Species-specific monitoring plans have been created for key species to help in identification of species-specific impacts during the course of the Project.
0017-0021	Section 3.9.1 should be broadened to address all types of recreational fishing, not just for-hire fishing. This section currently blurs the distinctions between party boat, charter, and private recreational fishing. There will be many similarities and some differences in terms of how these recreational fishing modes will be impacted by offshore wind energy development. The section purports to focus only on for-hire recreational fishing but also includes some information on private recreational fishing (e.g., shoreside economic impacts, tournaments).	Private recreational fishing is covered in Section 3.18, <i>Recreation and Tourism</i> . The discussion in Section 3.9.1 is geared toward for-hire recreational fishing. References and information regarding private and shore-based recreational fishing have been removed and a reference note has been added to refer the reader to Section 3.18.
0017-0022	The FEIS should more clearly describe the limitations of available recreational fishing data, especially the lack of precise data on fishing locations. For example, data on the locations of fishing effort are not collected for private recreational fisheries and have limited spatial precision for for-hire fisheries. These limitations pose challenges for determining which recreational fisheries will be impacted by this project and how. Rather than ignoring these data poor fisheries, the FEIS should acknowledge the associated uncertainties. For example, the DEIS includes a list of recreational fishing tournaments for highly migratory species (HMS) managed by NOAA Fisheries. The DEIS implies that these are the only	A clarification has been added to Section 3.9.1.4 addressing the lack of spatially precise data. Information on saltwater fishing tournaments has been modified to remove Table 3.9-11 and add clarification that

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	<p>tournaments of relevance and fails to acknowledge that many other tournaments exist within the geographic analysis area for this project. The HMS tournaments are simply the only tournaments which require a special permit and for which there is a centralized list. This is an example of a data limitation which should be acknowledged in the FEIS.</p>	<p>tournaments other than the HMS tournaments exist.</p>
0017-0024	<p>We appreciate that the DEIS considers the potential impacts of offshore wind energy development on fisheries management, including impacts to spatial management measures and increased scientific uncertainty due to impacts on fisheries-independent surveys. However, some corrections and additional details are needed regarding these topics. For example, there are many errors in Table 3.9-1, which lists species by managing agency. Rather than correcting this table for the FEIS, we recommend removing it as it does not add value to the document. The management agency for each species is not of great relevance when determining which fisheries will be impacted and how they will be impacted. In addition, the rationale behind including some, but not all, state fishery independent surveys in Table 3.9-2 is unclear. Many additional state surveys are included in stock assessments for our managed species.</p>	<p>Table 3.9-1 has been removed from the Commercial Fisheries/For-Hire Recreational Fisheries section, and a reference has been added to a similar table in Section 3.8, <i>Finfish, Invertebrates, and Essential Fish Habitat</i>, and the COP. Table 3.9-2 has also been removed, as it does not effectively add to the baseline environment for the purposes of impact analysis.</p>
0017-0055	<p>We recommend that the FEIS focus on data provided by NOAA Fisheries for this project. The FEIS should more thoroughly describe all data sources used, why each data set was chosen, and the limitations of each dataset. Considerations related to data poor fisheries should also be expanded upon. Some of this information is provided in the COP. Given the importance of this information as context for the conclusions drawn, it should also be included in the FEIS. Unless necessary to protect confidential information, grouping data across fishery management plans is not particularly useful given impacts can differ by fishery and species.</p>	<p>The majority of Affected Environment data included in the DEIS were from NMFS data, including all lease-area specific information presented in Section 3.9.1.3. Lease area-specific for-hire recreational information from NMFS is more limited, and the data presented in Section 3.9.1.4 are largely based on information in the COP.</p>
0017-0056	<p>The FEIS should use the most recent data possible. The DEIS includes multiple statements on fisheries based on different data sets and different years, without a clear explanation for this variation. In some cases, the data are quite outdated. For example, estimates of the number of commercial fishing vessels from a 2006 publication (e.g., page 3.9-6) and revenue estimates from a 2014 publication (e.g., page 3.9-10) are of limited value for analyzing the impacts of a project which likely won't begin construction until at least 2024.</p>	<p>The outdated 2006 reference has been removed. The 2014 reference for revenue data is based on information in the COP and has been retained as the most viable information available</p>

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0017-0057	In addition, the DEIS states that the lowest commercial landings in weight and the lowest commercial fishery value for many species occurred in 2020 without any explanations for why this might be. The FEIS should note that the COVID-19 pandemic had major fisheries impacts in 2020 and not all fisheries were impacted the same way (e.g., widespread restaurant closures and restrictions on gatherings reduced demand for some seafood products, while demand for frozen seafood increased).	The annual landings data presented in Section 3.9.1.2 have been updated to include 2021 data, and a note has been added that 2020 landings were likely affected by the COVID-19 pandemic.
0017-0058	The FEIS should more clearly describe which commercial and recreational fisheries are expected to be impacted by activities within the lease area, within the export cable corridor, or both. 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 areas. Different mitigation measures may also be relevant for the two areas. For these reasons, the lease area and export cable corridor should be analyzed separately in terms of their impacts on fisheries, as well as considering their combined impacts.	Impacts in the cable export corridor will largely be limited to the duration of installation (as well as during necessary maintenance activities) but will be very temporally limited as compared to the Lease Area, which will have ongoing impacts for the duration of the Project. A separate impact analysis for the cable export corridor would likely be redundant and not particularly useful.
0017-0063	The FEIS should also describe how different fisheries may be impacted in different ways by these seasonal construction restrictions. For example, concentrating construction activities during May through October will create the greatest overlap with recreational fishing effort. With 109 days of impact pile driving expected in the first year of construction and 114 in the second year, this could have notable impacts on local recreational and commercial fisheries, especially given that the DEIS suggests fish may travel up to six miles to avoid the greatest area of ensonification (pages 3.9-28 and 3.9-29). These impacts will be temporary but could still be noteworthy for commercial and recreational fishermen who fish in these areas.	Based on available data, it is not feasible to identify individual fisheries that may be more or less affected by ensonification. The Draft EIS notes that the area is “lightly fished” relative to other WEAs. The impact ranking for noise has been modified to moderate.
0026-0036	The nation’s seafood supply is dependent upon our harvesters and shoreside support businesses. Each of these depends on the other. If harvesters are unable to keep product coming across the docks, the buyers and processors are directly impacted. If a processor is forced to close their doors, the harvesters have no place to sell their catch, and they will likely lose access to shoreside infrastructure necessary for their operations (ice houses, offloading equipment, etc.). When analyzing potential impacts to commercial fishing under any of the alternatives proposed, the analysis necessarily needs to consider potential	Impacts from the Project on socioeconomic resources are presented in Final EIS Section 3.11, <i>Demographics, Employment, and Economics</i> .

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	<p>impacts to, and mitigation measures for, those shoreside businesses as well. BOEM's practice to date has been to incorporate mitigation measures under consideration as appendices or Record of Decision conditions rather than analyzing them fully as alternatives.</p>	
0026-0041	<p>We reiterate the comments RODA made on the NOI for CVOW regarding commercially harvested species in the project area in full by reference. [Footnote 26: See http://rodafisheries.org/wp-content/uploads/2021/08/210802-RODA-Comments-on-Dominion-NOI-.pdf] Briefly, the commercial fishing industry has communicated that this location is a consistently reliable whelk fishery location, but can be immensely valuable when nearshore areas do not produce. Therefore, when necessary, the benefit of fishing the lease area outweighs the effort and expense of traveling the additional distance. If the industry realizes a reduction in catch per unit effort (CPUE), they will be forced to find alternative locations. The DEIS fails to consider the potential impacts from being squeezed onto other grounds, and the consequences of increased interactions with other ocean users.</p>	<p>Section 3.9.3 and, by reference, Section 3.9.5 mention potential space use conflicts from presence of structures, including the potential for users seeking out alternative fishing grounds and the associated space use conflicts. The impacts from these sources are included in the overall negligible to major impact ranking for the presence of structures.</p>
0026-0042	<p>Inter-array and export cable burial depth is also extremely important to consider as whelk sensitivity to high-energy cables is, at best, poorly understood. We are encouraged that the most recent version of the COP has increased "the final depth [of inter-array cables] will be no greater than 9.8 ft (3 m)" but strongly encourage the target burial depth to be more than 2.6 ft (0.8 m). [Footnote 27: CVOW-C COP page 3-46] Currently there is a lack of research on EMF impacts on whelk, which poses a challenge to assess direct impacts to the species. Furthermore, impacts from cable installation are unknown for these species and need to be adequately minimized to ensure these species are not permanently displaced from the area.</p>	<p>Species-specific monitoring plans have been created for key species to help in identification of species-specific impacts during the course of the Project, including those from EMF sources.</p>

N.6.9 Cultural Resources

Table N.6.9-1 Responses to Comments on Cultural Resources

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0040-0001	Dominion Energy has applied for a conditional use permit for use as temporary storage and a laydown area at the Pungo Airfield, 1848 Princess Anne Road (GPIN #24131421160000). The VBHPC requests that this activity be addressed in Section 3.10 in the EIS.	Since the publication of the Draft EIS, Dominion Energy has submitted a revised COP, dated February 28, 2023, in which the proposed PDE includes a temporary laydown yard at Pungo Airfield. BOEM revised its delineation of the terrestrial portion of the APE to include this area.
0013-0046	(Cultural and Historical Resource Impacts) According to the DEIS, "BOEM anticipates that the cumulative impacts on cultural resources associated with the Proposed Action and other ongoing and planned activities would be [Bold for emphasis: moderate to major] due to the long-term or permanent and irreversible impacts on archaeological (marine and terrestrial) resources, and historic aboveground resources including the First Cape Henry Lighthouse NHL." The DEIS, however, fails to identify or describe any alternative that would reduce or avoid this impact and still meet most of the project objectives. Nor does the DEIS recommend adequate mitigation measures for reducing this impact.	Prudent and feasible alternatives to avoid adverse effects from the Project on the First Cape Henry Lighthouse and planning to the maximum extent possible necessary to minimize harm to NHLs are described in Appendix O, Section O.4, of the Final EIS and in the MOA. Given the location of the Project Lease Area and the number of WTGs, BOEM considered three alternatives to the Proposed Action. As described in Appendix O, Section O.4, the only alternative that BOEM was able to identify that avoids any Project effects was the No Action Alternative. Actions to minimize the visual adverse effects on First Cape Henry Lighthouse include using non-reflective white and light-gray paint on offshore structures (i.e., WTGs and OSSs) and a ADLS minimizes the visibility of the WTGs and OSSs.
0022-0008	In its current form, the DEIS leaves many impacts unknown or incomplete, and consulting parties cannot provide the feedback BOEM requests. BOEM needs to give consulting parties additional opportunities to comment on the complete analyses once the terrestrial survey reports have been completed, rather than requiring comments on various "to be determined" statements.	BOEM informed consulting parties, with the distribution of cultural technical reports in November 2022 and at the second consultation meeting in December 2022, that the agency would be following a phased identification approach for terrestrial archaeological resources in accordance with Section 106 regulations at 36 CFR 800.4(b)(2). BOEM distributed the Terrestrial Archaeological Resources Assessment (TARA) report to Tribes and Section 106 consulting parties on March 20, 2023 for a minimum 30-calendar-day review period ending on April 20, 2023. Additionally, BOEM held a Section 106 consultation meeting with consulting parties on April 13, 2023 to specifically discuss the TARA. During the review period, BOEM invited Tribes and consulting parties to review and submit comments

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		<p>on the TARA. Comments received during this time period were reviewed and considered in the Final EIS, BOEM's Section 106 Finding of Adverse Effect, and Section 106 consultations leading to the development of the Final MOA.</p>
0022-0028	<p>Under the NHPA and NEPA, BOEM must seek discussion from consulting parties at each step of the identification, assessment, and mitigation process. Here, however, BOEM asks for input on information it has refused to share with Tribes, preferring instead to treat consultation as an inappropriate data mining exercise. For example, BOEM has stated that the Project will have an adverse impact on five ancient submerged landform features (ASLFs) with potential archaeological or traditional cultural property (TCP) significance. The DEIS states that "development of the final Project design is ongoing, and it is currently unclear whether Dominion Energy would be able to avoid effects on the identified ASLFs in the marine APE." [Footnote 4: DEIS O-23.] And yet, despite not providing information on a finalized design or fully analyzed impacts, BOEM requests that consulting parties, including tribes, provide feedback at this stage. Consulting parties cannot provide input on whether BOEM has adequately assessed or mitigated harm to cultural resources, because the information simply is not there.</p>	<p>The Final EIS indicates that four of the six ASLFs identified in Dominion Energy's investigations are located within the marine APE. The two other ASLFs are outside of but near the marine APE and, therefore, included in BOEM's analysis due to their proximity: a fifth ASLF is outside of but immediately adjacent to the horizontal extent of the marine APE; and a sixth is within the horizontal extent but below the vertical extent of the marine APE and therefore not in the marine APE.</p> <p>Additionally, Dominion Energy's commitment made since the publication of the Draft EIS to avoid ASLFs by adopting a horizontal avoidance buffer around all six identified ASLFs allows BOEM to conclude the Project would have no effect on any ASLFs.</p>
0022-0029	<p>Because both the underwater and the terrestrial components of this project have the potential to impact cultural landscapes and specific sites, the DEIS must clearly include public and stakeholder review of the methods for examining and evaluating cultural landscapes and sites along the transmission line and within the underwater portion. BOEM proposed in 2021 to conduct a preliminary TCP assessment "to identify key topics, information needs, and consultation needs to inform development of a more comprehensive study and associated consultation to incorporate in the EIS." [Footnote 7: BOEM, CVOW and Kitty Hawk Projects, Government to Government Consultation Meeting notes (Sept. 27, 2021), at 42.] Yet BOEM has failed to conduct even a preliminary TCP assessment or ensure that their identification process for these resources was adequate.</p>	<p>BOEM acknowledged input from Tribes regarding the potential for tribal cultural resources such as cultural landscapes or traditional cultural properties (TCPs) to be present in the Project area and subject to potential effects from the Project. BOEM requested Dominion Energy to coordinate with federally recognized Tribes to identify these potential cultural resources as part of its historic property identification efforts completed in partial fulfillment of a sufficient COP. Dominion Energy's outreach and engagement with Tribes is summarized in the COP, Appendix G, Section G.2.2. Through this process, the Nansemond Indian Nation communicated specific cultural resources of concern to Dominion Energy which were then evaluated for NRHP eligibility and assessed for potential Project effects in the TARA report. The Nation's scoping comments were incorporated into the TARA's cultural</p>

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	<p>Evaluation of cultural landscapes requires consulting with tribes and other traditional communities regarding how they have used the land in the Project Area and any traditional practices that they continue to perform on the land. Indigenous Cultural Landscapes project has identified several indigenous cultural landscapes within the Tidewater, on the York, Mattaponi, Pamunkey, and Rappahannock Rivers. [Footnote 8: “Defining the Rappahannock Indigenous Cultural Landscape” and “Defining the Greater York River Indigenous Cultural Landscape” at https://www.nps.gov/cajo/learn/indigenous-cultural-landscapes.htm] While that project has not yet extended to the rivers of the project area, areas near the CVOW Project have similar qualities in terms of documentation of the area and its inhabitants by John Smith, recorded archaeological resources representing Algonquian village sites, and persistence of descendant tribes.</p>	<p>context as well. BOEM distributed the Phased Identification Plan to Tribes and consulting parties in November 2022 for review and comments on archaeological sensitivity and identification methods. The TARA was distributed on March 20, 2023, for review and comment. The third Section 106 Consultation Meeting was held on April 13, 2023 to present the findings in the TARA and solicit comments. BOEM’s assessment of effects as summarized in Appendix O, <i>Finding of Adverse Effect for the Project</i>, reflects the identification and evaluation of tribal cultural resources based on Dominion Energy’s efforts conducted at BOEM’s direction.</p> <p>[NOTE: No tribal cultural landscapes or TCPs in the undertaking’s APE were identified through this process as of May 31, 2023, but consultation on the identification and evaluation of resources and TCPs within the APE for this undertaking is in progress and ongoing. However, BOEM acknowledges that Tribes possess special expertise in assessing the National Register eligibility of historic properties that may possess religious and cultural significance to them and remains in consultation with Tribes and consulting parties on the identified historic properties; assessment of effects; and planning for the resolution of adverse effects under NHPA Section 106. This includes consultation on content to be included in the Final EIS and Final MOA, including the avoidance, minimization, and mitigation measures to be adopted by the Project.]</p>
0021-0105	<p>Section 3.12.2.1 of the DEIS indicates that six “ancient submerged landforms” with as- yet unknown tribal significance have been identified within the Lease Area or just adjacent to it, and that no other resources with tribal significance have been identified to date. The DEIS notes that BOEM is consulting with Native American tribes on the significance of the submerged landforms and on the identification of other potential tribal resources in the project area, and that this consultation will continue throughout development of the Final EIS. In short, potential environmental justice impacts to Native American populations are still largely unknown at this point in the NEPA review.</p>	<p>BOEM invited Tribes to participate in NHPA Section 106 consultations meetings on September 9, 2022, December 15, 2022, April 13, 2023, and June 12, 2023. Appendix O, <i>Finding of Adverse Effect for the Coastal Virginia Offshore Wind Construction and Operations Plan</i>, includes a summary of tribal cultural significance of the ASLFs.</p> <p>BOEM acknowledges that Tribes possess special expertise in assessing the National Register eligibility of historic properties that may possess religious and cultural significance to them and has consulted with Tribes and consulting parties on the identified historic properties, including ASLFs; assessment of</p>

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	<p>This makes it all the more critical that BOEM continue to proactively consult and collaborate with tribal nations and their representatives as part of the NEPA and NHPA processes, and we strongly urge BOEM to go above and beyond the minimum tribal consultation requirements of the NHPA and its implementing regulations. [Bold: We request that BOEM summarize in the Final EIS its efforts to engage and consult with tribal nations.] The Final EIS should also include a summary of the ultimate findings regarding the cultural significance of the ancient submerged landforms, a discussion of impacts to any other resources of tribal significance that are identified in the ongoing investigations and surveys, and a list of the resulting avoidance, minimization, and mitigation efforts to which Dominion has committed.</p>	<p>effects; and planning for the resolution of adverse effects under NHPA Section 106. This includes consultation on content included in the Final EIS and Final MOA, including the avoidance, minimization, and mitigation measures to be adopted by the Project. The MARA identified marine archaeological resources and ASLFs and includes a discussion of their potential cultural significance. This information is summarized in Final EIS Appendix O, <i>Finding of Adverse Effect for the Project</i>. The Project would avoid effects on identified ASLFs with potential archaeological or TCP significance by implementing avoidance buffers around the defined spatial extent of each of these historic properties; therefore, the Project is not anticipated to result in adverse effects on ASLFs.</p> <p>The Final EIS includes a summary of BOEM's government to government consultations with Tribes in Appendix A <i>Required Environmental Permits and Consultations</i>; Section 3.12, <i>Environmental Justice</i>.</p>
0021-0145	<p>The DEIS notes that Section 106 consultation is still ongoing and could influence potential mitigation measures developed for the Project. [Footnote 308: See CVOW-C DEIS at 2-1.] As noted above with respect to potential environmental justice impacts to Native American populations, robust consultation under Section 106 is paramount to ensuring that the Project appropriately considers impacts on historically and culturally significant tribal resources, and the same is true regarding impacts on other types of historic resources. The Section 106 consultation and collaborations should continue throughout the Project's development to help avoid, minimize, and mitigate potential impacts to known historic resources, and in case any unknown resources are discovered during its development.</p>	<p>BOEM invited Tribes to participate in NHPA Section 106 consultations meetings on September 9, 2022, December 15, 2022, April 13, 2023, and June 12, 2023. BOEM has consulted with Tribes and consulting parties on the identified historic properties; assessment of effects; and planning for the resolution of adverse effects under NHPA Section 106. This includes consultation on content included in the Final EIS and Final MOA, including the avoidance, minimization, and mitigation measures to be adopted by the Project and process for handling the unanticipated discovery of archaeological resources and related consultations.</p>
0037-0008	<p>Section 3.10, pg. 3.10-16: Cultural resource investigations have also determined that the Proposed Action or Alternative A-1 would have moderate impacts on one historic aboveground resource: the Camp Pendleton/State Military Reservation Historic District (134-0413). The demolition of two contributing structures, Buildings 59 and 410, for the</p>	<p>BOEM has revised this section to state that BOEM would require Dominion Energy to implement treatment options that are develop through consultations with the VDMA-VaARNG, Virginia SCC, Virginia SHPO (VDHR), and other consulting parties.</p>

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	<p>installation of the underground transmission lines associated with the landing location to the Harpers Route would alter the setting and viewshed, resulting in a moderate impact on the resource (COP, Appendix H-3; Dominion Energy 2022). [Italics: BOEM anticipates that Dominion Energy would implement plans to avoid, minimize, or mitigate impacts on aboveground historic properties as aligned with VDHR and NHPA requirements. Dominion Energy proposes to determine treatment options through consultation with BOEM, the Virginia SCC, VDHR, property owners, and consulting parties. Dominion Energy notes that treatment options could include any of the following: detailed site documentation, historic research, and historic preservation studies; preparation of digital media or museum-type exhibits for public interpretation; installation of historic markers or signs; installation of vegetative screening; or contributions to historical preservation organizations or specific preservation projects. Additionally, the Young Men’s Christian Association (YMCA) foundations that are part of the Historic District will be protected during construction with the installation of temporary fencing.]</p> <p>[Bold: All noted above requires consultation with VDMA-VaARNG, the agency that manages SMR (Camp Pendleton), and is responsible for environmental compliance at the installation. Comment applies here, and to other sections of the DEIS addressing impacts on SMR, proposed plans for avoidance or minimization of impacts, and proposed options for mitigation.]</p>	
0037-0011	<p>-Chapter 3: Pages 3-10-3-16: Will Dominion be paying for all necessary archaeological assessments, if necessary, and will Dominion pay for the proposed interpretive panels suggested in the possible scenarios given to mitigate the Adverse Effect resulting from demolition of Buildings 59 and 410 in the APE? --Would the same be true of any other possible disturbances or considerations given that all sites are being treated as eligible for the purpose of the study? In particular, re: the contributing [resource] at SMR consisting of the remains of the YMCA, and Lake Christine, etc.</p>	<p>BOEM refined the specifics of the mitigation measures for all adversely affected historic properties through NHPA Section 106 consultations. The suggested activities were considered as potential mitigation measures during consultation. BOEM distributed a draft of the Final MOA, including treatment plans, for consulting party review and comment on June 5, 2023.</p>

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0037-0016	<p>-Appendix A: Page A-2: VDHR has been listed as a “planned” consultant for historic properties. [Bold: VDMA-VaARNG should also be a “consultant” for all planning and activities involving SMR.]</p> <p>--How are these efforts coordinated with affected parties?</p>	<p>VDMA-VaARNG has been added to Appendix A and Section 3.10, <i>Cultural Resources</i>. BOEM has consulted with Tibes and consulting parties on planning for the resolution of adverse effects under NHPA Section 106. BOEM held consultation meetings to specifically solicit input from consulting parties on mitigation measures and the development of the Final MOA.</p>
0022-0006	<p>Moreover, the Nation has repeatedly requested Phase I survey reports be provided as soon as they are available to assist with its review of this Project. The Nation has also requested that when sensitive or non-public cultural resources documents are produced for this project in the future, that the Nation be provided with these documents promptly for review and comment. BOEM has repeatedly failed to provide the Nation with any Phase I reports. BOEM’s failure to provide the Nation with Phase I report(s) prohibits the Nation from understanding what resources may or may not be affected and what the eligibility determination is based on.</p>	<p>A draft version of the TARA report submitted to BOEM prior to March 2023 had been determined to be insufficient for consultation as it contained incomplete resource identification and assessments of effect due to delayed property access permissions. Additionally, this incomplete draft of the TARA report did not contain a plan for phasing the then-remaining Phase I surveys required by BOEM and the Virginia SHPO. As such, BOEM requested that Dominion Energy address these insufficiencies in the TARA report and develop a Performance Improvement Plan (PIP) that could be provided to Tibes and consulting parties to demonstrate the steps it was taking in the process of completing a sufficient TARA. This plan included descriptions of archaeological sensitivity and resource identification methods. All comments on the plan were reviewed and considered in the Revised TARA, Final EIS, BOEM’s Section 106 Finding of Adverse Effect (Appendix O of the Final EIS), and Section 106 consultations leading to the development of the Final MOA. This plan, along with other Section 106 documents, was distributed to Tibes and consulting parties on November 11, 2022. Additionally, BOEM provided available information on terrestrial archaeological resources to Tibes and consulting parties in the Draft EIS and its Finding of Adverse Effect for the Project to the extent knowable and feasible at the time of publication of the Draft EIS in December 2022.</p> <p>In March 2023, Dominion Energy submitted a TARA report which BOEM determined to be sufficient for continuing consultations. BOEM distributed the TARA report to Tibes and Section 106 consulting parties on March 20, 2023 for a minimum 30-calendar-day review period ending on April 20, 2023. Additionally, BOEM held a Section 106 consultation</p>

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		<p>meeting with consulting parties on April 13, 2023 to specifically discuss the TARA. During the review period, BOEM invited Tribes and consulting parties to review and submit comments on the TARA. Comments received during this time period and through consultations and additional consulting party review and comment periods thereafter are reviewed and considered in the Final EIS, BOEM’s Section 106 Finding of Adverse Effect, and Section 106 consultations leading to the development of the Final MOA.</p>
<p>0022-0014</p>	<p>Regarding the Phased Identification plan, the Nation notes that it was not consulted on this plan before its adoption. Under the State Corporation Commission’s order approving this project, the Commission ruled that “Dominion should continue to engage environmental justice communities and other affected populations, including, but not limited to, the continued coordination with the Nansemond Indian Nation regarding its historical and cultural concerns.” [Footnote 10: Final Order, State Corporation Commission Case No. PUR-2021-00142 (Aug. 5, 2022) at 39.] The Nation requests that BOEM and Dominion consult with the Nation regarding the terrestrial survey results, particularly if archaeological sites are identified that may be eligible for listing on the National Register of Historic Places.</p>	<p>The PIP is a process document to provide consulting parties with the anticipated availability of the TARA for consultation. BOEM distributed the draft TARA to Tribes and consulting parties on March 20, 2023 for review and comment, and invited federally recognized tribes and consulting parties to a Section 106 consultation meeting held on April 13, 2023 to discuss the results of the TARA and solicit feedback. BOEM consulted with the Nansemond Indian Nation, other federally recognized tribes, and consulting parties, throughout its Section 106 review of the Project.</p>
<p>0022-0022</p>	<p>[Bold: BOEM has not upheld its consultation obligations under the NHPA and has failed to comply with its federal Indian trust responsibility as well as its duty to consult with tribes on a government-to-government basis.]</p> <p>The Nation is not satisfied with the level of consultation BOEM has carried out thus far. In multiple instances BOEM has failed to provide the Nation with enough information about impacts to the area, despite multiple requests. Further, BOEM has not recognized the unique expertise that tribes hold in identifying and assessing potential impacts, and the analyses in the DEIS reflect this consultation failure.</p> <p>“Consultation,” under the NHPA, “means the process of seeking, discussing, and considering the views of other participants, and, where feasible, seeking agreement with them regarding matters arising in the section 106 process.”</p>	<p>BOEM has engaged in, currently engages in, and will continue to engage in consultation with Tribal Nations, SHPOs, ACHP, and consulting parties involved in the Section 106 review for the CVOW-C Project.</p> <p>BOEM acknowledges that Tribes possess special expertise in identifying historic properties that may possess religious and cultural significance to them and has consulted with Tribes and consulting parties on the identification of historic properties, assessment of effects, and the resolution of adverse effects under NHPA Section 106. This includes consultation on the Finding of Effect and Final MOA, including the avoidance, minimization, and mitigation measures to be implemented by BOEM and Dominion Energy.</p>

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	<p>[Footnote 1: 36 C.F.R. (Section) 800.16(f).] Furthermore, because the Nation is federally recognized, BOEM has a trust responsibility to the Nation. BOEM is also required under NEPA, in addition to considering impacts on the natural environment, to consider impacts on historic and cultural resources.</p> <p>In addition, BOEM must follow the process outlined by the NHPA: identify historic properties in the Project area, then assess whether those properties will be adversely affected by the Project, and finally seek ways to reduce, minimize, or mitigate adverse effects. In doing so, agency officials must acknowledge that tribes possess special expertise in assessing the National Register eligibility of historic properties that may possess religious and cultural significance to them. [Footnote 2: 36 C.F.R. (Section) 800.4(c)(1).]</p>	<p>BOEM is addressing all of the regulatory requirements of the of the NHPA Section 106 process, including consultation, as it proceeds through the NEPA analyses.</p> <p>BOEM invited Tribes to participate in NHPA Section 106 consultations meetings on September 9, 2022, December 15, 2022, April 13, 2023, and June 12, 2023. After each Section 106 meeting, BOEM provided a meeting summary and a recording to Tribes and consulting parties. Additionally, BOEM held government-to-government meetings on September 27, 2021 and January 30, 2023 with Tribes. After each government-to-government meeting, BOEM shared a meeting summary with Tribes. The Final EIS provides a summary of BOEM’s consultations with Tribes Appendix A <i>Required Environmental Permits and Consultations</i>; Section 3.12 Environmental Justice; and Appendix O <i>Finding of Adverse Effect for the Coastal Virginia Offshore Wind Construction and Operations Plan</i>.</p>
0022-0025	<p>Considering how BOEM has handled the marine and terrestrial archaeology, it is difficult to understand how BOEM could think it has adequately considered the views of the Nation, and in particular its unique expertise in its own cultural and historic resources. It is further unclear how BOEM believes it is truly considering impacts to historic and cultural resources because, as discussed in more depth below, DEIS does not provide consulting parties with enough information about impacts to the Nation’s resources, and the Draft MOA suggests mitigation without first identifying and assessing effects. BOEM has not upheld its consultation obligations or its government-to-government obligations, as reflected in the quality of the DEIS and the materials provided to the Nation. The Nation therefore requests that BOEM provide additional opportunities for consultation after they have reviewed the Phase Ib and any subsequent cultural resources studies and before the EIS is finalized.</p>	<p>BOEM disagrees with the assertion that the agency has not upheld its consultation and government-to-government obligations. Since the publication of the DEIS, BOEM has provided additional opportunities for consultation at Section 106 meetings held on April 13, 2023, and June 12, 2023, and at a Tribal fisheries workshop held on April 10, 2023. Additionally, BOEM has updated the Cultural Resources and Fin Fish sections of the preliminary Final EIS to address tribal concerns raised during government-to-government meetings and informal tribal meetings to discuss impacts on fisheries and cultural resources.</p>
0052-0001	<p>With greater certainty, though, I observed that there are three Liberty ship wrecks that serve as artificial reefs within the proposed windfarm boundaries (George P. Garrison, James</p>	<p>Thank you for this information. BOEM has established the USCG as a Section 106 consulting party and is continuing to</p>

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	<p>E. Haviland, and Edgar Erastus Clark), as well as a USCG vessel (USCGC Cuyahoga). These are noted in the report, and so I do not believe I am sharing something new with you; however, I did wish to connect you with Ms. Barbara Voulgaris, Federal Preservation Officer with the Maritime Administration (generally responsible for Liberty ship wrecks), and Mr. Dale Murad and Mr. Scott Price with the USCG, in case they were unaware of the consultation underway.</p>	<p>reach out to the Maritime Administration to confirm their awareness of the invitation to consult.</p>
<p>0023-0001</p>	<p>In addition, UMIT writes separately to inform BOEM about UMIT's special concerns related to impacts to fish and other species to which it maintains deep traditional cultural connections, and which may be adversely affected by CVOW. The DEIS ignores our concerns in the same way BOEM has ignored our requests for information about how CVOW will affect these populations.</p>	<p>BOEM acknowledges the traditional and cultural connections Upper Mattaponi Indian Tribe has to fishing. The Final EIS, Biological Assessment (BA), and Essential Fish Habitat (EFH) Assessment have been updated to incorporate additional findings and to reflect feedback BOEM received during the April 10, 2023 Tribal fisheries meeting and through comments on the Draft EIS and other consultation correspondences.</p>
<p>0014-0061</p>	<p>[Bold: 13(b) Agency Findings.] DHR notes that it has been in direct consultation with the BOEM regarding the CVOW-C project. [Bold: 13(c) Requirement.] BOEM must continue consultation with DHR pursuant Section 106 of the National Historic Preservation Act which requires federal agencies to consider the impacts of their projects on historic properties.</p>	<p>BOEM has consulted with VDHR pursuant Section 106 of the NHPA. BOEM's Section 106 consultation is summarized in Appendix O of the Final EIS.</p>
<p>0037-0004</p>	<p>VDMA-VaARNG understands that the Project's oceanfront landing and initial pathway inland will occur at SMR; and that this is a fixed aspect of the Project, while once the Project route leaves the SMR installation, there are alternate routes currently under consideration. VDMA-VaARNG, largely through its Facilities Management Office, has had the opportunity to coordinate with the Project applicant, Dominion Energy, in the early stages of planning for the proposed route. This has allowed consideration of the Project's complex engineering aspects in relation to options for minimizing impacts on cultural and natural resources at SMR, and on SMR's operations as an active military training post.</p>	<p>BOEM has consulted with VDMA-VaARNG regarding options for minimizing and resolving adverse effects or impacts on cultural and natural resources at SMR.</p>

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0037-0025	Pg. 0-55: Additional mitigation options could be identified through consultation with BOEM the Virginia SCC VDHR the SMR and other consulting parties. [Bold: Consult with VDMA-VaARNG on all mitigation options pertaining to SMR – VDMA-VaARNG is the agency that manages SMR including environmental compliance.]	BOEM has consulted with VDMA-VaARNG and other consulting parties throughout its Section 106 review of the Project. BOEM has consulted with consulting parties on the identified historic properties, assessment of effects, and planning for the resolution of adverse effects under NHPA Section 106. This includes consultation on content included in the Final EIS and Final MOA, including the avoidance, minimization, and mitigation measures to be adopted by the Project.
0049-0001	<p>I would like to request for you to have examined whether the following properties fall within this Visual APE. The are all located on the western shore of Back Bay.</p> <ul style="list-style-type: none"> - 6216 Pocahontas Club Road (GPIN #23178463350000 and #23178570820000) - 1089 Horn Point Road (GPIN #24224548740000) - 1401 Drum Point Road (GPIN #24200309270000) <p>Each of these properties have a historic gun/hunt club located on them. Currently, the City of Virginia Beach has a Cultural Resource Management firm under contract to research, develop and prepare a Preliminary Information Form (PIF) for a National Register of Historic Places (NRHP) Multiple Property Documentation (MPD) for the Princess Anne County (Virginia Beach) Gun and Hunt Clubs. The accompanying individual property PIF for the MPD is for the Pocahontas Hunt Club (6216 Pocahontas Club Road). This resource was noted as eligible for listing in the NRHP in the 1993 Survey of the City of Virginia Beach Phase II by Tracerics. It is anticipated that the Horn Point Club and the Drum Point Club will be proposed to be eligible for listing through the MPD process. The Gun and Hunt Clubs MPD PIF is anticipated to be ready for review by the State Review Board on either their June 2023 or September 2023 agenda.</p>	Thank you for providing this information. Dominion Energy revised the HRVEA to reflect consideration of whether these historic properties are in the visual APE and whether they would be adversely affected by the Project. BOEM sought input on the identification of historic properties within the APE and on the resolution of adverse effects during Section 106 consultation meetings and document review and comment periods for consideration in the Final EIS.

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	<p>If any of these properties are determined to be in the Visual APE, I would like them added to the list.</p>	
<p>0022-0003</p>	<p>It is impossible for the Nation to give informed feedback when BOEM has not yet provided the Terrestrial Archaeology Resource Assessment (TARA)</p>	<p>BOEM informed Tribes and consulting parties, with the distribution of cultural technical reports in November 2022 and at the second consultation meeting in December 2022, that the agency would be following a phased identification approach for terrestrial archaeological resources in accordance with Section 106 regulations at 36 CFR 800.4(b)(2). The PIP was distributed to Tribes and consulting parties in November 2022 for review and comment on the archaeological sensitivity assessment and identification methods. BOEM distributed the TARA report to Tribes and Section 106 consulting parties on March 20, 2023 for a minimum 30-calendar-day review period ending on April 20, 2023. Additionally, BOEM held an NHPA Section 106 consultation meeting with consulting parties on April 13, 2023 to specifically discuss and solicit feedback on the TARA. During the review period, BOEM invited Tribes and consulting parties to review and submit comments on the TARA. Comments received during this time period were reviewed and considered in the Final EIS, BOEM’s Section 106 Finding of Adverse Effect, and NHPA Section 106 consultations leading to the development of the Final MOA.</p>
<p>0022-0005</p>	<p>As further example, BOEM has taken it upon itself to determine that its own summary of previous archaeological investigations will be sufficient for consulting parties, rather than allowing consulting parties to review the materials, such as the Phase 1b reports, themselves. In its Finding of Adverse Effect, BOEM states that the Project will have an adverse effect on thirteen terrestrial archaeological resources, five of which either are, or have, a pre-contact component; [REDACTED: list of five archaeological resources]. BOEM states that it “reviewed the TARA and PIP and determined that the completed and planned investigations summarized in the documents will be sufficient for identifying historic properties in the terrestrial APE.” [Footnote 3: DEIS O-14.] We remind BOEM, however, that the Nation is the subject matter expert on its history and the importance of sites and</p>	<p>BOEM acknowledges that Tribes possess special expertise in assessing the NRHP eligibility of historic properties that may possess religious and cultural significance to them and consulted with Tribes and consulting parties on the identified historic properties, including ASLFs; assessment of effects; and planning for the resolution of adverse effects under NHPA Section 106. This includes consultation on content included in the Final EIS and Final MOA, including the avoidance, minimization, and mitigation measures to be adopted by the Project.</p>

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	<p>landscapes, not federal agencies or private companies. Eligibility determinations for Indigenous sites, such as those at issue here, are incomplete without the input of the affected tribes, and any such determinations that occur without tribal input go against the federal trust responsibility owed to the Nation. One problem with the inability to review the Phase 1b is that it is not possible for the Nation to see what portions of sites were previously tested (or retested), and by whom, which might impact how the Nation interprets the accuracy of prior eligibility determinations.</p>	
0022-0023	<p>The Nation's comments address deficiencies with the consultation process generally as well as with the DEIS, technical reports, and the draft proposed Memorandum of Agreement ("MOA"). Meaningful consultation can only come from comprehensive reviews and quality information, neither of which BOEM has provided. Accordingly, BOEM should not finalize the EIS without full and complete information and must provide the Nation with further opportunity to comment once the information needed by consulting parties, including tribes, is available. Specifically, the Nation requests an additional opportunity to comment on the DEIS and MOA once complete information is provided.</p>	<p>BOEM distributed Section 106 technical documents and reports to Tribes and consulting parties in November 2022, March 2023, and June 2023. A draft MOA was distributed in January 2023. In response to comments on the MOA, the document was revised and redistributed to Tribes and consulting parties on June 5, 2023. During NHPA Section 106 Consultation Meeting #4 on June 12, 2023, BOEM requested comments and questions on the revised MOA. BOEM consulted with Tribal Nations and consulting parties on the identified historic properties, assessment of effects, and planning for the resolution of adverse effects under NHPA Section 106. This includes consultation on content included in the Final EIS and Final MOA, including the avoidance, minimization, and mitigation measures to be adopted by the Project. Since issuance of the Draft EIS, BOEM has revised the Section 106 Finding of Effect and MOA in response to comments from Tribal Nations and consulting parties and provided review periods and consultation meetings as noted above. BOEM has provided the Nansemond Indian Nation with the necessary information to meaningfully consult. This includes offering an additional opportunity to review and comment on the Preliminary Final EIS in response to this request; comments from this review are being used to inform content in the Final EIS.</p>
0014-0010	<p>With respect to the Section 106 Historic Resources, Appendix D states, "BOEM has determined there is sufficient information on cultural resources within the geographic analysis area and APE for the analysis in this Draft EIS to</p>	<p>Viewshed modeling of the proposed offshore Project components did not indicate that the Project would be visible from Tangier Island. As such, Tangier Island is not within the</p>

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	<p>support a reasoned choice among alternatives” (Appendix D, page D-3, Sec D-1.7), yet Dominion Energy has not completed a detailed socioeconomic analysis of commercial fishing which would demonstrate the National Trust Designated Community, Tangier Island, which is reliant on seafood and tourism as their primary economic drivers, could be affected by the project.</p>	<p>cultural resources geographic analysis area nor the Section 106 visual APE for the Project.</p> <p>Additionally, for Section 106 of NHPA, the seafood and tourism industries of Tangier Island do not meet the NRHP Criteria for Evaluation as defined in 36 CFR § 60.4. As such, assessments of potential socioeconomic impacts on the seafood and tourism industries of Tangier Island are outside the scope of the cultural resources analysis which focuses on the Project’s potential impacts on cultural resources and historic properties per Section 106 of the NHPA. Please refer to BOEM’s assessment of potential impacts on these aspects of the environment in Section 3.9, <i>Commercial Fisheries and For-Hire Recreational Fishing</i>, Section 3.11, <i>Demographics, Employment, and Economics</i>, and Section 3.18, <i>Recreation and Tourism</i>.</p>
0014-0011	<p>due to the lack of a detailed socioeconomic analysis of the seafood industry, no conclusions can be made in Appendix O with respect to Adverse Effects under Section 106 of the National Historic Preservation Act (NHPA).</p>	<p>Please refer to response to comment 0014-0010.</p>
0051-0002	<p>BOEM should meaningfully consider comments from all consulting parties in finalizing its determination of effects. Appropriate mitigation for these identified adverse effects should be developed through consultation among BOEM, DHR, and other consulting parties. Mitigation for all adverse effects should be memorialized in the Memorandum of Agreement (MOA) under development by BOEM and the consulting parties.</p>	<p>BOEM has consulted with Tribal Nations and consulting parties on the identified historic properties, assessment of effects, and resolution of adverse effects under NHPA Section 106. This includes consultation on content included in the Final EIS and Final MOA, including the avoidance, minimization, and mitigation measures to be adopted by the Project.</p>
0037-0003	<p>The SMR installation in its entirety is listed in the National Register of Historic Places (NRHP) and the Virginia Landmarks Register (VLR) as the Camp Pendleton/State Military Reservation Historic District (SMR Historic District). The cultural resources contributing to the SMR Historic District’s registers [eligibility] include several that are also considered individually NRHP/VLR-eligible. In addition, there are natural resources at SMR that VDMA-VaARNG manages, including beachfront dunes and native plants, Lake Christine,</p>	<p>BOEM has revised Appendix O of the Final EIS to include the additional contributing natural features as a part of the historic property description.</p>

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	and wooded areas on post, along with species habitats present at SMR.	
0037-0029	<p>-Chapter 2, Page 2-9: The proposed Project would include a cable landing location in Virginia Beach, Virginia, as shown in COP Section 3, Figure 3.3-14 (Dominion Energy 2022). The cable landing would be located at the proposed parking lot west of the firing range at the SMR. Dominion Energy plans to use trenchless installation—direct steerable pipe thrusting (DSPT)—to install the offshore export cables under the beach and dune and bring them to shore through a series of conduits.</p> <p>[Bold: Note here and where discussed elsewhere in the DEIS, that the “firing range” at SMR, the Rifle Range, is a contributing resource in the Camp Pendleton/State Military Reservation Historic District (SMR Historic District), and is also considered individually eligible for listing in the National Register of Historic Places (NRHP) by VDMA-VaARNG, per prior and ongoing research on the resource. It is edged by earthen berms, with targets on the eastern, beachfront side. Also note that the beachfront at SMR is a cultural landscape contributing to the NRHP eligibility of the SMR Historic District.]</p>	BOEM has revised Appendix O of the Final EIS to include these additional contributing features to this SMR Historic District.
0015-0007	<p>With respect to the Section 106 Historic Resources, Appendix D states, “BOEM has determined there is sufficient information on cultural resources within the geographic analysis area and APE for the analysis in this Draft EIS to support a reasoned choice among alternatives” (Appendix D, pg D-3, Sec D-1.7) yet Dominion Energy has not completed a detailed socioeconomic analysis of commercial fishing which would demonstrate the National Trust Designated Community, Tangier Island, which is reliant on seafood and tourism as their primary economic drivers, could be affected by the project. Additionally, due to the lack of a detailed socioeconomic analysis of the seafood industry, no conclusions can be made in Appendix O with respect to Adverse Effects under Section 106 of the National Historic Preservation Act (NHPA).</p>	<p>Viewshed modeling of the proposed offshore Project components did not indicate that the Project would be visible from Tangier Island. As such, Tangier Island is not within the cultural resources geographic analysis area nor the Section 106 visual APE for the Project.</p> <p>Additionally, for Section 106 of NHPA, commercial fishing and the seafood and tourism industries of Tangier Island do not meet the NRHP Criteria for Evaluation as defined in 36 CFR § 60.4. As such, assessments of potential socioeconomic impacts on commercial fishing and the seafood and tourism industries of Tangier Island are outside the scope of the cultural resources analysis, which focuses on the Project’s potential impacts on cultural resources and historic properties per Section 106 of the NHPA. Please refer to BOEM’s assessment of potential impacts on these aspects of the environment in Section 3.9 <i>Commercial Fisheries and For-</i></p>

Comment No.	Comment	Response
		<p><i>Hire Recreational Fishing</i>, Section 3.11 <i>Demographics, Employment, and Economics</i>, and Section 3.18 <i>Recreation and Tourism</i>.</p> <p>Please refer to response for comment 0014-0010 for related information.</p>
<p>BOEM- CHPNIN- Unassigned- 01</p>	<p>After additional review of the DEIS, the Nation supplements its previous comments to draw attention to its concerns around visual impacts to the Back Bay National Wildlife Refuge, which is part of the Nation’s traditional cultural landscape. The Nation requests that BOEM consider the Refuge in its environmental and cultural reviews for purposes of its EIS analysis and that additional visual simulations be prepared, as those in the Visual Impact Assessment for this location do not meet BOEM’s own guidelines and fail to show the Nation and other consulting parties the full extent of CVOW’s adverse visual effects. The visual effects to the Refuge must also be recognized and addressed in the MOA.</p>	<p>BOEM acknowledges that Tribes possess special expertise in assessing the National Register eligibility of historic properties that may possess religious and cultural significance to them. BOEM will continue to consult with the Tribe on the identification of traditional cultural properties and potential effects of the Project.</p> <p>The Back Bay National Wildlife Refuge is not within the visual APE for Onshore Project components. Coastal areas of the Back Bay National Wildlife Refuge are located within the visual APE for Offshore Project components and could have views of the Project, as described in the VIA (COP, Appendix I-1).</p> <p>Please refer to response to comment BOEM-CHPNIN-Unassigned-02 for additional information on visual impacts for the Back Bay National Wildlife Refuge.</p> <p>Please refer to response to comment BOEM-CHPNIN-Unassigned-03 for additional information on visual simulations.</p>
<p>BOEM- CHPNIN- Unassigned- 02</p>	<p>The Visual Impact Assessment (“VIA”) is too limited in scope and does not provide enough information for the Nation or BOEM to assess potential impacts to its traditional cultural places, particularly the Back Bay National Wildlife Refuge (“Refuge”).</p> <p>The VIA is inadequate to show the actual impact of the wind turbines and associated infrastructure. It must therefore be amended to assess adverse impacts accurately and to determine appropriate avoidance, minimization, or mitigation measures from additional vantage points. Specifically, the VIA does not provide enough information to assess visual impacts to the Back Bay National Wildlife Refuge. The Refuge is a traditional cultural property that holds great significance to the</p>	<p>The VIA includes consideration of potential impacts for a range of atmospheric conditions from various key observation points (KOPs), including the Back Bay National Wildlife Refuge/Little Island Park (KOP 44). The VIA notes that views from the beach areas of the KOP are unobstructed toward the Project area, approximately 26.8 miles away, but views from areas not directly on the beach are mostly obscured by dune topography and vegetation. Some turbines would be theoretically visible in Back Bay National Wildlife Refuge from the hub up and maximum blade tip as indicated by the viewshed model illustrated in Figure I-1-13 of the COP. BOEM determined this information is sufficient to enable an informed assessment of visual impacts as found in the VIA.</p>

Comment No.	Comment	Response
	<p>Nation, and it lies directly on the ocean and looks outward with a currently unobstructed view. The area known today as the Back Bay National Wildlife Refuge has from deep history been a part of the Nation's hunting, fishing, and oystering territories, as well as the location of an early Nansemond reservation. The Refuge is also one of the few places on the increasingly urbanized and industrialized landscape on the Virginia coast where natural resources that benefit all Virginians are preserved and protected. The Nation is accordingly concerned about the visual blight to the Refuge from the turbines, which would irreversibly damage this traditional cultural place.</p>	
<p>BOEM- CHPNIN- Unassigned- 03</p>	<p>The visual simulations for the Refuge also fail to comply with BOEM's own guidelines for Visual Impact Assessments, which state that "photosimulations must depict the worst case lighting scenario." [Footnote 1: BOEM, "Assessment of Seascape, Landscape, and Visual Impacts of Offshore Wind Energy Developments on the Outer Continental Shelf of the United States," at 42, https://www.boem.gov/sites/default/files/documents/environmental-studies/BOEM-2021-032.pdf.] The VIA includes Little Island Park (KOP 44) as the source for visual impacts for Back Bay National Wildlife Refuge.[Footnote 2: VIA Attachment I-1-1 at 21. Available at https://www.boem.gov/renewable-energy/state-activities/cvow-commercial-cop-appendix-i.] Even given the inadequate visualizations, however, the VIA acknowledges that the wind turbines will be visible. [Footnote 3: VIA Attachment I-1-1, at I-1-7-13. Available at https://www.boem.gov/renewable-energy/state-activities/cvowcommercial-cop-appendix-i.] The worst case meteorological and lighting conditions for visual effects are clear days, high-contrast lighting caused by sunrise and sunset, and nighttime lighting effects, including during construction. The visualizations provided in the technical reports for the Refuge, however, do not take these conditions into account. Instead, the photo simulations for Little Island Park show "cloudy and rainy" conditions.[Footnote 4: DEIS</p>	<p>Thank you, in response to this comment, BOEM will prepare a new visual simulation for KOP 44 (Back Bay National Wildlife Refuge/Little Island Park) to illustrate visual conditions on a clear day. This simulation and analysis will be incorporated into the Final EIS.</p>

Comment No.	Comment	Response
	<p>Appendix M, at M-4. Available at https://www.boem.gov/renewable-energy/state-activities/cvow-cdeisappmslviaada.] As a result, the visual simulations do not reflect a realistic depiction of visual impacts to Back Bay from the Project and should be redone to follow BOEM's guidelines so that BOEM, the Nation, and consulting parties can understand CVOW's impacts. We specifically request additional visual simulations from additional vantage points within the Refuge to show the Nation what the worst-case visual effects will be during daytime and nighttime.</p>	
<p>BOEM- CHPNIN- Unassigned- 04</p>	<p>Due to the potential for the Project to adversely impact the Back Bay National Wildlife Refuge, an area of great cultural, historical, and ecological importance to the Nation, BOEM should conduct additional visual assessments and provide consulting parties and the public with adequate and easily accessible information that informs all parties of potential impacts. BOEM should also amend its cumulative impact analyses, particularly for other wind farms, to reflect any updated visual simulations.</p>	<p>Please refer to response to comment BOEM-CHPNIN-Unassigned-03 for additional information on visual simulations.</p>

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N.6.10 Demographics, Employment, and Economics

Table N.6.10-1 Responses to Comments on Demographics, Employment, and Economics

Comment No.	Comment	Response
0007-0001	The 2.6GW CVOW Commercial project offers numerous benefits to our Commonwealth and our region. It is free of emissions, does not consume any fuel to generate electricity, and will bring thousands of jobs to the region. The CVOW project has already attracted investments from companies including Siemens Gamesa and the Virginia Port Authority at the Portsmouth Marine Terminal, and more will come as Virginia becomes a Central Atlantic hub for offshore wind. With numerous other regional offshore wind projects in the pipeline the beginnings of critical support infrastructure in place, this project is essential to the future of the industry on the East Coast.	Comment noted.
0014-0027	While not a direct environmental issue, the CVOW project provides significant economic development opportunities for the Commonwealth. These opportunities include manufacturing, construction, and transportation activities needed to support this and other commercial offshore wind projects.	Comment noted.
0026-0023	The DEISs fail to fully address the impacts that the projects will have on small businesses, which will include the vast majority 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 prohibitive. 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, including these DEISs, to adequately understand the impacts of offshore wind development activities on small businesses. [Footnote 29: See https://www.regulations.gov/comment/BOEM-2022-0033-0055] 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.	Employment data from the U.S. Census Bureau (Tables 3.11-4 and 3.11-5) outlines employment in the geographical analysis area, which includes the fishing industry. Small businesses are not individually discussed in Dominion Energy’s COP and, therefore, cannot be analyzed in the EIS. Additionally, BOEM is not conducting a Regulatory Flexibility Act analysis for this EIS. However, baseline information regarding small businesses within the finishing industry has been added to Section 3.9, <i>Commercial Fisheries and For Hire Recreational Fishing</i> .

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N.6.11 Environmental Justice

Table N.6.11-1 Responses to Comments on Environmental Justice

Comment No.	Comment	Response
0013-0019	it is likely that the CVOWP will be built using or containing minerals, rare earth elements, and parts produced using Chinese slave labor. This should be considered by BOEM in its assessment of the Environmental Justice implications in BOEM's CVOWP EIS. Failure to do so is arbitrary and capricious.	Comment noted.
0013-0021	the end-of-life treatment of the CVOWP's decommissioned turbines and associated materials raises long-term, cumulative, environmental justice concerns for low-income and minority populations, yet the DEIS does not address this impact. BOEM's failure to account for the environmental justice impacts of the solid waste disposal issues related to CVOWP in its EIS is arbitrary and capricious.	All solid waste disposal will be disposed of following the Solid Waste Disposal Act of 1965 and the Resource Conservation and Recovery Act Laws and Regulations.
0021-0101	In discussing the Project's potential environmental justice impacts resulting from land disturbance, Section 3.12.5 of the DEIS points out that the site proposed for the Harpers Switching Station site is located in an environmental justice community. However, the subsequent discussion of that facility's potential environmental justice impacts is limited to a single sentence that merely notes that it would be "constructed in an area where there were previously no structures and would generate some operational noise," and that "portions of the route considered traverse through census block groups with environmental justice populations." [Footnote 300: CVOW-C DEIS at 3.12-20.] There is no discussion of the characteristics of the specific environmental justice population that would be impacted or the extent of those impacts, and there is no consideration of how the construction and then the ongoing presence of the facility might negatively affect property values or drive further land use changes in the immediate area that could adversely impact the unspecified environmental justice population. In short, this section of the DEIS flags a potential environmental justice impact but then fails to assess it.	For the purposes of this analysis, environmental justice communities are defined as low income or minority populations. The switching station is indicated on Figure 3.12-2 as being in a minority community. Additional text has been added to Final EIS Section 3.15.5, <i>Impacts of the Proposed Action on Environmental</i> , just under the land disturbance IPF to indicate the switching station is located in a minority environmental justice community.
0021-0102	The Harpers Switching Station is also discussed in Section 3.12.7, which compares the environmental justice impacts of Alternative D-1 (which includes construction of the proposed Harpers Switching station) with Alternative D-2 (which includes the construction of the proposed Chicory Switching Station in a different location). However, this brief discussion fails	Section 3.12.7, <i>Impacts of Alternative D on Environmental Justice</i> , states that the impacts associated with Alternative D would be similar to those of the Proposed Action. Please see each of the individual IPFs in that

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	<p>to shed additional light on the facility’s potential environmental justice impacts. It simply states that Alternative D-2 would reduce the potential for disproportionate adverse impacts relative to Alternative D-1 because the former would avoid the construction of a switching station in an environmental justice community. Other than a mention of “[o]perational noise,” there is no indication of how the environmental justice community might be impacted, or of what the extent of that impact would be. [Bold: We urge BOEM to provide in the Final EIS a much more detailed evaluation of the potential environmental justice impacts associated with the proposed Harpers Switching Station so that BOEM and the public can understand the alternatives clearly.]</p>	<p>section that discuss impacts to environmental justice communities. The difference being if the Chicory Switching Station was constructed, it would have no environmental justice impacts as there are no environmental justice communities within its proximity.</p> <p>Text through the environmental justice section has also been revised to indicate that the Harpers Switching Station is located between two minority environmental justice communities, rather than being within it.</p>
0021-0103	<p>In Section IV.A of our scoping comments, we noted how some aspects of the Project could result in benefits for environmental justice communities, and we urged BOEM to document those potential impacts in the DEIS. We note that Section 3.12.5 of the DEIS mentions some potential environmental justice benefits, such as the net reductions in air pollutant emissions that would result from the Project’s displacement of fossil fuel power-generating capacity. [Footnote 301: See id. at 3.12-17.] However, we do not see any mention of the environmental justice benefits resulting from the Project’s role in a broader combination of actions to lower GHG emissions and thereby reduce the future impacts of climate change over the long term. The DEIS for the Revolution Wind offshore wind project proposed off the coast of New England includes a brief discussion of these benefits, while noting the particular vulnerability of many environmental justice communities to the impacts of climate change. [Footnote 302: See Revolution Wind DEIS at 3.12-32.] [Bold: We recommend that BOEM include a similar point in the Final EIS for the CVOW-C Project.]</p>	<p>Fossil fuel reductions and the displacement of such are described in multiple places in Sections 3.12.3.2 <i>Cumulative Impacts of the No Action Alternative</i>, Air emissions IPF, 3.12.3.3, <i>Conclusions of the Impacts of the No Action Alternative</i>, 3.12.5, <i>Impacts of the Proposed Action on Environmental Justice</i>, Air emissions IPF, 3.12.5.1, <i>Cumulative Impacts of the Proposed Action</i>, and 3.12.5.2, <i>Conclusions of the Impacts of the Proposed Action</i>.</p> <p>Additional discussion regarding general GHG emission reductions can be found in Section 3.4, <i>Air Quality</i>.</p>
0021-0011	<p>[Italics: For environmental justice communities,] BOEM should: (1) continue identification and outreach efforts relating to environmental justice communities and solicit their input on the Project; (2) develop Project-specific goals for workforce diversity hiring and working with minority-owned contractors and suppliers; and (3) continue to proactively consult and collaborate with tribal nations, going above and beyond the minimum tribal consultation requirements of NEPA and the National Historic Preservation Act (“NHPA”).</p>	<p>BOEM held scoping meetings regarding the CVOW offshore wind project on July 12, 2021, July 14, 2021, and July 20, 2021. All scoping meetings were virtual and accessible online or through calling in. Each meeting was also recorded for later reviewing if necessary.</p> <p>Over the last few years, Dominion Energy has directly engaged with historically underrepresented communities and minority</p>

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		<p>serving institutions and agencies to develop the talent pipeline needed to ensure the success of CVOW into the future and the offshore wind energy in general. Dominion Energy has also hosted virtual and in-person events for potential business suppliers and workers, such as the Virginia Beach Minority Business Council, wanting to learn about working in the offshore wind industry.</p> <p>Dominion Energy has committed to mitigation and monitoring measures to foster the meaningful public participation of potential environmental justice communities to better understand how environmental justice communities may be affected and to identify additional measures.</p>
0021-0143	<p>The textual discussion in Section 3.12.1 is primarily focused on population identification assessments that appear to have been performed at the [<i>Italics: locality</i>] level. Figure 3.12-2 is the only clear indication in this section that that the efforts used to identify environmental justice communities were more finely grained and appear to have assessed demographics at a census block or census tract level. The Final EIS should more clearly explain the scale at which BOEM has thus far assessed for the occurrence of environmental justice communities, and it should describe the methods and the thresholds that BOEM has used to determine where such populations are present.</p> <p>[Footnote 295: See, e.g., discussion of the identification of potential environmental justice “pockets” in Section 3.12.1 of REVOLUTION WIND FARM AND REVOLUTION WIND EXPORT CABLE PROJECT DRAFT ENVIRONMENTAL IMPACT STATEMENT, BOEM (Sept. 2022) [hereinafter “Revolution Wind DEIS”], available at https://www.boem.gov/renewable-energy/state-activities/revolution-wind-deis, Section 3.12.1.] As presented in the DEIS, it is difficult for the reader to assess the adequacy of these efforts or to recommend specific improvements.</p>	<p>Environmental justice communities were defined at the census block group level, and other demographic data regarding low income and minority communities were analyzed at the State and City levels. Additionally, Virginia’s criteria for defining environmental justice communities is defined as “any geographically distinct area where the population of color, expressed as a percentage of the total population of such area, is higher than the population of color in the Commonwealth expressed as a percentage of the total population of the Commonwealth” and this is outlined in Table 3.12-1.</p>
0021-0144	<p>Further, given the risk that “pockets of minority or low-income communities, including those that may be experiencing disproportionately high and adverse effects, may be missed in a traditional census tract-based analysis,” EPA recommends engaging in “[n]on-traditional data gathering techniques, including outreach to community-based organizations and tribal governments</p>	<p>Comment noted. Outreach efforts can be found in Section 3.10, <i>Cultural Resources</i>.</p>

Comment No.	Comment	Response
	<p>early in the screening process” to identify additional environmental justice communities. [Footnote 296: EPA EJ GUIDANCE § 2.1.1; PROMISING PRACTICES at 21 (“To sufficiently identify small concentrations (i.e., pockets) of minority populations, agencies may wish to supplement Census data with local demographic data. . . (including data provided by the community and Tribes”).] [Bold: We urge BOEM to summarize the more particularized outreach efforts that BOEM and Dominion have made, and continue to make, to identify any such “pockets” of environmental justice communities and to solicit their input on the Project’s impacts that could affect them.]</p>	
0021-0098	<p>At the same time, the Project could adversely impact environmental justice communities that are located near the Project’s proposed infrastructure or that rely on some of the resources that the Project could negatively affect. It is therefore critical that BOEM take a “hard look” at these potential environmental justice impacts, and evaluate how they differ between alternatives, as part of the NEPA process.</p>	<p>Additional information has been added to Section 3.12.3.1, <i>Impacts of the No Action Alternative</i>, that discusses in more detail the existing baseline environmental conditions surrounding the onshore infrastructures.</p>
0021-0099	<p>We also request that BOEM explain the apparent omission of Virginia’s Eastern Shore Peninsula from the DEIS’s assessment of environmental justice impacts. Neither the Eastern Shore nor the two localities that comprise it (Accomack and Northampton Counties) are mentioned in Section 3.12 of the DEIS, and they are also outside the boundaries of the “Demographics, Employment, Economic Characteristics and Environmental Justice Geographic Analysis Area” as outlined in Figure 3.12-1 of the DEIS. The document explains that the geographic analysis area “includes the incorporated cities closest to the Offshore Project area,” [Footnote 297: CVOW-C DEIS at 3.12-1.] but we note that the boundary of the Lease Area is closer to the Eastern Shore Peninsula (20.45 nautical miles (nm)) than it is to Virginia Beach (23.75 nm). [Footnote 298: See id. at 2-5.] As a result, it would seem that some of the key impacts discussed in the environmental justice section—such as lighting and the presence of structures—could affect potential environmental justice communities located or working on the Eastern Shore. We urge BOEM to either explain or correct this apparent omission in the Final EIS.</p>	<p>Accomack and Northampton Counties were not included in the analysis as they are not counties where any anticipated onshore infrastructure is anticipated to be. Primarily, the counties included are the counties anticipated to receive the onshore infrastructure including cable landfalls, export and interconnection cables, switching and substations, and the Portsmouth Marine Terminal.</p>
0022-0010	<p>This theme of incomplete assessments runs throughout the DEIS. For example, the environmental justice assessment recognizes the existence of tribes in the area without substantively engaging in discussions with tribes, including the Nation, about how CVOW will affect their populations, including how interrelated cultural, social, occupation, historical, or economic factors</p>	<p>More information regarding Tribes has been added to Section 3.12.2.1, <i>Scope of the Environmental Justice Analysis</i>, discussing Tribes that still currently live in the geographic analysis area. Additionally,</p>

Comment No.	Comment	Response
	<p>may amplify the Project's environmental effects. [Footnote 5: DEIS 3.12-7.] Under the State Corporation Commission's order approving this project, the Commission ruled: "Dominion should continue to engage environmental justice communities and other affected populations, including, but not limited to, the continued coordination with the Nansemond Indian Nation regarding its historical and cultural concerns." [Footnote 6: Final Order, State Corporation Commission Case No. PUR-2021-00142 (Aug. 5, 2022) at 39.] Yet neither BOEM nor Dominion has adequately coordinated with the Nation on its concerns, and the Nation's questions regarding specific sites have been addressed in emails with no accompanying maps or field data.</p>	<p>information from the April 10, 2023, government-to-government meeting, regarding Tribal fisheries concerns has been added to Section 3.12.2.1.</p> <p>Additionally, consistent with 36 C.F.R. § 800.2(c)(2)(i), BOEM has determined that the Project would not affect any Tribal reservation lands because there are no tribal lands in the geographic analysis area; BOEM has also concluded that a number of Tribes may have historic, ancestral associations with the geographic area in which the Project is located and, thus, that there may be historic properties to which one or more of the Tribes may attach religious or cultural Significance, in the area potentially affected by BOEM's undertaking, and as a result BOEM has invited these Tribes to be consulting parties under Section 106 and to participate in government-to-government meetings (BOEM has held multiple Section 106 and government-to-government meetings). In addition to the Project specific consultations and meetings, BOEM is in the process of establishing a Mid-Atlantic regional Programmatic Agreement for offshore wind projects and invited the CVOW consulting parties and interested Tribes.</p> <p>It should also be noted that BOEM has no jurisdiction or part of what the Virginia SCC orders another party to do.</p>
0022-0004	<p>several of the descriptions of impacts in the DEIS lack either analysis or any conclusion at all. For example, the environmental justice section only names tribes in the area and acknowledges their presence, without analyzing whether BOEM or Dominion has carried out its environmental justice obligations.</p>	<p>There are no Tribes in the environmental justice geographic analysis area. The EIS has been updated to clearly articulate this, and has included information on the number of individuals of particular tribes within Virginia (when applicable as information for some tribes was not found). However, Native</p>

Comment No.	Comment	Response
		<p>American populations are included in the minority census data used to determine the percentage of minority populations in the analysis area.</p> <p>Additionally, BOEM has invited Tribes with ancestral lands to participate in government-to-government meetings. Tribal consultation is also conducted under Section 106 of the NHPA. More information on Tribal consultation and government-to-government coordination can be found in Section 3.10, <i>Cultural Resources</i>.</p>
0023-0004	<p>We also join in the Nansemond Indian Nation's request that BOEM revise the DEIS to consider environmental justice impacts on Virginia's tribes whose ancestral lands may be adversely affected by CVOW.</p>	<p>Final EIS Section 3.12, <i>Environmental Justice</i>, has been revised to include more information regarding tribal ancestral lands that may be affected by the Project. Please also refer to response to comment 0022-0010.</p>
0023-0006	<p>Similarly, we write to express our concern that the DEIS has ignored CVOW impacts on environmental justice with respect to CVOW's effects on ancestral tribal lands.</p>	<p>More information has been added to the EIS to discuss how ancestral lands may be disproportionately affected. Information has also been added from the April 10, 2023, government-to-government meeting between BOEM and tribes to discuss impacts on fisheries. Additional information can be found in Section 3.10, <i>Cultural Resources</i>.</p>
0021-0104	<p>The DEIS also notes that the Project could have beneficial impacts on environmental justice populations due to the Project's stimulation of greater economic activity and increased employment at ports and for marine transportation and supporting businesses in the Project Area. [Footnote 303: CVOW-C DEIS at 3.12-18; 3.12-21.] To help increase the likelihood of the Project realizing these potential benefits, [Bold: we urge BOEM to work with Dominion to develop Project-specific goals for workforce diversity hiring and for the use of minority-owned contractors and suppliers, and to include commitments to that effect in the Final EIS.]</p>	<p>In September 2021, Dominion Energy signed a MOU with the North America's Building Trades Unions and its state affiliate to identify opportunities to use union labor for the Project. Since the Project would require skilled and qualified workers in Hampton Roads, the MOU also includes commitments to use local workers; the hiring, apprenticeship, and training of veterans; and the use of workers from historically economically disadvantaged communities. These commitments were included in the</p>

Comment No.	Comment	Response
		<p>MOU because Dominion Energy is working to satisfy the provisions of the VCEA, which calls for the priority hiring of veterans, local workers, and individuals from economically disadvantaged communities. To meet these requirements, Dominion Energy has met with hundreds of businesses, Chambers of Commerce, minority serving institutions, workers, educational institutions and students. In addition, the company has hosted and will continue to host local events/open houses specific to potential business suppliers and workers to learn about what is needed to work in the offshore wind industry. Through these efforts, Dominion Energy is now in the process of establishing a Project Labor Agreement with North America's Building Trades Union in collaboration with DEME and Siemens Gamesa Renewable Energy (SGRE). This information can be found in EIS Section 3.11, <i>Demographics, Economics, and Employment</i>.</p>

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N.6.12 Finfish, Invertebrates, and Essential Fish Habitat

Table N.6.12-1 Responses to Comments on Finfish, Invertebrates, and EFH

Comment No.	Comment	Response
0004-0002	It is no question that the power grid could use much assistance from renewable power sources to help the environmental footprint, but it should only be done if there is minimal negative impact on the aquatic fish species of that area. Since the ocean itself and fish species are already under much pressure from commercial fishing, warming seas, and other human population causes, it is important that the benefits of this renewable wind energy project are weighed out reasonably.	Comment noted. This EIS does evaluate the impacts of the Project on the environment, including aquatic fish.
0013-0028	organization: Committee for a Constructive Tomorrow; the American Coalition for Ocean Protection; and, The Heartland Institute 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.” BOEM concludes that, depending upon the alternative chosen, the CVOWP will have either “Minor to Moderate,” “Negligible to Moderate,” or possibly even “beneficial” impacts on fish, invertebrates, and the habitat in an around the CVOWP. The latest research on the impact of large offshore wind developments on the environment is not so sanguine. A recent study published in the peer-reviewed journal Nature Communications [Embedded Hyperlink Text: https://www.researchgate.net/publication/365756898_Offshore_wind_farms_are_projected_to_impact_primary_production_and_bottom_water_deoxygenation_in_the_Nor th_Sea] found offshore wind industrial facilities do previously unrecognized harm to marine ecosystems	A reference to a new article on wind wakes has been added to Final EIS Section 3.15.5, <i>Impacts of the Proposed Action on Finfish, Invertebrates, and Essential Fish Habitat</i> .
0013-0029	organization: Committee for a Constructive Tomorrow; the American Coalition for Ocean Protection; and, The Heartland Institute 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 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.”	Comment noted. The article is based on a project in the North Sea, which is a very different environment than the lease area and cannot be applied across all environments. However, what is applicable from this study has been added to Final EIS Section 3.15.5, <i>Impacts of the Proposed Action on Finfish, Invertebrates, and Essential Fish Habitat</i> , under <i>Presence of structures</i> , and this is certainly something to continue to observe

Comment No.	Comment	Response
		and study as additional offshore wind farms are constructed in the United States.
0013-0030	<p>organization: Committee for a Constructive Tomorrow; the American Coalition for Ocean Protection; and, The Heartland Institute</p> <p>Separately, these negative effects on the marine ecosystem in offshore wind farm areas indicate the CVOWP will harm many species and disrupt ecosystem interconnections. Cumulatively, the harm will probably be much greater, wreaking great harm on all marine life</p>	The EIS considers cumulative impacts to these resources primarily in Sections 3.13.3.2, <i>Cumulative Impacts of the No Action Alternative</i> ; 3.13.5.1, <i>Cumulative Impacts of the Proposed Action</i> .
0013-0032	<p>organization: Committee for a Constructive Tomorrow; the American Coalition for Ocean Protection; and, The Heartland Institute</p> <p>To be fair to BOEM, this research was only published recently, which signals the agency may have been unaware of it as it put the finishing touches on the EIS for the CVOWP. However, it is available now, and with the EIS not yet finalized, this research should be accounted for before BOEM concludes the CVOWP will have little or no negative impacts on fish, ocean invertebrates, and marine habitats</p>	Comment noted and information regarding this study has been included in the Final EIS and the relevant reference added.
0015-0001	<p>Organization: Virginia Marine Resources Commission</p> <p>Overall, the VMRC has concerns that the CVOW-C Construction and Operations Plan (COP) and subsequent DEIS are based on limited fisheries data to quantify those ecological, socioeconomic, and community impacts</p>	Publicly available data have been used in the analysis.
0015-0019	<p>Virginia Marine Resources Commission</p> <p>The CVOW-C DEIS includes a single mention of “seawater cooling system effluent” as a [Italicized: Primary Impact-Producing Factor] (DEIS Vol 3, Ch 3, Table 3.1-1). A collective analysis of the cumulative effects of the raw water intake and discharge structure is necessary. Specifically, long-term impacts to vulnerable life stages from continuous water withdrawals and potential thermal impacts from the discharge locations need further evaluations. Mitigation measures may need to be considered to reduce impacts to fisheries habitat and fisheries life stages.</p>	There is no seawater cooling system as part of the Project; therefore, there would be no associated seawater withdrawals.
0015-0004	<p>Virginia Marine Resources Commission</p> <p>Overall, neither the CVOW-C COP nor the CVOW-C DEIS include adequate fisheries characterization or resource information to make informed conclusions regarding the proposed alternatives. Dominion Energy has verbally committed to producing fisheries resource and economic surveys with academic partners at the Virginia Institute of Marine Science for the black sea bass, whelk, and surf clam fisheries. However, these research plans are still in development and</p>	Dominion Energy has developed draft fisheries monitoring plans that have been provided to BOEM, and these data will be used by BOEM to monitor potential impacts from the Project activities. This is discussed in Section 3.15.5, <i>Impacts of the Proposed Action on Finfish</i> ,

Comment No.	Comment	Response
	<p>a final plan is not included in the COP. Therefore, the conclusions being made in the CVOW-C DEIS lack credible scientific foundation due to a lack of adequate fisheries data</p>	<p><i>Invertebrates, and Essential Fish Habitat, under Gear utilization.</i></p>
0017-0042	<p>Organization: Mid-Atlantic Fishery Management Council and New England Fishery Management Council</p> <p>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 minimize impacts to important habitats throughout the project area, including the offshore cable route. The DEIS notes that Dominion Energy has committed to restrictions on offshore construction activities from November through April and states that this will allow time for impacted seabed structures such as sand waves to recover between construction periods. The FEIS should include a more detailed description of the expected recovery times for any impacted habitats</p>	<p>Text has been added to Final EIS Section 3.13.6, <i>Impacts of Alternatives B and C on Finfish, Invertebrates, and Essential Fish Habitat</i>, regarding estimated recovery times for dredged areas</p>
0017-0045	<p>Organization: Mid-Atlantic Fishery Management Council and New England Fishery Management Council</p> <p>The FEIS should also explain how the seasonality of construction may impact a variety of species in different ways. For example, the DEIS notes that longfin squid egg mops were found throughout the lease area in greater concentrations than initially expected. The FEIS should expand upon the potential impacts of the project on longfin squid, including impacts based on the seasonality of construction. For example, longfin spawning occurs year-round with seasonal peaks. Construction activities may disproportionately impact the summer cohorts. [Footnote 7: Additional information on longfin squid can be found in the fishery information documents available at https://www.mafmc.org/fishery-performance-reports and the essential fish habitat source document available at https://www.fisheries.noaa.gov/new-englandmid-atlantic/habitat-conservation/essential-fish-habitat-efh-northeast.]</p>	<p>Text has been added regarding longfin squid spawning season and the potential impacts from time-of-year restrictions to Final EIS Section 3.15.5, <i>Impacts of the Proposed Action on Finfish, Invertebrates, and Essential Fish Habitat</i>, under <i>Sediment deposition and burial</i>.</p>
0024-0021	<p>Organization: The Nature Conservancy</p> <p>the draft EIS should acknowledge scientific uncertainty surrounding how electromagnetic field (EMF) originating from networks of inter-array and transmission cables may impact the behavior of endangered Atlantic sturgeon, other fish, invertebrates, turtles and other electro- or magnetic-sensitive marine life. Gaps in our understanding remain, particularly around how energy expenditure of sensitive species may be affected by multiple EMF encounters and how cumulative impacts may alter growth and reproduction. The EIS should acknowledge this uncertainty when quantifying impact. BOEM should continue</p>	<p>Text has been added to Final EIS Appendix D, <i>Analysis of Incomplete or Unavailable Information</i>.</p>

Comment No.	Comment	Response
	to support studies (particularly in the field) that investigate EMF effects on sturgeon, turtles, and other electromagnetic-sensitive species.	
0024-0023	<p>Organization: The Nature Conservancy</p> <p>The DEIS states that the effects of the proposed action are “not likely to adversely affect ESA-listed marine fish within the Lease Area.” The BOEM-funded study Atlantic Sturgeon Offshore Habitat Use in Mid-Atlantic (AT-15- 01) placed telemetry receivers along the CVOW cable export route and in the CVOW area. We have learned that these receivers have detected the presence of Atlantic sturgeon in substantial numbers. While it remains unclear to what degree these animals are utilizing these areas for extended residency rather than merely for transit, the Final EIS should acknowledge that Atlantic sturgeon are at least seasonally present at CVOW. Furthermore, the Final EIS should include (at a minimum) data summarizations of study AT-15-01. Given that there remains much biological uncertainty about reactions of Atlantic sturgeon to construction- and operation- related impacts, including pile driving noise, EMF, habitat alteration, and operational noise, the final EIS should either better support the DEIS conclusion of no adverse effects or change that conclusion to acknowledge that uncertainty remain</p>	<p>This study is not publicly available; therefore, the data are not available currently to include. If the study report becomes available prior to issuance of the Final EIS, this information will be included.</p>
0022-0012	<p>organization: Nansemond Indian Nation</p> <p>In addition, the Nation and their historical neighbors and allies, including the Upper Mattaponi Indian Tribe, share concerns about the impact to fisheries and in particular the anadromous fish like the endangered Atlantic Sturgeon that form the basis of shared cultural tradition and traditional use of marine resources. BOEM has sponsored research into the impacts of windfarms on Atlantic Sturgeon, but as of this date it is unclear what those impacts are or how they can be mitigated. While the DEIS concludes that the impacts will be negligible to moderate, [Footnote 9: DEIS 3.15.5.2.] the Nation’s understanding from the government-to-government consultation meeting on January 30, 2023 is that the consideration of impacts to the sturgeon will be assessed separately in a biological assessment being submitted to the National Marine Fisheries Service and therefore the impacts are not fully detailed in the DEIS. No attempt been made to understand or assess the impacts of offshore wind farms on anadromous fish, either as a commercial resource, an ecological resource, or cultural resource.</p>	<p>Impacts on all protected species including the Atlantic sturgeon are fully evaluated in the BA that is currently being reviewed by NMFS and is available on BOEM’s website https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/CVOW-C-NMFS-BA.pdf. Vessel strikes and noise are the most likely impacts on the Atlantic sturgeon, and would be due to the water depth in the lease area; vessel strikes are not likely. Based on past studies (Krebs et al. 2016), it is suggested that Atlantic sturgeon would not remain in proximity to construction noise. Information has been added to Final EIS Sections 3.13.1, <i>Description of the Affected Environment for Finfish, Invertebrates, and Essential Fish Habitat</i>, and 3.13.1.1.1, <i>ESA-Listed Species</i>.</p>

Comment No.	Comment	Response
0023-0003	<p>Organization: Upper Mattaponi Indian Tribe (UMIT)</p> <p>For these reasons, UMIT requests that BOEM provide information to the Tribe concerning the DEIS's supporting research and conclusions about impacts to fish and mollusks within the Chesapeake Bay and coastal and continental shelf waters, especially the Atlantic Sturgeon and other anadromous fish, and how CVOW could interfere with the return of these species from the Atlantic Ocean to spawn in the Chesapeake Bay.</p>	<p>Impacts on all protected species including the Atlantic sturgeon are fully evaluated in the BA that is currently being reviewed by NMFS and is available on BOEM's website https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/CVOW-C-NMFS-BA.pdf will be available to the public shortly.</p> <p>Vessel strikes and noise are the most likely impacts on the Atlantic sturgeon and would be due to the water depth in the lease area; vessel strikes are not likely. Based on past studies (Krebs et al. 2016), it is suggested that Atlantic sturgeon would not remain in proximity to construction noise. Information has been added to Final EIS Sections 3.13.1, <i>Description of the Affected Environment for Finfish, Invertebrates, and Essential Fish Habitat</i>, and 3.13.1.1.1, <i>ESA-Listed Species</i>.</p>
0023-0007	<p>Organization: Upper Mattaponi Indian Tribe (UMIT)</p> <p>UMIT has special concerns about CVOW's unknown effects on the Atlantic Sturgeon, which are found along the East Coast of North America, and which spend most of their adult life in the ocean migrating into coastal estuaries and rivers to spawn in the spring and fall—such as those within the Chesapeake Bay, including the Mattaponi River. In case BOEM is not aware, the current Chesapeake Bay population of Atlantic Sturgeon is less than 1% of what it was in the early 1900s, and with only one known existing spawning population in the James River. The Atlantic sturgeon was recently federally listed as endangered in Chesapeake Bay in 2012 (NMFS, 2012). The Tribe has interacted with sturgeon since time immemorial, with many traditions centered on this important species. BOEM clearly states that Atlantic Sturgeon are one of the Endangered Species that may be residential within the lease area. [Footnote 1: DEIS Volume 1, at page 3.18-8]. However, BOEM has not provided the biological assessment of the impacts of CVOW on these and other finfish, instead simply asserting that "BOEM does not believe that there is incomplete or unavailable information on finfish, invertebrate, and EFH (essential fish habitat) resources</p>	<p>Impacts on all protected species including the Atlantic sturgeon are fully evaluated in the BA that is currently being reviewed by NMFS and is available on BOEM's website https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/CVOW-C-NMFS-BA.pdf.</p> <p>Vessel strikes and noise are the most likely impacts on the Atlantic sturgeon and would be due to the water depth in the lease area; vessel strikes are not likely. Based on past studies (Krebs et al. 2016), it is suggested that Atlantic sturgeon would not remain in proximity to construction noise. Information has been added to Final EIS Sections 3.13.1, <i>Description of the</i></p>

Comment No.	Comment	Response
	<p>that is essential to a reasoned choice among alternatives.” BOEM then admits that “other related impacts concerning habitat modification and the concomitant change in community structure and secondary impacts of the offshore food chain are not well studied for the geographic analysis area.” [Footnote 2: BOEM, 2022, DEIS Appendix D, at page D-5]. BOEM’s conclusion is not acceptable</p>	<p><i>Affected Environment for Finfish, Invertebrates, and Essential Fish Habitat, and 3.13.1.1.1, ESA-Listed Species.</i></p>

N.6.13 Land Use and Coastal Infrastructure

Table N.6.13-1 Responses to Comments on Land Use and Coastal Infrastructure

Comment No.	Comment	Response
0014-0028	<p>DEQ-DLPR conducted a search of the project area of solid and hazardous waste databases (including petroleum releases) to identify waste sites in close proximity (200-foot radius) to the onshore cable route. The search identified one RCRA small quantity generator with the potential to impact the project.</p> <p>-Registry ID: 110020679023, Controls Corporation of America, 1501 Harper's Road, Virginia Beach, Virginia 23454</p> <p>In addition, DEQ-TRO finds that records indicate there may be reported petroleum releases along the proposed project footprint.</p>	<p>Thank you for your comment. In the event of a hazardous materials or contaminated site discovery (e.g., existing contaminated soil or groundwater) during construction of onshore components, Dominion Energy would follow state and federal notification and clean-up/remedy requirements and implement corrective actions/procedures as outlined in COP, Appendix A, <i>Safety Management System</i>, and Appendix Q, <i>Oil Spill Response Plan</i> (Dominion Energy 2023).</p> <p>Additionally, and as described in Final EIS Section 3.21, <i>Water Quality</i>, Section 3.21.5, Dominion Energy would develop and implement a Spill Prevention, Control, and Countermeasure Plan to address any ongoing concerns regarding accidental releases to minimize impacts on water quality (which will be provided for agency review and approval, as applicable). All wastes generated onshore would comply with applicable federal regulations, including the Resource Conservation and Recovery Act and the Department of Transportation Hazardous Material regulations.</p>

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N.6.14 Marine Mammals

Table N.6.14-1 Responses to Comments on Marine Mammals

Comment No.	Comment	Response
0013-0001	the most pressing issue surrounding the CVOW project and BOEM's entire offshore wind energy program along the eastern seaboard, and that 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.	Comment noted. NARWs are considered in the EIS and are often called out specifically given their critically endangered status.
0013-0010	EIS's 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	Operational noise from the WTGs was not modeled, it was assessed using information from published literature, which uses the most relevant and up-to-date information available. No change in the impact level is warranted at this time, but the text in Section 3.15.3.2 that is incorporated by reference where appropriate in Section 3.15.5 has been updated to be more clear regarding potential effects from operational WTG noise and all other applicable noise IPFs.
0013-0011	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	This information has been added to Final EIS Section 3.15.3.2.
0013-0002	it is imperative that BOEM, through the DEIS, examine closely, carefully, and comprehensively the CVOW 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	Minor edits have been made throughout the Final EIS to more clearly address this concern, and the status of this species was considered in all impact determinations including cumulative impacts.
0013-0022	With respect to the EIS's analysis of Project impacts on NARW, BOEM has acknowledged that there are data gaps in its assessment of the potential	NMFS published the proposed Marine Mammal Protection Act Incidental Take

Comment No.	Comment	Response
	<p>impacts of CVOWP on the NARW population. The public is being kept in the dark about these potential impacts by Dominion’s efforts to cloak them in secrecy. The entire section of Dominion’s Construction and Operations [Embedded Hyperlink Text: https://www.boem.gov/sites/default/files/documents/renewable-energy/stateactivities/CVOW-Commercial-COP-Appendix-R.pdf] plan delivered to BOEM on endangered species is unavailable for public review, treated as a propriety and confidential business matter</p>	<p>Regulations in the <i>Federal Register</i> for public review and comment on May 4, 2023 through June 5, 2023 (available here: https://www.fisheries.noaa.gov/action/incidental-take-authorization-dominion-energy-virginia-construction-coastal-virginia). The analysis of impacts on marine mammals in the Final EIS has been reviewed for consistency with information in Dominion Energy’s Incidental Take Authorization application. Mitigation and monitoring measures proposed by Dominion Energy and required by BOEM and NMFS, including those from ESA Section 7 consultation, are listed in Appendix H, <i>Mitigation and Monitoring</i>.</p>
0013-0023	<p>As proposed, the CVOWP is directly in the NARWs’ annual migration path</p>	<p>The NARW’s annual migration path was considered when making the final impact determinations</p>
0013-0024	<p>It is inconceivable that the increased ship traffic necessitated during all stages of the CVOWP’s development, construction, operation, and decommissioning will not increase the threat of collisions with NARWs.</p>	<p>The Draft EIS does not state that increased traffic would not increase the threat of strike with NARWs. As stated in Section 3.15, <i>Marine Mammals</i>, “As the death of a single NARW could lead to population-level consequences and the application of mitigation cannot rule out the potential for this effect to occur, this impact is considered major for NARW and moderate for all other listed mysticetes.” This determination was made with the critically endangered status of this species in mind.</p>
0013-0025	<p>The sonar used to map out the CVOWP’s proposed terrain, the blasting of piles to anchor each turbine, and the subsea infrasound and vibrations generated during the turbines’ operations are virtually guaranteed to force the few remaining NARWs out of their critical migration routes and into one of the busiest shipping corridors in the world</p>	<p>Additional text has been added to Section 3.15.3.1, <i>Impacts of the No Action Alternative</i>, to address these concerns; however, additional information is provided for a better understanding of your issues:</p>

Comment No.	Comment	Response
		<p>1. The equipment used for seafloor mapping for the CVOW-C Project does not include sonar like what is used in naval operations, which use high-resolution geophysical sources such as CHIRPs, boomers, and sparkers. Available data and literature suggest behavioral responses may occur during use of higher-powered sources such as boomers and sparkers; however, they would be unlikely or would not be long term with mitigation measures such as clearance and exclusion zones, the use of PSOs, and equipment shutdown protocols required by BOEM that would be implemented for this Project and all offshore wind projects.</p> <p>2. Blasting is not proposed for any CVOW-C Project activities; the method of installation of the turbine foundations is pile driving in which, essentially, a large hammer is used to drive each pile into the seafloor. This is acknowledged as being the highest risk of acoustic effects on NARWs in the EIS and is appropriately discussed. Project-specific modeling was also provided to address this. Additionally, a separate MMPA permit is being prepared by Dominion Energy to address this impact on marine mammals, and per that consultation all feasible mitigation is being proposed to avoid severe impacts on NARWs. One such mitigation measure, as discussed in the EIS, is seasonal restriction on pile-driving activities wherein this</p>

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		<p>activity would not occur from November 1 through April 30 to avoid the season in which NARWs show the highest presence in the Project area. Additionally, pile-driving activities would only occur intermittently over an approximate 2-year period, so no long-term avoidance of migration routes for NARWs would be expected.</p> <p>3. Additional information regarding WTG operational noise has been added to Section 3.15.3.2, <i>Cumulative Impacts of the No Actin alternative</i>, for reference, but available data suggest not all individuals would avoid turbine noise.</p>
0013-0027	<p>Determinations of “no significant impact,” or “negligible to moderate,” or “minor,” or even, amazingly enough “beneficial,” depending upon the alternative discussed in BOEM’s EIS, are premature, making the determination arbitrary and capricious. BOEM is a regulatory agency and its actions are circumscribed by law. It is imperative that BOEM not only collects all the available facts but conducts research where there are acknowledged gaps, before issuing its EIS for the CVOWP. The fate of the NARW literally depends on BOEM doing its job in order to understand the scope and types of impacts offshore wind projects create and to design mitigation measures that will effectively protect this highly-imperiled species. BOEM has consistently failed to discharge this duty, and the CVOW EIS continues this unfortunate trend. This situation must be corrected before permits are granted for the CVOW project and pre-construction activities begin</p>	<p>BOEM has used the best available science to evaluate the potential impacts from Project activities. Some of the best available science regarding impacts from offshore wind projects has been funded by BOEM. In addition, a separate MMPA permit is being prepared by Dominion Energy to address impacts on marine mammals. Per that consultation, all feasible mitigation is being proposed to avoid severe impacts on NARWs.</p>
0013-0003	<p>The 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>Some additional information on NARWs has been added for reference; however, there are no quantitative abundance numbers. The best available information is the relative abundances, which are referenced, and the densities from Roberts et al. (2022), which were calculated in the LOA and incorporated by reference in</p>

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		Section 3.15.5, <i>Impacts of the Proposed Action on Marine Mammals of the EIS</i> .
0013-0036	<p>The EIS makes it clear that NMFS bears the responsibility of deciding what the human "take" of the NARW may be during the life of the Project. However, it is also clear that NMFS will rely on the information contained in the EIS to inform its decision. The EIS suggests that Dominion Energy may receive an acceptable "take" ruling from NMFS which will allow the Project to proceed by using "mitigation" and "minimization" techniques that will sufficiently protect the NARW from humancaused killing. But the public is deprived of knowing what those mitigation techniques may be, because Dominion has redacted them from public view. Appendix R of the COP, Threatened and Endangered Species Review", which discusses this issue has been redacted. This redaction is in violation of the MMPA, the ESA, and NEPA, which require public participation in the review process for the EIS. A cursory explanation of the NARW protection techniques is contained on pp. 17-18 of the EIS, but even these are couched in general, non-specific terms, e.g., "Dominion Energy would implement several measures to avoid, minimize, and mitigate mammal physical disturbances, strikes, and collision"</p>	<p>Final EIS Appendix H, <i>Mitigation and Monitoring</i>, includes all mitigation and monitoring measures proposed by the applicant, as well as all measures required by BOEM and arising from consultation. NMFS published the MMPA Proposed Incidental Take Authorization in the <i>Federal Register</i> for public review and comment on May 4, 2023, through June 5, 2023.</p>
0013-0037	<p>The DEIS does not properly analyze the likely magnitude and reach of the Level A and Level B harassment noise generated by the turbines.10 BOEM appears to have done very little acoustic analysis, relying instead on the questionable claims of the Project developer (Dominion Energy) which has a vested financial stake in the project</p>	<p>The information used in the Draft EIS is based on the Project design provided by the developer, but was conducted by a third-party contractor who has no claims in the stake of the Project, as required by NEPA for EISs. Additional information about turbine noise has been added to Section 3.15.3.2, <i>Cumulative Impacts of the No Action Alternative</i>, for reference and to validate our impact determination; however, there is not sufficient data to quantitatively assess take. The data we have show Level A take is unlikely, and though Level B take may occur in the form of behavioral disturbances, this does not equate to long-term behaviors that would affect the viability of any population, especially given that the Project does not overlap with any marine mammal critical</p>

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		habitat or biologically important area for foraging or reproduction.
0013-0038	The EIS does not properly assess the likely, direct impacts of this excessive noise on the NARW and other endangered species. The noise is likely to be stressful, confusing, debilitating and damaging, as well as drowning out essential communication between individual sea mammals. Drowning out the protective low volume mother and calf communication is a special concern	Additional information has been added to Sections 3.15.3.2, <i>Cumulative Impacts of the No Action Alternative</i> , and 3.15.5, <i>Impacts of the Proposed Action on Marine Mammals</i> , to address this comment.
0013-0039	The EIS does not consider the obvious noise mitigation strategy (or alternative) of locating the Project where its excessive noise will not adversely interfere with successful migration. The migration path should be an exclusion zone for any potential life-threatening noise from the Project.	Alternative A considers the not constructing this Project in the EIS. Also, considering the identified migration habitat for NARW is, essentially, the entire U.S. East Coast, there would not be any viable alternative location. Additionally, this is not a federally designated critical habitat, and these considerations were accounted for when the Wind Energy Areas and leases were originally designated by BOEM. None of the noise produced by any Project activities was identified as having life-threatening impacts on NARW because no explosives would likely occur.
0013-0004	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. - 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	This information is elaborated on in the NMFS BA to the extent possible; however, a lot of these details will not be known given how far in advance of construction this EIS is being prepared. The main vessel ports for both construction and O&M have been added to Section 3.15.5, <i>Impacts of the Proposed Action on Marine Mammals</i> , so the reader can see how that would fit in with the estimated number of vessel round trips per day/month.
0013-0005	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	The Project area is not within any designated critical habitat but a statement that it occurs within a BIA for migration for NARW has been added to Section 3.15.1 <i>Description of the Affected Environment</i> .

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	aggregation of zooplankton in the project area. This is a critical information deficit, given that NARW feed exclusively on zooplankton	The presence of zooplankton in the area and potential impacts on these species are discussed in Section 3.13, <i>Finfish, Invertebrates, and Essential Fish Habitat</i> .
0013-0056	Finally, there is the matter of the CVOW project's construction and operational noise impacts on NARW. This Project is nearly double the size of the world's biggest offshore arrays today. The turbines and monopiles will be enormous, so it is likely that the noise levels of construction and operations will be tremendous and its impacts unknown. The resulting harm to the NARW and other endangered species is thus potentially severe, and the draft EIS in its current form does not by any reasonable measure adequately address this threat	All available information and modeling conducted for the Project were considered when determining the potential impacts on all marine mammal species, including NARW, and where appropriate this species critically endangered status and hearing sensitivity were considered separately from other species.
0013-0057	The EIS does not properly analyze likely NARW behavioral responses to adverse noise impacts, particularly the efforts of whales to avoid them. Comprehensive behavioral modeling is thus required and should be part of the EIS	Behavioral exposure modeling is conducted as a part of the developers MMPA permitting and is incorporated by reference into the EIS.
0013-0058	The EIS does not properly assess the likely life-threatening results of these adverse impacts to behavioral responses. For example, impaired hearing and avoiding the noise generated by wind turbines is likely to lead to greater frequency of vessel strikes. The resulting death rate needs to be estimated pursuant to the whale's current and down-trending PBR	Available information suggests that there are no mortal injuries that would likely occur due to either WTG operational noise or vessel noise given the non-impulsive nature of these sources, and behavioral responses that do occur in response to these would not result in removal of any individuals from a population. Additional supportive information has been added to both Sections 3.15.3, <i>Impacts of the No Action Alternative</i> , and 3.15.5, <i>Impacts of the Proposed Action on Marine Mammals</i> , as well as Appendix J, <i>Noise Modeling Report</i> , to support this conclusion.
0013-0006	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,	There is no quantitative data to support energetic costs of avoidance behaviors, but these points have been discussed to the extent possible with additional supportive literature added to the Final EIS.

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	increased risk of predation, increased risk of vessel strikes, increased entanglement in fishing gear, and overall loss of body fitness	
0013-0007	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 abundance information from the 2022 draft stock assessment report and estimates of recent population trends and calving trends, as well as the PBR for this species are discussed in the EIS.
0013-0008	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	The modeling was conducted by the developer as a part of its NEPA permitting process and the MMPA authorization. The modeling has been deemed appropriate for both the COP by BOEM and the MMPA authorization by NMFS.
0013-0009	The DEIS provides an inadequate analysis of [Italicized for emphasis: operational] noise impacts on NARW. The Virginia OSW 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 Virginia OSW project	While no comparable studies are available, Tougaard et al. (2020) and Stöber and Thomsen (2021) provide analyses of noise that could occur if source levels and the number of turbines are scaled up that are more appropriate for assessing the Proposed Action. Additionally, the available sound level measurements are based on WTG technology that is expected to be louder than what would be used for the Proposed Action, which was considered in the impact determination. All of this information is considered the best available data for determining impacts and is included in the EIS.
0021-0114	[Bold: Atlantic Marine Assessment Program for Protected Species ("AMAPPS")]: [Footnote 87: NMFS, Atlantic Marine Assessment Program for Protected Species (last visited Jan. 29, 2023), https://www.fisheries.noaa.gov/new-england-midatlantic/population-assessments/atlantic-marine-assessment-program-protected . See also Debra Palka et al., Atlantic Marine Assessment Program for Protected Species: 2015- 2019, BOEM (July 2021), available at https://repository.library.noaa.gov/view/noaa/47287 , at Appendices I-III.] The Final EIS should incorporate seasonal abundance estimates specific to the Project Area from AMAPPS	The most recent abundances from the 2022 draft stock assessment report have been added into the Final EIS, which incorporate these and more recent data for all applicable species, as well as the most recent habitat density models from Robers et al. (2022). The information from these reports has been incorporated by reference, but does not contradict the

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		existing information provided in the Draft EIS.
0021-0115	[Bold: Habitat-based Cetacean Density Models by the Duke University Marine Geospatial Ecology Laboratory (“Roberts et al. models”): [Footnote 88: Jason J. Roberts et al., Habitat-based marine mammal density models for the U.S. Atlantic: Latest Versions, DUKE UNIV. MGEL (June 20, 2022), https://seamap.env.duke.edu/models/Duke/EC/ .] BOEM cites the Roberts et al. models as a source for the information found in Table 3.15-1, but as discussed above, BOEM does not provide Project Area-specific abundance or density estimates. We urge BOEM to do so in the Final EIS using the version of the Roberts et al. model updated in 2022	The most recent model data have been incorporated into the Final EIS, and density estimates are provided as part of the LOA application, which are incorporated by reference in the EIS.
0021-0116	Several sections have lumped potential sources of impacts together, sometimes including just a couple of sentences to describe an entire potential source of impacts. For example, for marine mammals, vibratory pile driving, vessel noise, cable laying noise, and operational noise do not provide any quantitative information to support negligible or minor determinations. [Footnote 103: See, e.g., id. at 3.15-29 (“[T]he short duration of vibratory pile-driving activities at the nearshore location of the cofferdam installation will limit marine mammal exposure.”); 3.15-30 (“Vessel noise has the potential to exceed behavioral thresholds for marine mammals, however these disturbances are not expected to be biologically notable.”) (“[C]ompared to impact pile driving..., noise levels produced during [cable laying] will be substantially lower and this activity will occur over a relatively shorter period (24 days) so any behavioral effects would be temporary...”).] Quantitative analysis should be provided whenever a source has a known potential for negative impacts to justify why that source in that specific circumstance is unlikely to have more than minor impacts, especially when particularly vulnerable species such as North Atlantic right whales will be affected.	The discussion on all noise-producing activities has been updated in Section 3.15.3.2, <i>Cumulative Impacts of the No Action Alternative</i> , to provide more supportive literature and quantitative data to support the impact assessment. The discussion of the Proposed Action, which is largely based on the modeling conducted for the COP and MMPA authorization, has also been updated to provide a better discussion of potential impacts and how mitigation will help reduce risks. Where appropriate, NARWs have been called out specifically to discuss how they may be more vulnerable to potential effects.
0021-0117	Further, while BOEM must minimize existing and potential stressors to the right whale, the agency must also address potential impacts to other protected marine mammal and sea turtle species. It is therefore imperative that BOEM fully account for the consequences of the proposed right whale seasonal restriction on other protected species, such as humpback whales and sea turtles which may be present in higher numbers during the summer, and evaluate alternative risk reduction strategies sufficiently protective of multiple species. Requiring a robust and scientifically proven near real-time monitoring and mitigation system for right whales and other protected species during impact pile driving and other	The effect of the seasonal restriction as a mitigation measure has been considered for impacts of pile driving on all species. The suggested monitoring and mitigation system have been considered by BOEM and are discussed in Appendix H, <i>Mitigation and Monitoring</i> , and will be implemented and regulated by agencies through a monitoring plan that is submitted by the developer prior to construction.

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	potentially noise-generating activities would support the development of such alternatives	
0021-0015	<p>Not included in the analysis are additional marine mammal and sea turtle species found in the Gulf of Mexico, including the endangered Rice’s whale and the endangered hawksbill sea turtle. BOEM should include these species as part of the geographic analysis area due to potential vessel transits between Corpus Christi, Texas and the Project Area. [Footnote 44: Id. at 3.4-1 (“[S]ome vessel trips could occur in the Corpus Christi-Victoria, Texas, region.” (citing DOMINION ENERGY, CVOW CONSTRUCTION AND OPERATIONS PLAN § 4.1.3 (June 2021), available at https://www.boem.gov/renewable-energy/state-activities/cvowconstruction-and-operations-plan [hereinafter “Dominion COP”]).]</p> <p>[Bold: If there is any possibility that the vessel transits would occur within Rice’s whale core habitat, [Footnote 45: See NMFS, Rice’s Whale Core Distribution Area Map & GIS Data (last visited Jan. 25, 2023), https://www.fisheries.noaa.gov/resource/map/rices-whale-coredistribution-area-map-gis-data.] then BOEM must also include Rice’s whale in the impact analysis.]</p>	<p>These species are considered in the NMFS BA because these vessel transits are considered part of the Action Area for the ESA-consultation. However, only one or two vessels and/or transits from the Gulf of Mexico is likely to occur and potential impacts are discountable so they are not carried forward in the EIS.</p>
0021-0017	<p>Our groups have several general and specific concerns with BOEM’s analysis of marine mammal and sea turtle occurrence, abundance, and seasonality in the Project Area. As an initial matter, the DEIS does not provide a comprehensive assessment of all marine mammal and sea turtle species with common occurrence in the Project Area but instead refers the public to Sections 4.2.5.1 and 4.2.6.1 of Dominion’s COP and NMFS’s 2021 draft stock assessment report (“SAR”) for such information. [Footnote 46: CVOW-C DEIS at 3.15-1, 3.19-1.] Not only is this information difficult to access, but it is also significantly out of date. NMFS has published two SARs since then: the final 2021 SAR and the draft 2022 SAR, both of which BOEM should include in the Final EIS. [Footnote 47: NMFS, Marine Mammal Stock Assessment Reports by Region (last visited Jan. 28, 2023), https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammalstock-assessment-reports-region.] Descriptions of species-specific occurrence in the Project Area should be provided by BOEM as the agency responsible for assessing environmental impacts of the proposed activity, not by the developer or another agency. BOEM can certainly refer readers to these documents for more information, but still should provide a summary of such information to inform the public and its own analysis.</p>	<p>The most recent SAR information has been incorporated into the Final EIS. While information in the COP is considered, the description and assessment of marine mammals in the Project area was conducted by a third party using the best available science appropriate for the region and/or Project available at the time of preparing the EIS.</p>
0021-0018	<p>Furthermore, BOEM merely analyzes the [<i>Italics: regional</i>] occurrence, abundance, and seasonality of species likely to occur in the Project Area, rather than the [<i>Italics: Project Area-specific</i>] occurrence, abundance, and seasonality</p>	<p>Project area-specific densities were estimated as a part of the MMPA authorization and are incorporated by</p>

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	<p>of these species. For example, while seasonality should be provided for the Project Area, in Table 3.15-1 BOEM appears to provide seasonality designations for a larger region, and this is unclear in the table. [Footnote 48: CVOW-C DEIS at 3.15-3-8, Table 3.15- 1.] Moreover, seasonality is assigned vague seasons (e.g., “Fall/Winter”) rather than specific months or dates, [Footnote 49: Id.] and BOEM does not distinguish overall presence from peak occurrence. [Footnote 50: Id. at 3.19-3, Table 3.19-1.] In addition, while BOEM provides abundance estimates for marine mammal stocks, it does not provide Project Area- specific [Italics: density] estimates, like it has done for other DEISs in the Mid-Atlantic. [Footnote 51: 51 See, e.g., EMPIRE OFFSHORE WIND DRAFT ENVIRONMENTAL IMPACT STATEMENT, BOEM (Nov. 2022), available at https://www.boem.gov/renewable-energy/state-activities/empire-offshorewind-deis-commercial-wind-lease-ocs-0512, at 3.15-3.]</p>	<p>reference from Tetra Tech (2022b), which uses the Roberts et al. (2022) references. As for seasonality of species, the EIS notes which have more seasonal presence compared to those that may be present year-round, and the use of seasons follows the standard monthly denotation in the survey reports that are referenced in the EIS (i.e., winter = Dec, Jan, Feb; spring = March, Apr, May; summer = June, July, Aug; fall = Sept, Oct, Nov).</p>
0021-0019	<p>[Bold: We recommend that BOEM revise the description of the affected environment section to incorporate an independent analysis of all species likely to occur in the Project Area, using well-defined designations of project-specific occurrence, abundance (including density), and seasonality estimates.] BOEM must use relevant [Italics: primary] sources to support its analysis, rather than secondary sources like Dominion’s COP. Regarding the specific findings for marine mammal and sea turtle occurrence and abundance, we highlight the following concerns</p>	<p>The references in the EIS have been updated to include primary references such as the AMAPPS reports and Roberts et al. (2022). Providing species-specific discussions is outside the scope of the EIS. Species are grouped based on potential risk of impacts to feed the discussion in the EIS, and any differences in distribution are noted. Otherwise, the discussion is grouped as appropriate for the EIS.</p>
0021-0002	<p>As the agency is aware, underwater noise pollution has deleterious consequences for most marine life and represents a significant stressor to marine mammals, including the critically endangered North Atlantic right whale. Without sufficient noise avoidance and minimization measures in place, right whales and other marine mammals may be exposed to potentially harmful levels of noise during pile driving and other construction activities</p>	<p>Mitigation and monitoring measures specific to noise are included in the discussion of potential effects of the Proposed Action, and further detail on these mitigation measures is provided in Appendix H, <i>Mitigation and Monitoring</i>.</p>
0021-0020	<p>The DEIS correctly states that the right whale is in dramatic decline and is experiencing high mortality combined with low calving rates, resulting in a population that cannot withstand further losses or additional stress if the species is to reverse its decline and eventually recover. [Footnote 56: The Potential Biological Removal level for the species is now 0.7, meaning that not even a single individual can be lost to human activities each year if the species is to avoid extinction. CVOW-C DEIS at 3.15-1.] However, BOEM uses the latest stock assessment report’s estimate of abundance of 368 individuals, [Footnote</p>	<p>The most recent SAR and UME information available at the time of preparing the Final EIS has been incorporated, and the critical status of this population is considered throughout the EIS impact discussions.</p>

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	<p>57: Id. at 3.15-7, Table 3.15-1.] a number that is now at least three years out of date. We encourage the use of the 340 population estimate to reflect the species' true status and subsequent risk assessment more accurately. BOEM also uses outdated numbers to describe the ongoing UME; the DEIS provides the numbers of mortality, serious injury, and sublethal injury from [Italics: known vessel strikes] only, ignoring mortality from unknown or other causes, as well as cryptic mortality. [Footnote 58:] BOEM must incorporate into consideration that to date, 94 right whales have been impacted by the UME (i.e., from mortality, serious injury, and morbidity). [Footnote 59:]</p>	
0021-0021	<p>Excerpt Text: Information is also missing on the population's shift in distribution since 2010. BOEM correctly recognizes that the species exhibits year-round presence in waters off Virginia, with a peak from November through April, [Footnote 60: CVOW-C DEIS at 3.15-9. We note that any mention of the SMA is missing from the DEIS.] but it does not include the species' post-2010 shift in distribution, which includes more unpredictable, staggered migration timing. Given that scientists predict that further range shifts of this nature will occur from climate change, [Footnote 61: Genevieve E. Davis et al., Long-term passive acoustic recordings track the changing distribution of North Atlantic right whales (<i>Eubalaena glacialis</i>) from 2004 to 2014, NATURE SCI. REPORTS (Oct. 18, 2017).] and more data are needed to understand the most recent rapid distributional shifts, BOEM should ensure full consideration of this information in its impact analysis in the Final EIS</p>	<p>The potential year-round presence of NARW in the Project area is considered in the EIS as noted in Section 3.15.1, <i>Description of the Affected Environment</i>.</p>
0021-0022	<p>BOEM misrepresents several estimates of seasonality and occurrence of marine mammals in the Project Area, and these inaccuracies should be corrected in the Final EIS. First, regarding seasonality, in Table 3.15-1 humpback whale presence is listed as "Fall/Winter/Spring." [Footnote 62: CVOW-C DEIS at 3.15-7, Table 3.15- 1.] However, we presented data in our scoping comments indicating year- round presence of humpback whales off Virginia. [Footnote 63: Scoping Comments at 17- 18.] BOEM did not include this information in its analysis. Given that this species is currently experiencing a UME and a recent uptick in mortalities in this region, [Footnote 64: NMFS, 2016–2023 Humpback Whale Unusual Mortality Event Along the Atlantic Coast (last visited Jan. 27, 2023), https://www.fisheries.noaa.gov/national/marine-life-distress/2016-2023-humpbackwhale-unusual-mortality-event-along-atlantic-coast; NMFS, Frequent Questions— Offshore Wind and Whales: What is the cause of recent whale deaths off New York and New Jersey? Is it related to offshore wind development? (last visited Jan. 27, 2023), https://www.fisheries.noaa.gov/new-england-mid-atlantic/marine-lifedistress/frequent-questions-offshore-wind-and-</p>	<p>The Final EIS has been updated to indicate a potential year-round presence; however, the relative occurrences are based on recent data from AMAPPS and Roberts et al. (2022). The UME information for this species has been updated and included in the vessel traffic discussion of Section 3.15.3.2, <i>Cumulative Impacts of the No Action Alternative</i>.</p>

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	<p>whales#why-is-there-currently-ahigh-number-of-large-whales-in-the-waters-off-new-jersey?-is-it-related-to- offshorewind?.] BOEM must ensure that any potential impacts to humpback whales from the proposed activity are fully considered, starting with the most accurate picture of seasonal presence</p>	
0021-0024	<p>BOEM also mischaracterizes the seasonality of Atlantic white-sided dolphins as “Fall/Winter/Spring” in Table 3.15-1, [Footnote 65: CVOW-C DEIS at 3.15-3, Table 3.15-1.] when peak occurrence of this species in the Mid- Atlantic is thought to be during spring and summer. [Footnote 66: S.A Testaverde & J.G. Mead, Southern distribution of the Atlantic white sided dolphin, <i>Lagenorhynchus acutus</i>, in the western North Atlantic, FISHERY BULLETIN (1980); Stephen Leatherwood & Randall R. Reeves, THE SIERRA CLUB HANDBOOK OF WHALES AND DOLPHINS (1983).]</p>	<p>The Final EIS has been updated to winter/spring based on the information in the 2021 SAR (Hayes et al. 2022), which considers more recent data. From January to May, low numbers of white-sided dolphins are found from Georges Bank to Jeffreys Ledge (off New Hampshire), with even lower numbers south of Georges Bank, as documented by a few strandings collected on beaches of Virginia to South Carolina. The Virginia and North Carolina observations appear to represent the southern extent of the species’ range during the winter months (Hayes et al. 2022).</p>
0021-0025	<p>Second, regarding occurrence, BOEM improperly dismisses from analysis several marine mammal species due to their “uncommon” or “extralimital” presence in the Project Area, including the blue whale, sei whale, West Indian manatee, Clymene dolphin, and short-finned pilot whale. [Footnote 67: CVOW-C DEIS at 3.15-9; 3.15- 3-4, Table 3.15-1.] Our scoping comments presented evidence of potential presence of the first three of these species off Virginia and urged the agency to take a conservative approach to include these species in their analysis due to their endangered or threatened statuses under the ESA. [Footnote 68: Scoping Comments at 18, 20-21.] BOEM failed to include any of these scientific data sources in their DEIS, and this should be remedied in the Final EI</p>	<p>Occurrences in Table 3.15-1 have been updated for the clymene dolphin and short-finned pilot whale. However, available information as cited in the EIS indicates blue whales and sei whales would be uncommon given their preference for cooler, deeper waters, and manatees are very rarely encountered in Virginian waters and are not likely to be affected by the Project. This is further justified by the MMPA authorization application for which no Level A or B takes of manatees are being requested or required by NMFS. Additionally, blue and sei whales are inherently included in any discussion of potential impacts on LFC or mysticete species in the EIS.</p>
0021-0026	<p>Further, Clymene dolphin occurrence is not extralimital in the Mid- Atlantic or Project Area; while there are few sightings, the Project Area is well within the</p>	<p>Clymene relative occurrence in the Project area changed from “extralimital” to</p>

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	<p>typical range of the species. [Footnote 69: Dagmar Fertl et al., Distribution of the Clymene dolphin <i>Stenella clymene</i>, MAMMAL REVIEW (Sept. 29, 2003); Thomas A. Jefferson et al., MARINE MAMMALS OF THE WORLD: A COMPREHENSIVE GUIDE TO THEIR IDENTIFICATION, SECOND EDITION (2015).] Finally, BOEM designates the long-finned pilot whale but not short-finned pilot whale as “common” in the Project Area. [Footnote 70: CVOW-C DEIS at 3.15-4, Table 3.15-1] However, short-finned pilot whales have stranded as far north as Massachusetts, [Footnote 71: Katie R. Pugliares et al., First records of the short-finned pilot whale (<i>Globicephala macrorhynchus</i>) in Massachusetts, USA: 1980 and 2011, AQUATIC MAMMALS (Aug. 25, 2016).] and tagged short-finned pilot whales have ranged along the shelf break as far north as Nantucket Shoals and Georges Bank. [Footnote 72: Lesley H. Thorne et al., Movement and foraging behavior of short-finned pilot whales in the Mid-Atlantic Bight: Importance of bathymetric features and implications for management, MARINE ECOLOGY PROGRESS SERIES (Dec. 7, 2017).] Due to the uncertainty of the exact ranges of these species, the potential for range shifts due to climate change, and the difficulty distinguishing between these species in the field, both species should be included as expected to occur in the Project Area.</p>	<p>“uncommon” based on Hayes et al. 2020 and Fertl et al. 2003)—both indicate that this species routinely occurs in the western North Atlantic.</p> <p>Based on sightings data (Hayes et al. 2021), there is common overlap in ranges of long- and short-finned pilot whales within the Project area. Both have been classified in Table 3.15-1 as “common”.</p>
0021-0032	<p>[Bold: U.S. Navy Marine Species Monitoring Program]: [Footnote 82: 82 U.S. NAVY, Atlantic Fleet Training & Testing Monitoring (last visited Jan. 29, 2023), https://www.navy-marinespeciesmonitoring.us/regions/atlantic/currentprojects/?ccm_paging_p=1. See also U.S. NAVY, Marine Resources Assessment Update for the Virginia Capes (VACAPES) Operating Area, supra note 77; U.S. NAVY, Marine Resources Assessment for the Chesapeake Bay, supra note 77; Danielle V. Jones & Deanna R. Rees, Haul-out Counts and Photo-identification of Pinnipeds in Chesapeake Bay and Eastern Shore, Virginia: 2019/2020 Annual Progress Report (Prepared for U.S. Fleet Forces Command), U.S. NAVY (Mar. 2022).] The DEIS includes these data to demonstrate presence of a number of seal species, but no other species of marine mammal or sea turtle. [Footnote 83: CVOW-C DEIS at 3.15-9.] For example, the humpback monitoring project has been ongoing since 2015 and utilizes observational methods, photo-identification, biopsy sampling, and satellite tagging to assess the occurrence, habitat use, and behavior of humpback whales in the nearshore Mid-Atlantic region. [Footnote 84: U.S. NAVY, Mid-Atlantic Humpback Whale Monitoring (last visited Jan. 29, 2023), https://www.navy-marinespeciesmonitoring.us/reading-room/project-profiles/midatlantic-humpback-whale-monitoring1/.] North Atlantic right whale movements have also been tracked through tagging and monitoring</p>	<p>The U.S. Navy monitoring data from the VACAPES studies quoted in this comment have been considered in the EIS.</p>

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	<p>studies. [Footnote 85: U.S. NAVY, North Atlantic Right Whale Monitoring, Conservation, and Protection (last visited Jan. 29, 2023), https://www.navymarinespeciesmonitoring.us/reading-room/projectprofiles/north-atlantic-right-whale-monitoring-conservation-and-protection/.] Sea turtle sightings are also recorded. [Footnote 86: Amy Engelhaupt et al., VACAPES Outer Continental Shelf Cetacean Study, Virginia Beach, Virginia: 2020 Annual Progress Report (Prepared for U.S. Fleet Forces Command and Submitted to Naval Facilities Engineering Systems Command Atlantic) (Feb. 2021).</p>	
0021-0033	<p>Excerpt Text: - [Bold: Recent Aerial Surveys]: BOEM should include the results of recent aerial surveys off the Mid-Atlantic. [Footnote 89: N.Y. Div. Marine Res., Final Comprehensive Report for New York Bight Whale Monitoring Aerial Surveys: March 2017–February 2020, N.Y. ST. DEP’T OF ENV’T CONSERVATION (May 2020), https://www.dec.ny.gov/docs/fish_marine_pdf/mmaeran3.pdf. See also Scott D. Kraus et al., Northeast Large Pelagic Survey Collaborative Aerial and Acoustic Surveys for Large Whales and Sea Turtles, BOEM (2016); Orla O’Brien et al., Megafauna Aerial Surveys in the Wind Energy Areas of Massachusetts and Rhode Island with Emphasis on Large Whales: Interim Report Campaign 6A, 2020, BOEM (Apr. 2021), Orla O’Brien et al., Megafauna Aerial Surveys in the Wind Energy Areas of Massachusetts and Rhode Island with Emphasis on Large Whales: Summary Report, Campaign 5, 2018-2019, BOEM (Dec. 2020); Ester Quintana et al., Megafauna Aerial Surveys in the Wind Energy Areas of Massachusetts and Rhode Island with Emphasis on Large Whales: Summary Report, Campaign 4, 2017-2018, NEW ENGLAND AQUARIUM & WOODS HOLE OCEANOGRAPHIC INST. (2019); Kelsey M. Stone et al., Distribution and abundance of cetaceans in a wind energy development area offshore of Massachusetts and Rhode Island, J. COASTAL CONSERVATION (June 19, 2017); Geo-Marine Inc., Ocean/Wind Power Ecological Baseline Studies: January 2008-December 2009, Final Report, N.J. DEP’T ENV’T PROT. (July 2010); Amy D. Whitt et al., Abundance and distribution of marine mammals in nearshore waters off New Jersey, USA, J. CETACEAN RSCH. & MGMT. (Jan. 2015); Amy D. Whitt et al., North Atlantic right whale distribution and seasonal occurrence in nearshore waters off New Jersey, USA, and implications for management, ENDANGERED SPECIES RSCH. (Mar. 21, 2013).</p>	<p>The references provided in this comment are specific to the northeastern United States and do not apply to state regions south of New Jersey. The description of species occurring in the Project area focused on studies that are specific (where feasible) to the region offshore or surrounding Virginia.</p>
0021-0034	<p>[Bold: Observational Sightings]: BOEM should consider records available through additional sightings databases like NMFS’s Right Whale Sighting Advisory System, [Footnote 90: NOAA, NOAA Right Whale Sighting Advisory System (last visited Jan. 29, 2023),</p>	<p>These are considered, to a given extent, in the Roberts et al. (2022) data, which are included in the EIS.</p>

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	<p>https://fish.nefsc.noaa.gov/psb/surveys/MapperiframeWithText.html.] and the Northeast Fisheries Science Center’s Monthly Dynamic Management Area analysis. [Footnote 91: NE. FISHERIES SCI. CTR. (NEFSC), Interactive Monthly DMA Analysis (last visited Jan. 23, 2023), https://appsnefsc.fisheries.noaa.gov/psb/surveys/interactive-monthly-dma-analyses/.]</p>	
0021-0035	<p>[Bold: Passive Acoustic Monitoring (“PAM”)]: BOEM should consider acoustic findings such as Robots4Whales detections, [Footnote 92: WOODS HOLE OCEANOGRAPHIC INST., Robots4Whales (last visited July 20, 2021), http://dcs.whoi.edu/] Acoustic Indicators of Right Whale Occurrence, [Footnote 93: NEFSC, Acoustic Indicators of Right Whale Occurrence, https://appsnefsc.fisheries.noaa.gov/psb/surveys/interactive-monthly-dma-analyses/] large whale acoustics, [Footnote 94: Bobbi J. Estabrook et al., Year-2 annual survey report for New York Bight whale monitoring passive acoustic surveys October 2018–October 2019, N.Y. DEC (Jan. 22, 2021); Bobbi J. Estabrook et al., Year-1 annual survey report for New York Bight whale monitoring passive acoustic surveys October 2017—October 2018, N.Y. DEC (Oct. 4, 2019).] and the Navy studies mentioned above. [Footnote 95: 95 U.S. NAVY, Baseline Monitoring for Marine Mammals in the East Coast Range Complexes (Passive Acoustics) (last visited Jan. 29, 2023), https://www.navymarinespeciesmonitoring.us/reading-room/project-profiles/baselinemonitoring-marine-mammals-east-coast-range-complexes-passive-acoustics/; U.S. NAVY, Analysis of Acoustic Ecology of North Atlantic Shelf Break Cetaceans and Effects of Anthropogenic Noise Impacts (last visited Jan. 29, 2023), https://www.navymarinespeciesmonitoring.us/reading-room/project-profiles/analysisacoustic-ecology-north-atlantic-shelf-break-cetaceans-and-effects-anthropogenicnoise-impacts/.]</p>	<p>Given the inherent difficulties with localizing animal locations with PAM data, the EIS uses visual data instead.</p>
0021-0037	<p>BOEM anticipates that the Proposed Action would result in “negligible to moderate adverse impacts” for most marine mammal species with “major” adverse impacts for North Atlantic right whales due to underwater noise from impact pile driving and increased vessel traffic. [Footnote 98: CVOW-C DEIS at 3.15-33-34.] For sea turtles, BOEM has determined that impacts will be “negligible to moderate.” [Footnote 99: Id. at 3.19-23.] BOEM further postulates that “minor beneficial” impacts are expected for some species of both marine mammal and sea turtle from “reef effects” of the structures. [Footnote 100: Id. at 3.15-31-32, 3.19-23.] We urge BOEM to carefully consider how these changes are counterbalanced by adverse impacts from pile-driving noise and increased vessel traffic.</p>	<p>While the EIS discusses the potential for both to occur, BOEM does not expect that they will counterbalance or somehow cancel each other out. The discussion in the EIS is simply assessing all potential effects that could occur, both adverse and beneficial.</p>

Comment No.	Comment	Response
0021-0042	<p>Bold: Site assessment and characterization impacts]: Concerningly, under the noise analysis for marine mammals under the Proposed Alternative, high-resolution geophysical (“HRG”) surveys are afforded only a paragraph and impacts are dismissed due to mitigation measures found in the 2021 “Programmatic Informal Consultation,” [Footnote 104: Id. at 3.15-30.] which will be incorporated into the Final EIS. We have profound concerns with the Programmatic Informal Consultation because it relies on grossly outdated scientific information about the right whale and fails to include mitigation measures that meet the ESA’s requirements. Indeed, in a letter submitted to BOEM and NMFS on January 20, 2022, several of the undersigned groups urged NMFS to immediately reinstate consultation under the ESA based on the best available scientific data and new right whale population number to ensure the mitigation measures on which BOEM is relying for site characterization and assessment activities are protective enough to reduce risk to right whales. [Footnote 105: Letter from Defs. of Wildlife et al. to Amanda Lefton, Dir., Bureau of Ocean Energy Mgmt., & Janet Coit, Assistant Adm’r, NMFS, Re: BOEM and NMFS Must Reinstate Consultation on the Effects of Site Assessment Characterization Activities for Offshore Wind Energy on North Atlantic Right Whales (Jan. 20, 2022) [hereinafter “North Atlantic Right Whale Reinitiation Letter”], provided as Attachment 3.] We reiterate that request for BOEM to update the analyses now in order to comply with the ESA on this and all future Atlantic coast leases</p>	<p>This section has been updated to include the use of more recent information.</p>
0021-0044	<p>[Bold: Operational noise impacts]: The DEIS’s description of potential noise effects from operational WTGs is also cursory and does not provide any analysis of sound source levels compared to thresholds or ambient noise. Instead, it is merely compared to vessel noise, [Footnote 106: CVOW-C DEIS at 3.15-31.] which is not an appropriate comparison because vessel noise consists of moving, ephemeral noise sources not laid out in a permanent grid like what is proposed for CVOW-C. A wealth of research exists on the impacts of operational noise from offshore wind turbines on marine life and the importance of reducing this impact. Best available scientific information indicates that, during the operation phase, offshore wind turbines may generate noise audible and potentially impactful to large whales and other marine species over significant distances. [Footnote 107: Stöber & Thomsen, supra note 22; Carduner, supra note 22.] Understanding levels and impacts of operational noise should be an immediate research and monitoring priority for BOEM as the first offshore wind projects are constructed in the United States. The Final EIS should include a</p>	<p>Based on current available research, behavioral disturbances and auditory masking could occur at close distances to an operational WTG. However, impacts are not likely to occur outside a relatively small radius surrounding the Project foundations and the audibility of the WTGs may be further limited by the ambient noise conditions of the Project area (Jansen and de Jong 2014, as an example). This information has been clarified in the Final EIS.</p> <p>Additionally, BOEM is currently undertaking studies to better understand the noise associated with offshore wind projects under its Real-time Opportunity for</p>

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	proper, quantitative analysis that considers the operational noise generated by turbines.	Development of Environmental Observations program. As offshore wind projects move into operation, additional measurements of noise levels may be undertaken.
0021-0045	[Bold: Vessel traffic impacts]: For both marine mammals and sea turtles, the vessel traffic analysis for the Proposed Alternative is inadequate. The DEIS states that Dominion would average 46 vessel trips per day (minimum of 3 per day to a maximum of 95 per day) throughout the duration of construction activities. [Footnote 108: CVOW-C DEIS at 3.15-32.] However, BOEM does not include the total number of vessels, vessel sizes, and expected vessel speeds, instead referring the public to Dominion’s COP for this information. [Footnote 109: Id.] As discussed above, this information is germane to BOEM’s analysis of impacts to marine mammals and sea turtles, many of which are already suffering the impacts of vessel traffic, and the Final EIS should further quantify potential impacts by describing this information during all project phase	All of this information, as was best available at the time the EIS was prepared, is provided in the COP and is incorporated by reference in the EIS. These factors were considered when determining potential impacts for all marine mammal species.
0021-0048	Potential behavioral impacts from impact pile driving are dismissed in the DEIS as being “short-term (<4 hours per pile and up to a maximum of two piles per day).” [Footnote 115: Id. at 3.15-29.] However, eight hours of exposure per day for up to 180 consecutive days (the length of the pile driving season proposed by Dominion) cannot be considered short-term, and impacts from extended exposure could be significant. For example, scientific information on North Atlantic right whale functional ecology shows that the species employs a “high-drag” foraging strategy that enables them to selectively target highdensity prey patches but is energetically expensive. [Footnote 116: Julie M. Van der Hoop et al., Foraging rates of ramfiltering North Atlantic right whales, FUNCTIONAL ECOLOGY (May 11, 2019).] Thus if access to prey is limited in any way, including as a result of disturbance or habitat avoidance due to pile driving activity, the ability of the whale to offset its energy expenditure during foraging is jeopardized. [Footnote 117: Id.] A negative energy budget resulting from reduced foraging success can potentially lead to population-level consequences, despite the contrary conclusion in the DEIS. [Footnote 118: See, e.g., Fredrik Christiansen et al., Population comparison of right whale body condition reveals poor state of the North Atlantic right whale, MARINE ECOLOGY PROGRESS SERIES (Apr. 23, 2020); Joshua D. Stewart et al., Decreasing body lengths in North Atlantic right whales, CURRENT BIOLOGY (June 3, 2021).; Joshua D. Stewart et al., Larger females have more calves: Influence of maternal body length on fecundity in North Atlantic right whales, MARINE ECOLOGY	Because the Project would not occur in critical foraging habitat for NARWs, potential behavioral disturbances are not likely to disrupt feeding behaviors, particularly with the proposed seasonal restriction on this activity. However, BOEM agrees that the use of <i>short term</i> for this activity is potentially misleading and has updated this to indicate temporary avoidance or displacement from the pile-driving site would be expected to occur, given that animals would be expected to return once pile driving has ceased.

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	PROGRESS SERIES (May 12, 2022).] This research provides an indication of the significant impact that disturbance during foraging may have on a marine mammal species	
0021-0049	While we recognize that the waters off Virginia are not considered a core foraging ground for right whales, there is evidence presented in our scoping comments that this area could be considered an increasingly important foraging area, due to a seasonal hot spot of [<i>Centropagidae</i>] copepods, on which North Atlantic right whales feed. [Footnote 119: Scoping Comments at 15.] Moreover, Virginia waters [<i>are</i>] established foraging grounds for other large whale species, such as fin whales and humpback whales. [Footnote 120: Id. at 18.] For this DEIS 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.	The potential effects of disruptions of foraging have been considered in the impact discussion for the Proposed Action to the extent feasible with available information. However, while potential changes in feeding behavior may occur during some activities, these changes are not expected to lead to population-level effects for any species.
0021-0050	As discussed in our scoping comments, the imperiled statuses of several marine mammal and sea turtle species off Virginia, including most critically the North Atlantic right whale, demand the implementation of strong protective measures to safeguard these species during construction and operations of the Project. BOEM must take all necessary precautions to reduce the number of takes for these vulnerable marine mammal and sea turtle species to be as close to zero as possible.	These statuses have been considered, and additional text has been added to Section 3.15.5, <i>Impacts of the Proposed Action on Marine Mammals</i> , for NARW, in particular for impact pile driving to reduce the potential for PTS to zero and help minimize the effects of behavioral disturbances.
0026-0039	Regarding potential impacts to the critically endangered North Atlantic Right Whale, in a letter from NOAA's Chief of Protected Species to BOEM found that "disturbance to right whale foraging could have population-level effects on an already endangered and stressed species." [Footnote 23: See https://newbedfordlight.org/wpcontent/uploads/2022/11/UR1-2023-000009_10_17_2022.pdf] In addition to potential impacts to the NARW, a concerning number of whale mortalities have been occurring the last couple of months. As of January 16, at least 8 whales have washed up on beaches along the Atlantic coast in areas where offshore wind survey operations have been taking place. This has caused one legislator to "demand that all offshore wind activity be halted until it is properly determined what the effects of these activities are having on our marine life." [Footnote 24: Statement made by Congressman Jeff Van Drew on January 13, 2023. Available at	To date, no whale mortality has been attributed to offshore wind activities. Since January 2016, NMFS has been monitoring Unusual Mortality Events for humpback whales with elevated strandings along the entire East Coast. This UME began prior to any offshore wind activities in the Atlantic Ocean. To date, there are about 174 humpback whales included in the UME. Partial or full necropsy examinations were conducted on approximately half of the whales. Of the whales examined, about ~40% had evidence of human interaction,

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	<p>https://vandrew.house.gov/media/press-releases/congressman-van-drew-demands-alloffshore-wind-activity-end-immediately-until</p>	<p>either ship strike or entanglement. To date, no humpback whale mortality has been attributed to offshore wind activities. Please reach out to NMFS for more information on Atlantic UME.</p> <p>In addition, 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, to avoid whales during these survey activities. NMFS' biological opinion can be found here: United States Department of Commerce (boem.gov). BOEM's biological assessment on Atlantic surveys can be found here: https://www.boem.gov/sites/default/files/documents/renewable-energy/OREP-Data-Collection-BA-Final.pdf</p>

N.6.15 Navigation and Vessel Traffic

Table N.6.15-1 Responses to Comments on Navigation and Vessel Traffic

Comment No.	Comment	Response
0009-0001	We appreciate the efforts BOEM has undertaken to deconflict routes and offshore wind development off the Virginia coast. However, we have concerns about the placement of offshore export cables from the Coastal Virginia Offshore Wind project. If a vessel must lower an anchor during an emergency situation, vessel operators must be sure that they will not inadvertently strike an underwater cable, which could be dangerous to mariners and the environment. Export cables from this project and others should not be located within navigation routes and fairways. If a cable must be laid in one of these areas, best practice is for it to cut perpendicularly across the route and be buried at least 15 feet deep to minimize the risk of damaging the cables and threatening mariner safety and the environment. AWO supports the cable placement in the proposed alternative as long as the cables are buried at least 15 feet deep where they cross navigation areas.	<p>The project parameters indicate that the cables will be buried from 3.3 to 16.4 feet beneath the seabed. The USACE guidance states, "Should a cable route cross a maintained channel, it must be buried deep enough below the authorized depth to ensure that the channel can be maintained safely without posing a risk to the cable and must account for future increases in channel depth. As such the crossing of federally maintained channels should be avoided to the extent practical by the cable routing..... offshore export cables or required to be buried 15 ft (4.6 m) below the federally authorized channel depth or 15 ft (4.6 m) below the existing seabed, whichever is deeper, to minimize the change of interaction with maintenance dredging of channels."</p> <p>Although the offshore export cables for the Project will not cross any navigation channels, the USACE Norfolk District will continue to be engaged throughout the planning and engineering processes so that Dominion Energy fully understands plans to re-align or deepen the Atlantic Ocean Channel (AOC) and confirm where dredged materials would be deposited, relative to the proposed offshore export cable route corridor.</p>
0013-0047	BOEM anticipates the overall impacts on navigation and vessel traffic from ongoing and planned activities, including the Proposed Action would be minor to major and short and long term, due primarily to the increased possibility for marine accidents, which could produce significant disruptions for ocean users in the geographic area. The DEIS, however, fails to identify or describe any alternative that would reduce or avoid this impact and still meet most of the project objectives. Nor does the DEIS recommend adequate mitigation measures for reducing this impact.	Appendix H in the COP describes impacts and mitigation measures. Two of the measures are directed at marine transportation and navigation seeking to reduce risk in this resource area.
0013-0048	{Study Name: Wind Turbine Generator (WTG) Impacts to Marine Vessel Radar (MVR)(2022)] "WTGs are large	Dominion Energy conducted a robust Navigation Safety Risk Assessment (NSRA) in accordance with USCG requirements. In

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	<p>structures predominantly constructed of steel. As a result, they generally have significant electromagnetic reflectivity and the capacity to interfere with radar systems in their vicinity. Additionally, the rotating blades can return large and numerous Doppler-shifted reflections as the blades move relative to a receiving radar system. The installation of WTGs towering hundreds of meters above the sea surface across the U.S. OCS therefore poses potential conflicts with a number of radar mission supporting air traffic control, weather forecasting, homeland security, national defense, maritime commerce, and other activities relying on this technology for surveillance, navigation, and situational awareness. Upcoming COPs include WTG's with hub heights and rotor diameters approaching 175 m and 250 m, respectively.”</p> <p>“Due to their size, structure, and proposed placement offshore, the maritime community expressed concern that WTGs may cast radar shadows, obfuscating smaller vessels exiting wind facilities in the vicinity of deep draft vessels in Traffic Separation Schemes. Other possible forms of radar interference that may preclude safe navigation within an offshore wind facility, such as radar clutter and mirror effects (false signaling). WTGs may produce strong reflected, multiple, and side lobe echoes that can mask or complicate the identification of real targets. A loss of contact with smaller vessels due to the various forms of MVR interference could complicate MTS operations, and is therefore particularly consequential when conducting maritime surface SAR operations in and adjacent to an offshore wind farm.”</p> <p>“MVRs are not optimized to operate in the complex environments of a fully populated, continental shelf wind farm. There is no simple MVR modification resulting in a robust WTG operating mode. Additionally, in contrast to investments by developers and operators of air traffic control and military radar systems, compelling WTG mitigation techniques for MVR have not been</p>	<p>the NSRA, impacts on marine vessel radar was adequately addressed. As the offshore wind industry continues to grow in U.S. waters, there will be more data to draw from; however, at this time, BOEM agrees with Dominion Energy that there will be limited to no impact on marine radar, and that any effects can be managed effectively by mariners.</p>

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	<p>substantially investigated, implemented, matured, or deployed.”</p> <p>“Conclusion 1: Wind turbines in the maritime environment affect marine vessel radar in a situation-dependent manner, with the most common impact being a substantial increase in strong, reflected energy cluttering the operator’s display, leading to complications in navigation decision-making.”</p> <p>“Finding 5.2: WTGs lead to interference in MVR, including strong stationary returns from the wind turbine tower, the potential for a strong blade flash return for certain geometries, and Doppler spread clutter generated along the radial extent of the WTG blade, which could obfuscate smaller watercraft or stationary objects such as buoys. Additionally, own vessel platform multipath is a significant challenge for returns from WYTGs, leading to ambiguous detections and a potentially confusing operator picture.”</p> <p>“Finding 5.3: When conducting maritime surface SAR operations in and adjacent to an offshore wind farm, use of MVR could be challenging because wind turbines can cause significant interference and showing that suppress the detection of small contacts.”</p> <p>“Finding 5.4: there is no currently available “WTG mode” for MVRs, and operator control of detection threshold to mitigate strong returns will frequently lead to the unintended consequence of suppressing detections of small targets.”</p> <p>“Finding 5.5: There is a paucity of field collected data to understand and evaluate the impacts of WTGs on currently deployed MVR models and support comprehensive development of ameliorating methods. Similarly, the impact of anomalous propagation and returns from range ambiguous regions on MVR is poorly understood due to lack of experimental data.”</p> <p>“Finding 6.1: In contrast to investments by developers and operators of air traffic control and military radar</p>	

Comment No.	Comment	Response
	systems, compelling WTG mitigation techniques for MVR have not been substantially investigated, implemented, matured, or deployed.”	

N.6.16 Other Uses (Marine Minerals, Military Use, Aviation)

Table N.6.16-1 Responses to Comments on Other Uses (Marine Minerals, Military Use, Aviation)

Comment No.	Comment	Response
0013-0049	the DEIS must identify project-related interference with radar as a major adverse impact and develop alternatives or mitigation measures to address it.	BOEM’s conclusion that there would be minor impacts on radar from the Proposed Action and all alternatives includes consideration of all mitigation and monitoring measures in Appendix H of the Final EIS.
0013-0045	Impacts on NOAA scientific research and surveys would qualify as [Bold for emphasis: major] because entities conducting surveys and scientific research would have to make significant investments to change methodologies to account for unsampleable areas, with potential long-term and irreversible impacts on fisheries and protected-species research as a whole, as well as on the commercial fisheries community.” The DEIS, however, fails to identify or describe any alternative that would reduce or avoid this impact and still meet most of the project objectives. Nor does the DEIS recommend adequate mitigation measures for reducing this impact.	<p>The impact on scientific research and surveys from the Proposed Action has been changed from moderate to major in the Final EIS.</p> <p>BOEM analyzed the Proposed Action (i.e., the proposed Project as described in Dominion Energy’s COP) as well as a reasonable range of alternatives.</p> <p>BOEM has committed to working with NOAA to implement the Federal Survey Mitigation Strategy program (https://repository.library.noaa.gov/view/noaa/47925). As of February 2023, 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.</p>

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N.6.17 Recreation and Tourism

Table N.6.17-1 Responses to Comments on Recreation and Tourism

Comment No.	Comment	Response
0013-0050	<p>The CVOW DEIS provides some data on the Project's anticipated visual impacts but it does not take the next step and assess how those visual impacts will affect tourism and the local economies that rely on it. A study by Lutzeyer et.al. (2017), "The Amenity Costs of Offshore Wind Farms: Evidence from a Choice Experiment," showed that these impacts can be significant. The Lutzeyer study worked with beach home rental companies, and surveyed only people who had recently rented a house on, or near the beach. The study found 38 percent of beach renters, when shown visual simulations of turbines 5 to 18 miles from shore, would likely not come back to a beach with daytime visible turbines. In addition, others would return only with a rental discount depending on the distance. According to the Lutzeyer study, "Overall, the willingness to accept estimates for the Never View class imply that these respondents would likely exit the local rental market if turbines were present, rather than make intensive margin tradeoffs among rental price and characteristics of the viewshed."</p>	<p>Additional information on the anticipated impacts on recreation and tourism as a result of visual impacts of wind turbines was added to Section 3.18.3.2 of the Final EIS.</p> <p>Impacts on vacation rentals and visitor preferences would be lower than described in the Lutzeyer et al. 2017 study for nighttime views because the Project would implement an Aircraft Detection Lighting System (ADLS). The ADLS would reduce the duration of the Federal Aviation Administration (FAA) hazard lighting system lighting to a total of 25 hours and 33 minutes over a 1-year period compared to standard continuous FAA hazard lighting analyzed in the Lutzeyer et al. 2017 study.</p>
0013-0051	<p>Given that the CVOW wind turbines will be more than 30 percent taller, with larger blade diameters, than the turbines analyzed in the above-referenced studies, it is reasonable to assume that the Project's adverse visual impacts, as they relate to tourism, would correspondingly be more significant, resulting in even more economic loss. This entire impact, however, is not evaluated in the DEIS.</p>	<p>The studies cited in the Final EIS used 579-foot (176.5 meter) WTGs that would be visible out to 32.4 miles (52.1 kilometers). The 869-foot (265-meter) CVOW-C WTGs would be visible out to 39 miles (62.8 kilometers). Greater eye-level heights would increase the visible distance in both cases. Both the WTGs used in the studies and the WTGs proposed as part of the Project would have the WTG hubs, nacelles, navigation lights, and rotor blades visible to viewers on the nearest beach. The visibility of the WTGs will be variable, depending on current meteorological, moonlight, and sunlight conditions. In seaward views, there will be</p>

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		<p>periods of high, moderate, low, and no visibility.</p> <p>The taller CVOW-C WTGs would result in increased numbers of WTGs visible in the wind farm. Such additional WTGs would be seen as lower than/below the tops of the forward row of WTGs and would be increasingly obscured by those intervening in the view. The wind farm would be perceived as a mass of WTGs, rather than as individual WTGs.</p> <p>Additional information clarifying the difference in WTG heights between the studies used and those included as part of the Proposed Action was included in the Final EIS.</p>
0004-0003	<p>Along with those considerations, the windmills should not be placed within visual distance from the beach, as that could have an effect on the tourism and revenue collected in the towns and cities on Virginia's coastline.</p>	<p>An evaluation of the potential impacts of the Proposed Action and alternatives on recreation and tourism was included in Section 3.18, <i>Recreation and Tourism</i>. This analysis also includes consideration of how visual impacts may affect tourism and recreation in the region.</p> <p>The impacts of the Proposed Action on recreation and tourism would range from negligible to minor with negligible to minor beneficial impacts.</p>
0014-0060	<p>[Bold: 12(a) Agency Jurisdiction.] The DCR Division of Planning and Recreational Resources (DPRR) administers the Virginia Scenic Rivers (Virginia Code (Section) 10.1-200), Virginia Byways (Virginia Code (Section)33.2-405 through 33.2-408), and state trails programs (Virginia Code (Section)10.1-204) and is responsible for developing the Virginia Outdoors Plan (VOP), the state's comprehensive outdoor recreation and open space plan (Virginia Code Section)10.1-200). The VOP recognizes the importance of scenery to Virginians and many of the top ten activities are water based.</p>	<p>Thank you for your comment. While the Owls Creek Boat Ramp is within the geographic analysis area for recreation and tourism, no project infrastructure is anticipated to occur within or near the Owls Creek Boat Ramp.</p>

Comment No.	Comment	Response
	<p>[Bold: 12(b) Agency Findings.] DCR-DPRR notes that the Owl Creek Boat Ramp was initially funded with federal Land & Water Conservation Funds (LWCF) through a grant with DWR. Per the LWCF Act, property acquired or developed with LWCF assistance shall be retained and used for public outdoor recreation in perpetuity.</p> <p>[Bold: 12(c) Requirement.] Any property so acquired and/or developed shall not be wholly or partly converted to other than public outdoor recreation uses without the approval of the National Park Service (NPS) pursuant to the LWCF Act (54 U.S.C. (Section) 200305(f)(3)) and conversion requirements outlined in regulations (36 C.F.R. (Section) 59.3). If this project proposes work on LWCF protected property, verification of property boundary is recommended.</p>	

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N.6.18 Sea Turtles

Table N.6.18-1 Responses to Comments on Sea Turtles

Comment No.	Comment	Response
0018-0012	we also have concerns about potential impacts upon sea turtles resulting from the construction and operation of the CVOW Commercial Project. Offshore lighting, located on vessels and other structures during the construction phase, that are operational from July through October of any year could attract sea turtle hatchlings to the facility, thereby interrupting their journey to the pelagic environment and making them more susceptible to predation by birds, fish and other marine predators. To avoid such impacts upon sea turtle hatchlings, we recommend no use of 360° lighting and lighting that is directed downward and towards the water. We also recommend consideration of using lights that are the least attractive to hatchlings.	Lighting from construction and operations of the Proposed Action was considered in the EIS for sea turtles. Additionally, the mitigation proposed, was considered under the Proposed Action in Appendix H, <i>Mitigation and Monitoring</i> , to ensure the Project is developed using the least impactful methods practicable.
0018-0013	While Loggerhead Sea Turtles remain the most common sea turtle species in Virginia's waters it should be noted that in 2022, the number of stranded Kemp's Ridley Sea Turtles exceeded that of Loggerhead Sea Turtles and all the other species for the first time since strandings records have been collected in the Commonwealth. Moreover, 56 of the 68 sea turtles that were incidentally captured via hook and line at commercial fishing piers in Virginia Beach and the greater Hampton Roads area were Kemp's Ridley Sea Turtles. As such the project should consider impacts upon all species of sea turtle known from Virginia's nearshore environments, not just Loggerhead Sea Turtles, and the DEIS should be updated to reflect this consideration.	While the description in Section 3.19.1 provides a relative occurrence of the species compared to one another, the impact assessments in Sections 3.19.3 and 3.19.5 do consider all sea turtle species likely to occur in the geographic analysis area and Project area. Particularly given the ESA-listing status of all four populations, they were considered equally, with any higher risks of affect due to species presence around a given activity noted where applicable.
0018-0014	The DEIS mentions that the presence of the wind turbine generators (WTG) creates structure in the water column and may increase foraging opportunities for both these animals. If that is true, it may change typical migration patterns, keeping turtles and marine mammals in the area longer than normal because of unnatural concentrations of prey. This could make sea turtles more susceptible to cold-stunning events. In addition, the effects of electromagnetic fields and forces are also unknown as are the impacts upon marine mammals and sea turtles choosing to avoid WTGs and offshore substations (OSS), potentially increasing the risk of negative interactions between these species and vessels traveling outside the WTG footprint.	These potential effects were considered in Draft EIS Sections 3.19.3 and 3.19.5 of the Draft EIS, and are discussed in further detail in the NMFS BA, which focuses on ESA-listed species (applicable for all sea turtles for the Project) and goes into further detail regarding the effects of the presence of structures.

Comment No.	Comment	Response
0021-0027	<p>In our scoping comments, we presented monitoring data from the Department of Navy demonstrating that green turtles occur year-round off Virginia, and are most common from spring through fall. [Footnote 73: Scoping Comments at 61.] Despite this, as well as BOEM’s own statements elsewhere in the document it states that green sea turtles are among the “species most likely to occur in the Project area,” and that green sea turtles are “seen regularly,” although in fewer numbers than loggerheads and leatherbacks, [Footnote 74: CVOW-C DEIS at 3.19-1.] BOEM incorrectly states that green sea turtles are “uncommon” in the Project Area. [Footnote 75: Id. at 3.19-3, Table 3.19-1.] In addition, as noted above, BOEM considers hawksbill sea turtles to be “extralimital” to the Project Area, stating that [o]nly two records of Atlantic hawksbill sea turtle have been reported offshore Virginia since 1979 and they were considered an extralimital occurrence.” [Footnote 76: Id. (citations omitted).] This is incorrect; U.S. Navy monitoring shows more than two records of this species off Virginia. [Footnote 77: U.S. NAVY, Marine Resources Assessment Update for the Virginia Capes (VACAPES) Operating Area (Prepared for Naval Facilities Engineering Command, Atlantic) (2008); U.S. NAVY, Marine Resources Assessment for the Chesapeake Bay (Prepared for Dep’t of the Navy, U.S. Fleet Forces Command) (2008).] And as pointed out above, BOEM ignores hawksbill presence in the Gulf of Mexico despite Dominion’s apparent plan to transit vessels between Corpus Christi, Texas and the Project Area. To the extent that BOEM dismisses green and hawksbill sea turtles from its impact analysis based on their uncommon/extralimital occurrence, it should remedy these flaws in the Final EIS so that the full impacts of the proposed action on [Italics: all] sea turtle species are considered and presented to the public.</p>	<p>Hawksbill sea turtles are considered rare in the Project area and are, therefore, not likely to co-occur with any Project activities such that impacts would be realized. The Gulf of Mexico is outside the designated geographic analysis area and Project area identified for the EIS and is, therefore, not discussed. It is considered part of the Action Area for the NMFS BA as part of the ESA consultation, and potential effects from this activity in the Gulf of Mexico are assessed in this document. The EIS does acknowledge green sea turtles’ year-round presence in the Project area in Section 3.19.1, <i>Description of the Affected Environment</i>. Though this species is considered uncommon relative to other sea turtle species, they are carried forward in the assessment in Sections 3.19.3, <i>Impacts of the No Action Alternative on Sea Turtles</i>, and 3.19.5, <i>Impacts of the Proposed Action on Sea Turtles</i>.</p>
0021-0028	<p>As described in our scoping comments, sea turtle nesting habitat in Virginia includes beaches along the Atlantic side of the Eastern Shore and beaches south of the Chesapeake Bay mouth from the Virginia Beach oceanfront to the Virginia/North Carolina border. [Footnote 78: Scoping Comments at 61.] The nesting information in BOEM’s DEIS is also inadequate; it notes common loggerhead nesting presence but dismisses nesting activity of other species. [Footnote 79: CVOW-C DEIS at 3.19- 4.] However, Kemp’s ridley nests have been documented in Virginia, [Footnote 80: Sarah Hutchins, Biologists race to Dam Neck to shield rare turtle nest, THE VIRGINIAN PILOT (June 22, 2012), https://www.pilotonline.com/news/environment/article_beffdd7e-519e-50d2-9d45-765a6c380601.html; Staci Martin, Rare Kemp’s ridley sea turtle nest at False Cape, VA. DEP’T CONSERVATION & RECREATION (DCR) (Aug. 6, 2014), <a 618="" 658="" 864"="" 914="" href="https://www.dcr.virginia.gov/state-parks/blog/rare-kemps-ridley-sea-turtle-</p> </td> <td data-bbox="> <p>A discussion of nesting activity of other species in Virginia has been added to Final EIS Section 3.19.1, <i>Description of the Affected Environment</i>.</p> </p>	

Comment No.	Comment	Response
	<p>nest-atfalse-cape-5107.] and leatherback turtles are known to nest just south of Virginia along the coast of North Carolina. [Footnote 81: David R. Rabon, Jr., et al., Confirmed leatherback turtle (<i>Dermochelys coriacea</i>) nests from North Carolina, with a summary of leatherback nesting activities north of Florida, MARINE TURTLE NEWSLETTER (2003).] BOEM must provide more information in the Final EIS about sea turtle nesting habitat in Virginia in order to adequately assess the potential for onshore impacts near the landfall location in Virginia Beach. We also urge BOEM to require nesting surveys prior to construction at the landfall site to mitigate any potential impacts to nesting turtles.</p>	
0021-0031	<p>As we have highlighted previously, BOEM should rely upon peer-reviewed primary sources for its analysis of occurrence and habitat use. In our scoping comments we urged BOEM to include the following sources into its analysis, yet they are missing from the DEIS. Without them, BOEM is likely to significantly underrepresent the seasonal presence of cetaceans and sea turtles off Virginia.</p>	<p>All relevant and available peer-reviewed resources for species presence offshore Virginia have been considered in the EIS.</p>
0021-0036	<p>- [Bold: Sea Turtle Stranding and Tagging Data]: BOEM should assess stranding[Footnote 96: 96 NMFS, Sea Turtle Stranding and Salvage Network (last visited Jan. 31, 2023), https://www.fisheries.noaa.gov/national/marine-life-distress/sea-turtle-stranding-and-salvage-network.] and tagging data [Footnote 97: U.S. NAVY, Lower Chesapeake Bay Sea Turtle Tagging and Tracking (last visited Jan. 31, 2023), https://www.navy-marinespeciesmonitoring.us/reading-room/projectprofiles/lower-chesapeake-bay-sea-turtle-tagging-and-tracking/; Kara L. Dodge et al., Orientation behaviour of leatherback sea turtles within the North Atlantic subtropical gyre, PROCEEDINGS ROYAL SOC'Y B (Apr. 7, 2015); Nathan J. Robinson et al., Rehabilitated sea turtles tend to resume typical migratory behaviors: Satellite tracking juvenile loggerhead, green, and Kemp's ridley turtles in the northeastern USA, ENDANGERED SPECIES RSCH. (Sept. 24, 2020).] in order to determine sea turtle occurrence in the Project Area. [Underlined: Marine Mammal and Sea Turtle Impact Analysis]</p>	<p>All relevant and available peer-reviewed resources for species presence offshore Virginia have been considered in the EIS.</p>
0021-0046	<p>- [Bold: Hopper dredging impacts]: In the sea turtle section, BOEM mentions that the use of hopper dredges is being considered but that this "is not definite and potential risks of sea turtle entrainment would be low." [Footnote 110: Id. at 3.19-17.] Given the well-documented and severe impacts of hopper dredging on sea turtles, particularly during seasons with high sea turtle presence, [Footnote 111: See, e.g., Dena Dickerson et al., Dredging impacts on sea turtles in the southeastern USA: A historical review of protection, PROCEEDINGS OF THE 17TH WORLD DREDGING CONGRESS (2004); Daphne W. Goldberg et al., Hopper dredging impacts on sea turtles on the Northern Coast of Rio de Janeiro</p>	<p>Use of hopper dredging is only considered under Alternative A for potential planned wind projects in the geographic analysis area. However, for offshore wind, development projects would not be conducted at the same scale as those used for beach nourishment or channel-deepening projects for which most of these data pertain. The risk posed by this activity</p>

Comment No.	Comment	Response
	State, Brazil, MARINE TURTLE NEWSLETTER (Oct. 2015).] any possibility of such activity could be a cause for concern. BOEM should therefore provide a true estimate of the likelihood of their use in the Final EIS and require additional consultation with NMFS if hopper dredging is required.	was the basis for including it in the assessment in the EIS and is also discussed further in the NMFS BA. However, given the scope and locations of this activity for offshore wind development, the risks posed are not likely to be the same as those experienced during these other larger-scale projects.

N.6.19 Scenic and Visual Resources

Table N.6.19-1 Responses to Comments on Scenic and Visual Resources

Comment No.	Comment	Response
0013-0060	<p>The DEIS also fails to discuss a 2015 viewshed analysis BOEM conducted for the New York Outer Continental Shelf Area (Renewable Energy Viewshed Analysis and Visual Simulation for the New York Outer Continental Shelf Call Area: Compendium Report OCS Study, BOEM 2015- 044). It simulated the visual impact of one hundred and fifty-two 6.2 MW wind turbines from 16 observation points in New York and New Jersey. Based on this study, officials in New York and BOEM determined that the proposed offshore wind turbine lease area off the Hamptons is too close and ruins the serene ocean viewshed. To address this impact, they created a 20-mile exclusion zone. This, then, begs the question: Why is an exclusion zone OK for the Hamptons but not Virginia Beach?</p>	<p>The Lease Area (OCS-A 0483) is 23.53 miles (37.87 kilometers) from the northwest corner to the Eastern Shore Peninsula and 27.33 miles (43.99 kilometers) from Virginia Beach, Virginia. BOEM released its guidance for assessing visual impacts in April 2021: <i>Assessment of Seascape, Landscape, and Visual Impacts of Offshore Wind Energy Developments on the Outer Continental Shelf of the United States</i> (BOEM 2021). This document takes into consideration earlier studies.</p> <p>Draft EIS Section 3.20, <i>Scenic and Visual Resources</i>, and Appendix M, <i>Seascape, Landscape, and Visual Impact Assessment</i>, address the noticeability and impact levels of the CVOW turbines in accordance with BOEM 2021. The analyses and disclosures include the turbines' features in view at applicable distances, percentages of views occupied, visual contrast ratings, size, prominence, and impacts.</p>
0013-0044	<p>The DEIS states, "The daytime presence of offshore turbines and substations, as well as their nighttime lighting, would change perception of ocean scenes from natural and undeveloped to developed. In clear weather, the turbines would be an unavoidable presence in views from the coastline, with moderate to minor effects on seascape character and landscape character. The cumulative impacts of offshore wind development would be moderate. The main drivers for this impact rating are the major visual impacts associated with the presence of structures, lighting, and vessel traffic. [Bold for emphasis: Visual impact from the Virginia Beach Boardwalk would be major] (20.9 miles)." The DEIS, however,</p>	<p>Dominion Energy has committed to installing ADLS on WTGs, which addresses the impact of FAA aviation hazard warning lights by activating the hazard lights only when aircraft are present. Based on historical air traffic data, ADLS would be activated less than 1% of normal operating time; therefore, the effect on high- and moderate-sensitivity</p>

Comment No.	Comment	Response
	fails to identify or describe any alternative that would reduce or avoid this impact and still meet most of the project objectives. Nor does the DEIS recommend adequate mitigation measures for reducing this impact.	seascape and landscape character units, and viewer experience would be moderate to negligible.
0037-0024	Pg. M-15: Table M-8 (and other locations) – [<i>Italics: “KOP-31 Picnic Views at SMR”</i>] [Bold: The SMR beachfront is not exclusively recreational in use - note that the beachfront platform at SMR is an observation point and the beachfront/oceanfront environment is also used for training.]	The clarification has been added as a footnote to Final EIS Section 3.20, Table 3.20-8, and Appendix M, Table M-8.

N.6.20 Water Quality

Table N.6.20-1 Responses to Comments on Water Quality

Comment No.	Comment	Response
0014-0003	<p>The VWP Permit program at the DEQ Tidewater Regional Office (TRO) received JPA #22-1183 for the Coastal Virginia Offshore Wind Commercial Development project on May 19, 2022, and revisions to the JPA were received on July 15, 2022, and December 13, 2022. The project’s surface water impacts will be authorized by permits from both the Virginia Marine Resources Commission (VMRC) and U.S. Army Corps of Engineers (USACE). Therefore, DEQ has the option to waive the requirement for a VWP Individual Permit in accordance with 9 VAC 25-210-220.B. VWPP is monitoring and evaluating the project’s permitting and authorization review processes to ensure that all VWP Permit requirements are being met prior to DEQ finalizing the decision to waive the requirement for a VWP Individual Permit in accordance with 9 VAC 25-210-220.B. Provided that any and all necessary permits are obtained and complied with, the project will be consistent with DEQ program requirements.</p>	<p>Thank you for the comment. The applicant is responsible for obtaining all necessary permits prior to construction and operations of the Project, and will do so should BOEM approve the COP.</p>
0014-0039	<p>VDH-ODW recommends:</p> <ul style="list-style-type: none"> -Best Management Practices should be employed, including erosion and sediment controls and Spill Prevention Controls and Countermeasures, on the project site. -Wells within a 1,000-foot radius of the project site should be field marked and protected from accidental damage during construction. -Materials should be managed while on site and during transport to prevent impacts to nearby surface water. 	<p>As stated in Draft EIS Section 3.21, <i>Water Quality</i>, to avoid and minimize potential water quality impacts, Dominion Energy would develop a Stormwater Pollution Prevention Plan for construction activities that would conform with the VDEQ Construction General Permit, Dominion Energy’s approved Annual Standards and Specifications for Erosion and Sediment Control and Stormwater Management for Electric Transmission Line Development, and local pollution prevention and spill response procedures. In addition, Dominion Energy would implement a Spill Prevention, Control, and Countermeasure Plan as well as water quality protections measures listed in Draft EIS Appendix H, <i>Mitigation and Monitoring</i>. Further, Dominion Energy would obtain all necessary permits and authorizations for the protection of water quality and would</p>

Comment No.	Comment	Response
		implement all the terms and conditions (including BMPs) of those permits/authorizations.
0014-0045	VMRC notes that it received the Dominion's Joint Permit Application (JPA) on May 17, 2022 (JPA #2022-1183). The project is currently in the JPA review process and will require a permit from VMRC for proposed state-owned submerged lands encroachments (within the state's three nautical mile limit).	Thank you for the comment.
0014-0058	<p>All development within a Special Flood Hazard Area (SFHA) or floodplain, as shown on the locality's Flood Insurance Rate Map (FIRM), must be permitted and comply with the requirements of the local floodplain ordinance. Projects conducted by federal agencies within the SFHA must comply with federal Executive Order 11988: Floodplain Management.</p> <p>DCR's Floodplain Management Program does not have regulatory authority for projects in the SFHA. Dominion must contact the local floodplain administrator for an official floodplain determination and comply with the community's local floodplain ordinance, including receiving a local permit. Failure to comply with the local floodplain ordinance could result in enforcement action from the locality. Dominion is encouraged to reach out to the local floodplain administrator to ensure compliance with the local floodplain ordinance.</p>	<p>Dominion Energy would need to comply with all floodplain management programs and obtain related authorizations prior to construction and operations of the Project. As shown in Draft EIS Appendix A, Table A-1, Dominion Energy plans to obtain floodplain development permits from the City of Virginia Beach and Chesapeake. Executive Order 11988 does not apply to Dominion Energy's Project; it applies to federal agencies that conduct activities in floodplains, and BOEM's action is to approve or deny the COP.</p>
0014-0059	DCR recommends that Dominion access the Virginia Flood Risk Information System (VFRIS). Local floodplain administrator contact information may be found on DCR's Local Floodplain Management Directory.	See response to previous comment.
0037-0023	-Appendix I: Page I-18/19: [Bold: Consider adding Lake Christine to this list.]	The table in Appendix I, <i>Environmental and Physical Setting</i> , lists all surface waters listed that are impaired (i.e., 303(d) waters) in the geographic analysis area. Based on VDEQ's 305(b)/303(d) Water Quality Assessment Integrated Report, which was used to generate the information in the Appendix I table (and associated figure preceding the table), Lake Christine is not listed as an impaired 303(d) water.

N.6.21 Wetlands

Table N.6.21-1 Responses to Comments on Wetlands and Waters of the U.S.

Comment No.	Comment	Response
0014-0004	VMRC finds that no tidal wetlands under its jurisdiction would be impacted by the Project.	Thank you for the comment.
0021-0139	But, as the lead agency for the entire project, BOEM must nonetheless thoroughly analyze the impacts on the North Landing River watershed, as well as assess mitigation and avoidance measures, to satisfy its NEPA obligations. Moreover, as the DEIS indicates, the Corps intends to adopt BOEM's EIS to support its decisions under the CWA and the Rivers and Harbors Act provided the Corps were to conclude that the document is adequate for its purposes, [Footnote 280: See CVOW-C DEIS at 1-3-4; 40 C.F.R. § 1506.3.] and thus underscoring the need for an adequate EIS.	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. BOEM is confident that the EIS will support USACE's decision because BOEM works closely with USACE to ensure USACE's concerns are addressed in the EIS. BOEM is required to disclose potential impacts in the EIS, which for wetlands are provided in Section 3.22. Under CWA Section 404, Dominion Energy is required to take all appropriate and practicable steps to first avoid and minimize impacts on jurisdictional waters within the North Landing River watershed, including wetlands; for unavoidable impacts, compensatory mitigation is required to replace the loss of wetland and associated functions. USACE cannot issue the Section 404 permit until the avoidance and minimization steps are demonstrated; for any unavoidable impacts that require compensatory mitigation, USACE must approve the compensatory mitigation to ensure there is no net loss of wetland functions. This process ensures that USACE issues the Section 404 permit for the Least Environmentally Damaging Practicable Alternative. BOEM understands the concern with the Project's

Comment No.	Comment	Response
		<p>potential impact on wetlands resources but anticipates that the permitting process/requirements and the avoidance and mitigation measures proposed by Dominion Energy (see EIS Appendix H, <i>Mitigation and Monitoring</i>) would ensure that the Project would avoid and minimize impacts on wetlands to the extent practicable.</p> <p>BOEM considered the avoidance, minimization, and mitigation measures required under federal and state statutes (e.g., CWA Section 404) when determining levels of impacts on wetlands in the EIS (as defined in EIS Table 3.22-2). Additionally, and as noted in EIS Table 2-3 and Section 3.2, <i>Mitigation Identified for Analysis in the Environmental Impact Statement</i>, during development of the EIS and in coordination with cooperating agencies, BOEM considered potential additional mitigation measures that could further avoid, minimize, or mitigate impacts on resources assessed in the EIS.</p>
0021-0140	<p>We also note that the discussion in the DEIS regarding the cumulative impacts on wetlands, like the assessment of the direct impacts, is similarly inadequate. As stated earlier, under NEPA, an agency must evaluate the direct, indirect, and cumulative effects of a proposal. [Footnote 281: See 40 C.F.R. § 1508.1(g)(1)-(3) (2022).] BOEM concludes that both the Preferred Option and the Hybrid Option, in combination with other ongoing or future projects, could result in major cumulative impacts on wetlands. [Footnote 282: See CVOW-C DEIS at 3.22-12, 3.22-16. BOEM notes that the cumulative impacts would likely range from moderate to major. Id.] BOEM notes, for example, that onshore land use changes are expected to include a gradual increase in the amount of wetland alterations and loss, and that, based on “regional trends,” the future extent of land disturbance “is anticipated to be similar to or greater.” [Footnote 283: See id. at 3.22-12, 3.22-16.</p>	<p>Thank you for the comment. BOEM and the cooperating agencies have reviewed the impact level determinations for the action alternatives and have found that a moderate to major impact rating is adequate and appropriate for the analysis of direct, indirect, and cumulative impacts. As noted in EIS Table 3.22-2, “moderate” adverse impacts on wetlands are those that would be minimized but would result in unavoidable permanent impacts requiring compensatory mitigation found to have a high probability of success. An impact level rating of “major” would indicate regionally</p>

Comment No.	Comment	Response
		detectable permanent impacts and extensive compensatory mitigation (the success of which would be marginal or have an unknown probability of success). BOEM and the cooperating agencies have determined that impacts from construction of the action alternatives would likely have moderate to major impacts on wetlands.
0021-0092; 0021-0094	the DEIS fails to adequately consider such impacts on valuable wetlands, habitat, and sensitive species. Moreover, while the DEIS quantifies the impacts on wetlands by acreage and wetland classification, there is scant discussion of the qualitative impacts on these resources. The remarkable biodiversity and ecological significance of the North Landing River watershed— including Gum Swamp, the River’s headwaters, and the tributaries to the North Landing River— require a more in-depth and thorough analysis of the environmental consequences. For example, as we noted in our scoping comments, clearing of undisturbed habitat can lead to the introduction and proliferation of invasive species and to the fragmentation of habitat, potentially resulting in loss of biodiversity. [Footnote 277: See Scoping Comments at 85-86.]	EIS Appendix I, <i>Environmental and Physical Setting</i> , includes additional qualitative information for the North Landing River, Gum Swamp, and tributaries to the North Landing River, including the Pocaty River. Refer to EIS Section 3.8, <i>Coastal Habitat and Fauna</i> , for additional analysis of ecological cores and terrestrial habitat and fauna. Additional details regarding the quality of aquatic resources affected by the Project are provided in the Joint Permit Application, including forms required as part of the packet by the Norfolk District and VMRC. Civil drawings, impact tables, maps, and additional documents can be found on the Norfolk District’s website: https://www.nao.usace.army.mil/Missions/Regulatory/Offshore-Wind-Projects/ . A copy of the Joint Permit Application can be found on VMRC’s website: https://webapps.mrc.virginia.gov/public/habitat/additionaldocs.php?id=20221183 Further, EIS Section 3.22, <i>Wetlands</i> , states "Impacts on higher quality forest corridors in the vicinity of the North Landing River crossing were minimized in coordination with The Nature Conservancy by using existing corridors and selectively identifying the areas needed for expansion

Comment No.	Comment	Response
		<p>of the right-of-way where expansion is needed. Permanent fill impacts on wetlands associated with the overheard transmission infrastructure would be limited to the foundations of the new transmission structures. Except for the foundations, there would be no new permanent structures proposed, including no new permanent access roads."</p>
0021-0095	<p>BOEM also notes that the degree of impacts would vary, adding that, if future land disturbances were to overlap the geographic analysis area or be collocated within the same ROW corridor as the Proposed Project, the degree of impacts could increase depending on the location and timing of any future disturbance. BOEM indicates, on the other hand, that repeated construction in a single ROW would be expected to have less impact on wetlands than construction in undisturbed wetlands. Id. at 3.22-11.] Here too, however, the DEIS provides few specifics or analysis.</p>	<p>As noted in Section 3.22.5.1, the future extent of land disturbance from ongoing activities and future non-offshore wind activities over the next 33 years is not known with as much certainty as the extent of land disturbance that would be caused by the Proposed Action. The location and timing of future activities would influence the degree of impacts because repeated construction in a single right-of-way corridor would be expected to have less impact on wetlands than construction in an equivalent area of undisturbed wetland. Wetland resources within an existing right-of-way corridor would be expected to have been previously disturbed by past construction activities, whereas construction in a new right-of-way containing undisturbed wetlands would constitute new impacts.</p>

N.6.22 Mitigation and Monitoring

Table N.6.22-1 Responses to Comments on Appendix H (Mitigation and Monitoring)

Comment No.	Comment	Response
0017-0046	<p>The DEIS states that “inter-array cables would be buried to a depth of between 3.9 feet (1.2 meters) and 9.8 feet (3 meters); however, the exact depth would be dependent on the substrate encountered along the route. The offshore export cables would be buried to a target depth of between 3.3 feet (1 meter) and 16.4 feet (5 meters),” with additional measures taken where the export cables cross the Dam Neck Ocean Disposal Site (page 2-11). Burying cables to greater depths decreases the potential for interactions with bottom tending fishing gear, increases the likelihood that the cables will stay buried, and reduces the potential for negative impacts of electromagnetic fields on fisheries. BOEM’s draft fisheries mitigation guidelines recommend a minimum cable burial depth of 6 feet. Although the Councils have not endorsed a specific cable burial depth to minimize impacts to fisheries, we strongly support the draft guidance recommending a minimum burial depth of 6 feet. We recommend that BOEM not approve any cable burial depths of less than 6 feet for CVOW or any other wind projects.</p>	<p>Thank you for your comment. Dominion Energy conducted a Preliminary Cable Burial Risk Assessment (COP, Appendix W). For the offshore cable route crossing the Dam Neck Ocean Disposal Site, Section 3.17.1.1 of the Final EIS has been revised to clarify USACE permit requirements of cable burial at a minimum depth of 6.56 feet (2 meters).</p>
0017-0050	<p>Unexploded ordnances (UXOs) can be uncovered during site preparation activities. Exposed UXO presents a significant risk to mariners, especially those towing mobile gear that could bring UXO to the surface. Offshore wind project construction activities can uncover UXO devices. We recommend that the terms and conditions specify that developers are responsible for the safe disposal of UXO exposed due to construction activities. 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.</p>	<p>Dominion Energy is currently in the process of completing survey work to identify UXO within the CVOW Lease Area and offshore export cable corridor (from May 2023 to early 2024). Dominion Energy obtained all required permits for these surveys, including obtaining concurrence from BOEM and BSEE on the Munitions and Explosives of Concern Marine Investigation and Identification Survey Plan, Nationwide Permit #6 from USACE and permit from the Virginia Marine Resources Commission (VMRC) for work within state waters. Following identification of confirmed UXO, Dominion Energy proposes to relocate UXO that cannot be avoided, as described in Section 3.4.1.2 of the COP, and are included within the joint permit application pursuant to coverage under a USACE Permit for</p>

Comment No.	Comment	Response
		<p>construction activities. Dominion Energy plans to apply for a permit from the VMRC for relocation activities within state waters, and is currently in active coordination with BOEM, BSEE, USACE, USCG, and the Navy to align on additional agency requirements prior to UXO relocation.</p>
0014-0035	<p>Due to the potential for the project area to support populations of rare bats including the Northern long-eared bat, the Tri-colored bat and the Eastern big-eared bat (<i>Corynorhinus rafinesquii macrotis</i>, G3G4T3/S2/NL/LE), DCR-DNH supports conducting presence/absence surveys for bats along the interconnection cable route, the development of avoidance and minimization measures, and continued coordination with the U.S. Fish and Wildlife Service (USFWS) and Virginia Department of Wildlife Resources (DWR) (DEIS, Section 3.5.5-Impacts of the Proposed Action on Bats, page 3.5-8 0). DCR-DNH also recommends the use of mist netting as standard practice to supplement acoustic surveys for determining presence/absence.</p>	<p>A presence/absence mist net survey was conducted by Dominion Energy and is included in COP, Appendix O-3; results of the survey have been added to the Final EIS.</p>
0018-0004	<p>We recommend continued research and monitoring of the proposed facility to determine how, when, and to what degree bats (and birds) may utilize the wind turbines and other proposed structures located offshore.</p>	<p>Mitigation measures incorporated from the USFWS BA are included in Appendix H, Table H-2. An avian and bat post-construction monitoring program would be developed and implemented in coordination with applicable federal resource agencies. Additional measures proposed by Dominion Energy to avoid, minimize, and mitigate impacts on bats are included in Appendix H, Table H-1.</p>
0018-0009	<p>Lack of correlation between pre-construction acoustic surveys and post-construction impacts precludes risk assessment based on such surveys. Lintott et al. (2016) assessed how well Environmental Impact Assessments (EIAs; i.e. risk assessment) predicted risk of bat casualties across 29 EIAs in the UK. They concluded that "they [EIAs] do not predict the risks to bats accurately, and even in those cases where high risk was correctly identified, the mitigation deployed did not avert the risk." They further noted that, "Acoustic surveys are widely used to provide an estimate of bat activity from which collision risk is inferred. However, bat activity is highly variable — both spatially and temporally. It is therefore unclear whether the survey protocols currently employed assess bat activity with sufficient precision and</p>	<p>Mitigation measures incorporated from the USFWS BA are included in Appendix H, Table H-2. An avian and bat post-construction monitoring program would be developed and implemented in coordination with applicable federal resource agencies. Additional measures proposed by Dominion Energy to avoid, minimize, and mitigate impacts on bats are included in Appendix H, Table H-1.</p>

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	<p>repeatability to be of practical value in inferring risk for developments." While their focus was on avian species, Ferrer et al. (2012) noted, "Our results suggest there is no clear relationship between predicted risk identified during EIAs and actual mortality of birds (particularly raptors) after wind farms have been constructed." These findings show that presence/absence or count data preconstruction does not predict risk postconstruction. Therefore, we have determined that the only way to accurately assess impacts to bats resulting from the construction and operation of the CVOW Commercial Project will be through post-construction monitoring studies that include a fatality assessment. Additional data will need to be collected post-construction to best inform decision-making related to avoidance, minimization, and/or mitigation of impacts upon bats. We look forward to working with Dominion and our conservation partners on the development of such post-construction assessments and acting upon their results to address any concerns related to bats.</p>	
0018-0023	<p>We document Federally Threatened State Threatened Northern Long-Eared Bats (NLEB) from the project area. Roost trees supporting this species have been identified within the project area. The identified trees are located along Mt. Pleasant Road in Chesapeake. Their location can be viewed using the NLEB Winter Habitat and Roost Tree application online at https://dwr.virginia.gov/wildlifebats/northern-long-earedbatapplication . The federal up-listing of NLEB from Threatened to Endangered should occur by March 31, 2023. Upon up-listing, almost any project that proposes tree removal in Virginia will need to consider potential impacts upon NLEB and what is necessary to protect them. Given that the onshore activities supporting the CVOW project are proposed to occur in Virginia Beach and Chesapeake, within suitable habitat for NLEB and in proximity to known NLEB roost trees and will entail more than one acre of tree clearing, we recommend coordinating with the USFWS (Service) Virginia Field Office on how to best protect this federally-listed species from impacts resulting from the construction and operation of the proposed onshore components of the CVOW project.</p>	<p>The Final EIS has been revised to reflect the status of Northern Long-Eared Bats. Consultation with USFWS is currently underway.</p>
0018-0024	<p>State Endangered Rafinesque's Eastern Big-Eared Bats also have been documented from the project area. These animals inhabit lowland hardwood forests, suitable abandoned structures, and bridges in southeastern Virginia. To ensure protection of this species, we recommended that a Rafinesque's Big-eared Bat habitat assessment be performed within forested habitat, of abandoned structures, and of bridges or large culverts located along the</p>	<p>A presence/absence mist net survey was conducted by Dominion Energy and is included in COP, Appendix O-3; results of the survey have been added to the Final EIS.</p>

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	project corridor and within facility sites. We recommended that the habitat assessment be performed by a qualified biologist and clearly depict, via narrative and photographic description, all forested habitats proposed for impacts.	
0021-0009	- [<i>Italics: For bats,</i>] BOEM should: (1) require Dominion to deploy strike detection technologies once commercially available; (2) update its Bird and Bat Monitoring Plan to indicate how impacts to bats will be determined from monitoring data as well as what monitoring results will trigger adaptive management; and (3) work with the U.S. Fish and Wildlife Service (“USFWS”) to assess potential offshore collision impacts to northern long-eared bats (“NLEB”) and Indiana bats.	Appendix H of the Final EIS includes the mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on bats. A framework for an avian and bat post-construction monitoring program would be developed and implemented in coordination with applicable federal resource agencies (see Appendix H for details).
0021-0137	[Adaptive Management and Adaptive Monitoring for Bats]: As noted above, we appreciate BOEM discussing the possibility for revised monitoring [Footnote 251: CVOW-C DEIS, Appendix H, at H-71.] and therefore adaptive management. However, there is a lack of clarity as to what would trigger this adaptive management. The post-construction monitoring for bats that Dominion has mentioned is unlikely to provide comprehensive information on bat collisions, which are the greatest source of impact to bats from the offshore components of offshore wind development. No research or methods are presented to translate bat activity from acoustic monitoring and carcasses on structures and vessels into total bat impacts nor are we aware of any methods accepted by subject matter experts to do so.	Technology for collision detection for offshore wind turbines has not been developed at this time. Appendix H of this Final EIS includes the mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on bats. A framework for an avian and bat post-construction monitoring program would be developed and implemented in coordination with applicable federal resource agencies (see Appendix H for details).
0021-0090	As new technologies become available for monitoring impacts at offshore wind facilities, such as strike detection technology, BOEM should require Dominion to commit to deploying these at CVOW-C and, if monitoring reveals that impacts to bats are non-negligible, BOEM should require Dominion to employ minimization strategies and deterrent technologies at CVOW-C.	Appendix H of this Final EIS includes the mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on bats. A framework for an avian and bat post-construction monitoring program would be developed and implemented in coordination with applicable federal resource agencies (see Appendix H for details). Additional information about bats in the offshore environment will be gleaned from these monitoring activities. Additional mitigation and monitoring measures may arise from

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		consultations and coordination with Federal and State resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision.
0021-0091	Once again, we underscore the need for adaptive monitoring. Because the proposed monitoring methods are unlikely to provide estimates of bat collisions from CVOW- C's offshore operations, but no collision detection technologies are validated and commercially available for use offshore, BOEM should require CVOW-C 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 252: J. Stucker et al., Multi-Sensor Approach for Measuring Bird and Bat Collisions with Wind Turbines: Validation Results (Poster presentation for NYSERDA State of the Science Workshop, 2022).] CVOW-C 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.	Appendix H of this Final EIS includes the mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on bats. A framework for an avian and bat post-construction monitoring program would be developed and implemented in coordination with applicable federal resource agencies (see Appendix H for details). Additional information about bats in the offshore environment will be gleaned from these monitoring activities. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision.
0021-0128	Despite the presence of federally listed bat species in the onshore project area and “expected” impacts on the NLEB as a result of the interconnection cable routes, BOEM concludes that only minor habitat impacts may occur. BOEM’s conclusion rests in part on avoidance and minimization measures that would be undertaken. BOEM states that Dominion “would conduct presence/absence surveys for bats (acoustic and/or mist-net) along the Onshore Project area and would develop avoidance and minimization measures in coordination with [DWR], USFWS, and appropriate regulatory agencies to ensure protection of [NLEBs], limiting the potential for direct injury or mortality from the removal of occupied roost trees.” [Footnote 193: Id. at 3.5-9.] In addition, according to the DEIS, Dominion’s clearing activities “would avoid trees favorable for bat maternity roosting locations and would be conducted outside of the roosting season to avoid bat maternity roosting locations to the extent practicable.” [Footnote 194: Id. at 3.5-10. BOEM also notes in the DEIS that, “due to the potential impacts, monitoring and mitigation	A presence/absence mist net survey was conducted by Dominion Energy and is included in COP, Appendix O-3; results of the survey have been added to the Final EIS. Information has also been added relative to time-of-year restrictions for tree clearing activities and BOEM required monitoring that will occur. Appendix H of this Final EIS includes the mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on bats. A framework for an avian and bat post-construction monitoring program would be

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	<p>during all seasons may be required.” Id. (emphasis added). We recommend that year-round monitoring and mitigation should be required.] Dominion also “would maintain a minimum no-tree- clearing buffer of 150 feet...around any known [NLEB] maternity roosts and would conduct mist-netting surveys along portions of the [proposed] interconnection cable route[s]...that would require tree removal.” [Footnote 195: Id.]</p>	<p>developed and implemented in coordination with applicable federal resource agencies (see Appendix H for details).</p>
0021-0130	<p>Few data exist on bats’ use of the offshore environment and their interactions with offshore WTGs. However, research at land-based wind facilities reveals that bat fatalities are common, [Footnote 199: Edward B. Arnett & Erin F. Baerwald. Impacts of wind energy development on bats: Implications for conservation, in BAT EVOLUTION, ECOLOGY, & CONSERVATION, 435-56 (Rick A. Adams & Scott C. Pedersen eds., 2013).] and Dominion’s COP recognizes that the Project has the potential for cumulative impacts that could cause population-level declines. [Footnote 200: Dominion COP, Appendix O-1, at 2 (PDF p. 32); see also Winifred F. Frick et al., Fatalities at wind turbines may threaten population viability of a migratory bat, BIOLOGICAL CONSERVATION (May 2017); ELEC. POWER RSCH. INST. (EPRI), Population-level risk to hoary bats amid continued wind energy development: Assessing fatality reduction targets under broad uncertainty (Mar. 27, 2020); Nicholas A FriedenberG & Winifred F. Frick, Assessing fatality minimization for hoary bats amid continued wind energy development, BIOLOGICAL CONSERVATION (Oct. 2021).] Because most of the bat species present in the Project Area have documented collisions with land-based wind energy facilities, all bats with the potential to occur within the Lease Area are vulnerable to collision. [Footnote 201: See Dominion COP at 4-187. Of the 14 bat species that may occur in or adjacent to the project area, all but southeastern myotis and Rafinesque’s big-eared bat have been documented killed at wind facilities. Arnett & Baerwald, supra note 199. See also Dominion COP, Appendix O-1, at 2 (PDF p. 32).] Moreover, as significant uncertainties exist around bats’ use of the offshore environment, [Footnote 202: These uncertainties are repeatedly acknowledged in Dominion’s COP. See, e.g., Dominion COP, Appendix O-1, at 12, 14.] BOEM should not interpret a lack of data as a lack of impacts and should work with Dominion, the Regional Wildlife Science Collaborative for Offshore Wind (“RWSC”), and other developers to implement monitoring regimes to enable better understanding of bat impacts from offshore wind development.</p>	<p>Appendix H of this Final EIS includes the mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on bats. A framework for an avian and bat post-construction monitoring program would be developed and implemented in coordination with applicable federal resource agencies (see Appendix H for details).</p>
0024-0136	<p>[Bold: Fatality Monitoring]: Dominion plans to report dead or injured bats found on vessels and project structures. [Footnote 249: Id., Appendix H, at H-28.]</p>	<p>Appendix H of this Final EIS includes the mitigation and monitoring measures that</p>

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	<p>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 250: We recommend BOEM consult with Manuela Huso, Research Statistician at USGS Forest and Rangeland Ecosystem Science Center, prior to making any inferences about total fatalities based on carcasses recovered from structures.]</p>	<p>would be implemented to avoid, minimize, and mitigate adverse impacts on bats. A framework for an avian and bat post-construction monitoring program would be developed and implemented in coordination with applicable federal resource agencies (see Appendix H for details).</p>
0024-0086	<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 CVOW-C's operations. We applaud BOEM for noting that they may require CVOWC to implement new monitoring technologies as they become available for use in offshore environments, [Footnote 239: CVOW-C DEIS, Appendix H, at H-71.] and we strongly recommend that BOEM strengthen this to a firm requirement that, as new technologies become available for monitoring impacts (e.g., offshore turbine strike detection technology), CVOW-C must commit to deploying these technologies. Furthermore, as part of BOEM's ability to require reasonable revisions to the Bird and Bat Monitoring Plan, [Footnote 240: Id.] if monitoring reveals that impacts to bats are significant, BOEM should require CVOW-C to employ best available minimization strategies and deterrent technologies.</p>	<p>Appendix H of this Final EIS includes the mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on bats. A framework for an avian and bat post-construction monitoring program would be developed and implemented in coordination with applicable federal resource agencies (see Appendix H for details).</p>
0024-0086	<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 CVOW-C's operations. We applaud BOEM for noting that they may require CVOWC to implement new monitoring technologies as they become available for use in offshore environments, [Footnote 239: CVOW-C DEIS, Appendix H, at H-71.] and we strongly recommend that BOEM strengthen this to a firm requirement that, as new technologies become available for monitoring impacts (e.g., offshore turbine strike detection technology), CVOW-C must commit to deploying these technologies. Furthermore, as part of BOEM's ability to require reasonable revisions to the Bird and Bat Monitoring Plan, [Footnote 240: Id.] if monitoring reveals that impacts to bats are significant, BOEM should require CVOW-C to employ best available minimization strategies and deterrent technologies.</p>	<p>Appendix H of this Final EIS includes the mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on bats. A framework for an avian and bat post-construction monitoring program would be developed and implemented in coordination with applicable federal resource agencies (see Appendix H for details).</p>

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0024-0087	<p>[Bold: Post-construction Monitoring]: 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. We appreciate that BOEM will require the data from bat surveys to be made accessible to agencies and that Dominion must work with BOEM to ensure data are publicly available, [Footnote 242: Id., Appendix H, at H-71-72.] and we encourage such data sharing to be required for all post-construction monitoring data. [Bold: Acoustic Monitoring]: Dominion’s proposal to install one acoustic monitoring system to collect two years of post-construction acoustic data [Footnote 243: Id., Appendix H, at H-26.] is an excellent first step. We recommend that Dominion install the acoustic detector station at nacelle height so as to detect activity when bats are in the rotor swept zone and at greater risk of collision. Dominion and BOEM should confer with bat researchers to determine how many acoustic detectors should be deployed and how many years of post-construction data collected in order to best inform impact analyses. BOEM should require that all acoustic data collected be reported and submitted to NABat [Footnote 244: U.S. GEOLOGICAL SURVEY (USGS), NABat Status and Trends (last visited Feb. 13, 2023), https://sciencebase.usgs.gov/nabat/.] and/or the Bat Acoustic Monitoring Portal, BatAMP. [Footnote 245: CONSERVATION BIOLOGY INST., Bat Acoustic Monitoring Portal (last visited Feb. 13, 2023), https://batamp.databasin.org/.]</p>	<p>Appendix H of this Final EIS includes the mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on bats. A framework for an avian and bat post-construction monitoring program would be developed and implemented in coordination with applicable federal resource agencies (see Appendix H for details).</p>
0024-0088	<p>[Bold: Radiotelemetry Monitoring (Motus)]: We are excited to see that Dominion is proposing to upgrade [Footnote 246: CVOW-C DEIS, Appendix H, at H-27.] and potentially install additional [Footnote 247: Id., Appendix H, at H-28.] Motus towers and support radio-tagging of ESA-listed birds. [Footnote 248: Id., Appendix H, at H26-27.] We recommend that Dominion also support the tagging of bats, which are underrepresented in Motus, to support understanding of bat activity offshore. We also urge Dominion to keep Motus towers deployed, active, and maintained for as much of the lifetime of the project as possible. Data from these towers will not only inform CVOW-C’s adaptive management but also, as multiple offshore wind projects are developed, provide a long-term network of Motus towers in the offshore environment that can shed much needed light on species’ movements offshore.</p>	<p>Appendix H of this Final EIS includes the mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on bats. A framework for an avian and bat post-construction monitoring program would be developed and implemented in coordination with applicable federal resource agencies (see Appendix H for details).</p>
0024-0013	<p>The final EIS should require that clearing activities avoid trees favorable for bat maternity roosting locations and restricting tree clearing activities to winter</p>	<p>Appendix H of this Final EIS includes the mitigation and monitoring measures that</p>

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	months outside of the roosting season to avoid bat maternity roosting locations.	would be implemented to avoid, minimize, and mitigate adverse impacts on bats.
0024-0014	Section [Bold: 3.5.1 Description of the Affected Environment for Bats] describes detection of the silver-haired bat, the eastern red bat, and hoary bat around the two test turbines at CVOW, and goes on to state “the potential exists for some migratory tree bats to encounter offshore facilities during spring and fall migration. BOEM expects this exposure risk to be limited to very few individual tree bats and to occur, if at all, during migration. Given the distance of the Wind Farm Area from shore, BOEM does not expect foraging bats to encounter operating WTGs outside spring and fall migration.” The Nature Conservancy urges BOEM to require continued post-construction monitoring within the lease area during spring and fall migratory seasons to validate this conclusion	Appendix H of this Final EIS includes the mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on bats. A framework for an avian and bat post-construction monitoring program would be developed and implemented in coordination with applicable federal resource agencies (see Appendix H for details).
0018-0019	We have determined that the only way to accurately assess impacts to birds resulting from the construction and operation of the CVOW Commercial Project will be through post-construction monitoring studies that include a fatality assessment. Additional data will need to be collected post-construction to best inform decision-making related to avoidance, minimization, and/or mitigation of impacts upon birds. Therefore, we recommend that Dominion adhere to and follow all the construction and post-construction monitoring protocols and recommendations being developed by the RSWC, the E-TWG and the Wildlife and Offshore Wind Project. Further, we recommend that the project put into practice the technical guidance offered by Pam Loring, Ph.D. (USFWS, Division of Migratory Birds, Hadley, MA). We look forward to working with Dominion and our conservation partners on the development of such construction and post-construction assessments and acting upon their results to address any concerns related to bird impacts.	Appendix H of this Final EIS includes the mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on bats including documenting any dead (or injured) birds or bats. A framework for an avian and bat post-construction monitoring program would be developed and implemented in coordination with applicable federal resource agencies (see Appendix H for details). Additional information about bats in the offshore environment will be gleaned from these monitoring activities. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision.
0018-0027	Additionally, we document Colonial Waterbird Colonies supporting Great Egrets and/or Great Blue Herons along the project corridor. To best protect colonial waterbirds from harm associated with construction, we recommend that the project corridor and sites be visually assessed for the presence of waterbird colonies. If any colonies are detected, we recommend additional coordination with us to ensure protection of the colony's residents during the	Appendix H of this Final EIS includes the mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. A framework for an avian and bat post-construction monitoring program would be

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	breeding season and protection of the colony and an undisturbed buffer around it as necessary to protect habitat suitability into the future.	developed and implemented in coordination with applicable federal resource agencies (see Appendix H for details).
0021-0124	To reduce long-term phototactic attraction of wildlife to offshore lighting, Dominion will use best management practices as itemized in BOEM’s COP guidelines. [Footnote 166: BOEM, Information Guidelines for a Renewable Energy Construction and Operations Plan (COP): Version 4.0 (May 27, 2020), https://www.boem.gov/cop-guidelines .] Dominion will also comply with Federal Aviation Administration and U.S. Coast Guard lighting requirements and, to the extent practicable, use lighting technology (e.g., low-intensity strobe lights, flashing red aviation lights) that minimize adverse impacts on bats. We note that in phototaxis (i.e., a disoriented attraction of birds drawn from some distance to lights on turbine towers), the numbers attracted will scale as the square of the range from which they are drawn, [Footnote 167: Zoe Deakin et al., A review to inform the assessment of the risk of collision and displacement in petrels and shearwaters from offshore wind developments in Scotland, SCOTTISH GOV’T (Dec. 2022).] thereby greatly increasing the potential for adverse impacts. [Bold: More research and monitoring is needed to measure distances at which phototaxis operates in seabirds (especially susceptible procellariiforms).] [Footnote 168: At least 56 species of Procellariiformes, more than one-third of them (24) threatened, are vulnerable to grounding by lights. See Airam Rodriguez et al., Seabird mortality induced by land-based artificial lights, CONSERVATION BIOLOGY (Feb. 2, 2017).] In the context of collision with turbine blades, the probability of collision is vastly inflated by flux density as the disoriented birds can pass repeatedly through rotor swept areas.	Appendix H of this Final EIS includes the mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. A framework for an avian and bat post-construction monitoring program would be developed and implemented in coordination with applicable federal resource agencies (see Appendix H for details).
0021-0125	In addition to Motus and satellite tagging of focal species, Dominion will continue operation of an Acoustic Thermographic Offshore Monitoring system (“ATOMTM”) for two additional years to inform development of CVOW-C given that the CVOW Pilot WTGs were installed adjacent to the west side of the CVOW-C Lease Area. This automated monitoring system will advance understanding of avian and bat activity in the offshore environment, track micro-avoidance or -attraction behaviors, better gauge species composition (both diurnally and nocturnally), and detect movement flux for aerial wildlife through a portion of the project site. [Bold: ATOMTM systems may also be able to better inform measurement of seabird flight heights if this system can be deployed to cover larger spatial and temporal scales.]	Appendix H of this Final EIS includes the mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. A framework for an avian and bat post-construction monitoring program would be developed and implemented in coordination with applicable federal resource agencies (see Appendix H for details).

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0021-0126	<p>Research elsewhere indicates that spatial responses of marine birds to offshore wind infrastructure can consist of (1) displacement around, (2) attraction to, (3) or neutral association with the overall project footprint. One large literature review of North American and European avian reactions to wind farms indicates that displacement in offshore habitats is two to three times more prevalent than attraction. [Footnote 169: Ana T. Marques et al., Bird displacement by wind turbines: Assessing current knowledge and recommendations for future studies, BIRDS (Dec. 10, 2021).] Across 71 peer-reviewed studies, the avian displacement distances from turbines (mean ± standard deviation) ranged from 116 ± 64 m in Anseriformes (ducks), 2,517 ± 5,560 m in Charadriiformes (gulls, terns, shorebirds), and 12,062 ± 6911 m in Gaviiformes (loons). [Footnote 170: Id.] Although Dominion seeks to limit risks of long-term displacement of offshore bird species to the extent practicable, [Footnote 171: Dominion COP at 4-202.] [Bold: no descriptions or citations are provided for the study design(s) that would be applied to evaluate how avian displacement is manifest at CVOW-C.] To detect differences in avian distribution pre- and post-construction, surveys ought to be designed and implemented to account for detection bias, adequately cover the Lease Area and its surroundings, and collect high-resolution data.</p>	<p>Appendix H of this Final EIS includes the mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. A framework for an avian and bat post-construction monitoring program would be developed and implemented in coordination with applicable federal resource agencies (see Appendix H for details).</p>
0021-0071	<p>The current monitoring plan for CVOW-C does not assess how acoustic disturbances from construction and operations will affect diving marine bird species. [Footnote 161: No avoidance, minimization, or mitigation measures are proposed for acoustic disturbance. See Dominion COP at 4-200-03, Table 4.2-13.] Because seabird taxa sensitive to this impact are more prevalent in winter, minimization may be justified to curtail any harm. Densities of diving birds are typically highest during winter months on inner and middle shelf habitats, [Footnote 162: See, e.g., Julia R. Willmot et al., Ecological Baseline Studies of the US Outer Continental Shelf: Final Report, BOEM (2020), at 39, Figure 4–2.] at least on the Atlantic OCS. Therefore, shifting the construction season for pile-driving and other noisy operations may reduce acoustic disturbance to diving birds. If time/area closures are not practical, other [Bold: methods for sound abatement may include: (1) establishing safety zones monitored by visual observers or passive acoustics that trigger shut-down or low-power operations if large diving bird flocks enter these zones; (2) using noise reduction gear like bubble curtains around pile driving when diving birds are present; and (3) deploying other noise-source modifications or changes to operational parameters such as soft starts.] [Footnote 163: Christine Erbe et al., Effects of Noise on Marine Mammals, in EFFECTS OF</p>	<p>Mitigation measures for noise abatement are included in Appendix H, requiring exclusion zones, Protected Species Observers, and other measures.</p> <p>Appendix H of this Final EIS includes the mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. A framework for an avian and bat post-construction monitoring program would be developed and implemented in coordination with applicable federal resource agencies (see Appendix H for details).</p>

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	ANTHROPOGENIC NOISE ON ANIMALS, 277–309 (Hans Slabbekoorn et al. eds., 2018).]	
0021-0008	[Italics: For birds,] BOEM should improve the avian monitoring plan such that it: (1) prioritizes GPS tracking rather than Motus tracking wherever possible; (2) evaluates how acoustic disturbances affect diving marine bird species; (3) studies the extent of avian displacement; (4) includes a reasonable requirement for timely data reporting; and (5) describes acceptable levels of impact and appropriate mitigation activities.	Appendix H of this Final EIS includes the mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. A framework for an avian and bat post-construction monitoring program would be developed and implemented in coordination with applicable federal resource agencies (see Appendix H for details). The suggestions in the comment may be implemented in this program.
0021-0072	[Bold: The monitoring plan does not include collision or avoidance detection.] Although collision monitoring is key to assessing direct effects of wind turbines, monitoring of potential collisions of birds with turbines is limited in this plan to opportunistic carcass surveys on platforms and vessels. Such surveys would fail to record any collisions in which carcasses do not land on fixed or floating structures.	Technology for collision detection for offshore wind turbines has not been developed at this time. Appendix H of this Final EIS includes the mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. A framework for an avian and bat post-construction monitoring program would be developed and implemented in coordination with applicable federal resource agencies (see Appendix H for details).
0021-0073	[Bold: The monitoring plan does not identify acceptable levels of mortality or displacement, nor describe the potential mitigation activities that could offset such impacts were they to occur.] None of the mitigation activities currently listed in Table 4.2-13, Summary of Avoidance, Minimization, and Mitigation Measures, [Footnote 172: Id. at 4-201-03.] directly address the mitigation actions that would be taken for any observed collision or displacement effects, what level of observed impact would trigger such measures, or the kind of resource equivalency analysis to be implemented for computing the offsets.	Appendix H of this Final EIS includes the mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. A framework for an avian and bat post-construction monitoring program would be developed and implemented in coordination with applicable federal resource agencies (see Appendix H for details). As part of the monitoring plan, new mitigation measures and monitoring may be imposed by BOEM if impacts deviate substantially from the impact analysis in the EIS.

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0021-0074	[Bold: Prioritize GPS tracking rather than Motus tracking wherever possible.] Currently, satellite-uploading GPS transmitters weighing 4 grams (g) are commercially available, meaning that any individual bird or bat weighing ≥ 133 g could be tracked using GPS without exceeding the accepted 3 percent body mass threshold for transmitters. This number will likely decrease, as transmitters weighing 1 g (suitable for a 33-g animal) are currently in development.	Appendix H of this Final EIS includes the mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on bats. A framework for an avian and bat post-construction monitoring program would be developed and implemented in coordination with applicable federal resource agencies (see Appendix H for details).
0021-0075	[Bold: Evaluate how acoustic disturbances associated with construction and operations affect diving marine bird species.] One means to accomplish this objective is to co- place seabird observers with marine mammal observers during the acoustic disturbance activities and monitoring periods. However, with all pile-driving scheduled to be done outside the winter months (November-April), few or even no diving marine birds would be affected.	Thank you for your thoughtful suggestion. Appendix H of this Final EIS includes the mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on bats. A framework for an avian and bat post-construction monitoring program would be developed and implemented in coordination with applicable federal resource agencies including BOEM and USFWS (see Appendix H for details). This suggestion will be considered in the development of the framework. Text has been added to the EIS in Sections 3.7.3.2 and 3.7.5 indicating that pile-driving noise and diving seabird hearing overlap as shown by McGrew, K.A., S.E. Crowell, J.L. Finey, A.M. Berlin, G.H. Olse, J. James, H. Hopkins, and C.K. Williams. 2022. Underwater Hearing in Sea Ducks with Applications for Reducing Gillnet Bycatch through Acoustic Deterrence. <i>J Exp Biol</i> 225(20):jeb243953.
0021-0076	[Bold: Study the extent of avian displacement.] For this purpose, we recommend use of high-definition digital aerial surveys with established protocols [Footnote 173: Chris B. Thaxter & Niall H. Burton, High definition imagery for surveying seabirds and marine mammals: A review of recent trials and development of protocols, BRITISH TRUST FOR ORNITHOLOGY (Nov. 2009); Kathryn A. Williams et al., Integrating novel and historical survey methods: A comparison of standardized boat-based and digital video aerial	Appendix H of this Final EIS includes the mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on bats. A framework for an avian and bat post-construction monitoring program would be developed and implemented in coordination

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	<p>surveys for marine wildlife in the United States, in WILDLIFE DENSITIES AND HABITAT USE ACROSS TEMPORAL AND SPATIAL SCALES ON THE MID-ATLANTIC OUTER CONTINENTAL SHELF (Kathryn A. Williams et al. eds., 2015.) and accepted survey designs. [Footnote 174: Kristopher J. Winiarski et al., Integrating aerial and ship surveys of marine birds into a combined density surface model: A case study of wintering Common Loons, THE CONDOR (Feb. 4, 2014).] Project study areas should include a minimum buffer of at least 20 km around the lease and construction areas. Aerial transects should be spaced 3 km apart, cover the entire study area, with at least 10 percent spatial coverage of the combined lease and buffer areas. To the extent possible, surveys are to be repeated three times within each sampling window, with windows scattered throughout the year, including during each of four seasons. Survey protocols are repeated for consecutive years before and after construction, covering a minimum of two years pre-construction, and two years post-construction. Survey intervals should be spaced sufficiently to be approximately statistically independent (e.g., three to five days apart). Data analysis should account for differences in detection probability based on species, flight height, and environmental factors and models</p>	<p>with applicable federal resource agencies (see Appendix H for details).</p>
<p>0021-0077</p>	<p>[Bold: Include a reasonable requirement for timely data reporting.] (e.g., all data collected during monitoring efforts must be made available within a year after collection). This will ensure that data can be accessed by researchers working on affected species throughout their ranges and rapidly integrated across multiple projects to understand cumulative effects.</p>	<p>Appendix H of this Final EIS includes the mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds including timely data reporting. A framework for an avian and bat post-construction monitoring program would be developed and implemented in coordination with applicable federal resource agencies (see Appendix H for details).</p>
<p>0021-0078</p>	<p>[Bold: Describe acceptable levels of impact and appropriate mitigation activities.] This includes: (a) how carcass observations or other collision and displacement monitoring results will be extrapolated to population-level impacts; (b) what thresholds will be used to initiate mitigation; and (c) what mitigation activities will be considered to offset any observed impacts.</p>	<p>Thank you for your comment. Appendix H of this Final EIS includes the mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. A framework for an avian and bat post-construction monitoring program would be developed and implemented in coordination with applicable federal resource agencies (see Appendix H for details). As part of the</p>

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		monitoring plan, new mitigation measures and monitoring may be imposed by BOEM if impacts deviate substantially from the impact analysis in the EIS. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision.
0024-0029	BOEM should commit to continuing to fill knowledge gaps to minimize impacts to birds in CVOW and other WEAs.	BOEM has used the best available information on bird presence in the Project area and will continue to collect information on bird presence in the offshore environment to help inform the assessment of potential impacts on birds from construction and operation offshore wind farms. To support the advancement of the understanding of bird interactions with offshore wind farms, Dominion Energy is developing an avian and bat post-construction monitoring program that outlines an approach to post-construction monitoring.
0014-0031	[Bold: Oceana Ponds and Forest Conservation Site.] DCR-DNH recommends an inventory for the Long beach seedbox within the site to confirm the presence and extent of the documented occurrence. Surveys for this species should be conducted during the flowering/fruitletting period from June to September. With the survey results DCR-DNH can more accurately evaluate potential impacts to the natural heritage resource and offer specific protection recommendations for minimizing impacts to the documented resources, including adjusting the proposed route to avoid rare plant populations on the western side of the conservation site. DCR-DNH biologists are qualified to conduct inventories for rare, threatened, and endangered species.	Thank you for your comment. If BOEM approves the Project and Dominion Energy decides to construct the Project, Dominion Energy would be required to obtain all applicable Virginia state permits for the protection of coastal habitats and fauna, and any required surveys would be performed to support those required permits.
0014-0032	[Bold: West Neck Creek Conservation Site.] Surveys for the Virginia least trillium should be conducted during the earlier stages of the flowering period from late March to late April. To minimize adverse impacts to the documented occurrences of Virginia least trillium, DCR-DNH recommends avoiding the use	Thank you for your comment. If BOEM approves the Project and Dominion Energy decides to construct the Project, Dominion Energy would be required to obtain all applicable Virginia state permits for

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	of the existing right-of-way at the for construction access or equipment staging.	the protection of coastal habitats and fauna, and any required surveys would be performed to support those required permits.
0014-0034	Due to the potential for the project footprint to support populations of Little metalmark and additional populations of Dukes' skipper, DCR-DNH recommends an inventory for the resources in the study area. DCR-DNH recommends surveying for Dukes' skipper in wetlands associated with West Neck Creek, North Landing River, and the Intracoastal Waterway where the larval food plant Shoreline sedge (<i>Carex hyalinolepis</i>) is found. DCR-DNH recommends surveying for Little metalmark in upland areas containing Yellow thistle (<i>Cirsium horridulum</i>). With the survey results DCR-DNH can more accurately evaluate potential impacts to natural heritage resources and offer specific protection recommendations for minimizing impacts to the documented resources.	Thank you for your comment. If BOEM approves the Project and Dominion Energy decides to construct the Project, Dominion Energy would be required to obtain all applicable Virginia state permits for the protection of coastal habitats and fauna, and any required inventory surveys would be performed to support those required permits.
0014-0033	[Bold: North Landing River Conservation Site.] DCR-DNH recommends an inventory of the documented significant natural communities (e.g., Bald Cypress-Mixed Tupelo Intermediate Swamp) within the preferred route at the site, to determine the condition and extent of the significant natural communities. With the survey results DCR-DNH can more accurately evaluate potential impacts to natural heritage resources and offer specific protection recommendations for minimizing impacts to the documented resources. In addition, DCR-DNH recommends avoidance of documented occurrences of Virginia least trillium at the site to minimize adverse impacts.	Thank you for your comment. If BOEM approves the Project and Dominion Energy decides to construct the Project, Dominion Energy would be required to obtain all applicable Virginia state permits for the protection of coastal habitats and fauna and any required inventory surveys would be performed to support those required permits. Appendix H of this Final EIS includes the mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on coastal habitat and fauna, including implementation of an invasive species control plan to avoid the spread of invasive species for the lifetime of the Project.
0014-0036	DCR-DNH supports the development of an Invasive Species Management Plan (DEIS, Appendix H-Mitigation and Monitoring, Table H-1, page H-15) "to prevent the spread of invasive species throughout the maintained rights-of-way and recently disturbed locations. Only agency-approved native species would be replanted, and all plans would be guided by desktop and on-the-ground evaluation of invasive species present in the area." DCR-DNH notes that the invasive species plan should include an invasive species inventory for the project area based on the current DCR-DNH Invasive Species List and	Thank you for your comment. Appendix H of this Final EIS includes the mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on coastal habitat and fauna including implementation of an invasive species control plan to avoid the spread of invasive species for the lifetime of

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	<p>methods for treating the invasives. DCR-DNH also recommends right-of-way restoration and maintenance practices planned include appropriate revegetation using native species in a mix of grasses and forbs, robust monitoring and an adaptive management plan to provide guidance if initial revegetation efforts are unsuccessful or if invasive species outbreaks occur.</p>	<p>the Project.</p>
0014-0037	<p>DCR-DNH recommends the avoidance of impacts to cores. When avoidance cannot be achieved, minimize the area of impacts overall and concentrate the impacted area at the edges of cores, so that the most interior remains intact. If Dominion is interested in pursuing additional mitigation options, DCR-DNH recommends the company use a methodology developed by the Virginia Forest Conservation Partnership, and used by DCR-DNH, to calculate mitigation ratios specific to the project.</p>	<p>Thank you for your comment. Appendix H of this Final EIS includes the mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on coastal habitat and fauna. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision.</p>
0014-0041	<p>DCR-DNH recommends inventories for the Long beach seedbox within the Oceana Ponds and Forest Conservation Site; the Virginia least trillium within the West Neck Creek Conservation Site; significant natural communities (e.g. Bald cypress-Mix tupelo swamp) at the North Landing River Conservation Site; a survey for populations of Little metalmark and Dukes' skipper in the study area; a survey for Dukes' skipper in wetlands associated with West Neck Creek, North Landing River, and the Intracoastal Waterway; a survey for Little metalmark in upland areas containing Yellow thistle; and a rare bat habitat assessment along the interconnection cable route. DCR-DNH biologists are qualified to conduct inventories for rare, threatened, and endangered species.</p>	<p>Thank you for your comment. If BOEM approves the Project and Dominion Energy decides to construct the Project, Dominion Energy would be required to obtain all applicable Virginia state permits for the protection of coastal habitats and fauna, and any required inventory surveys would be performed to support those required permits.</p>
0014-0052	<p>DEQ recommends that the use of herbicides or pesticides for construction or landscape maintenance should be in accordance with the principles of integrated pest management. The least toxic pesticides that are effective in controlling the target species should be used to the extent feasible.</p>	<p>Thank you for your comment; comment noted.</p>
0018-0025	<p>State Endangered Canebrake Rattlesnakes have been documented from the project area as well. This species is known to inhabit hardwood or mixed hardwood-pine forests, canefields, and the ridges and glades of swampy areas. It appears, based on review of satellite imagery and/or pictures of the project site, that suitable canebrake rattlesnake habitat is located on site and will be adversely impacted by this project. Of particular concern to us is forest</p>	<p>Text has been added to Section 3.8.1.4 of the Final EIS to include information about canebrake rattlesnakes.</p>

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	<p>loss in the Northwest River drainage. Therefore, we recommended that either a habitat assessment be performed within forested habitats along the project corridor in Virginia Beach and Chesapeake or that Dominion assume habitat suitability and mitigate for likely impacts upon this species and its habitat through preservation of an equivalent amount of canebrake habitat (i.e., 1:1 ratio) in an area with a confirmed population of the species. However, we understand this can be difficult to achieve. If such habitat preservation is not possible, we recommend providing additional wetland compensation at a ratio to be determined by DWR once a final project route has been determined and forested habitat impacts can be accurately quantified and located.</p>	
0018-0033	<p>To minimize the adverse impacts of the proposed linear utility development on wildlife resources, we offer the following general recommendations: avoid and minimize impacts to undisturbed forest, wetlands, and streams to the fullest extent practicable; maintain naturally vegetated buffers of at least 100 feet in width around wetlands and on both sides of perennial and intermittent streams, where practicable; conduct significant tree removal and ground clearing activities outside of the primary songbird nesting season of March 15 through August 15; and, implement and maintain appropriate erosion and sediment controls throughout project construction and site restoration. To minimize potential wildlife entanglements resulting from use of synthetic/plastic erosion and sediment control matting, we recommend use of matting made from natural/organic materials such as coir fiber, jute, and/or burlap. We understand that adherence to these general recommendations may be infeasible in some situations.</p>	<p>Thank you for your comment. Appendix H of this Final EIS includes the mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on coastal habitat and fauna. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision.</p>
0021-0010	<p>- [Italics: For onshore habitats,] BOEM should work to mitigate any direct, indirect, and cumulative effects of onshore coastal habitat and fauna, including coastal wetlands and state rare, threatened, and endangered species.</p>	<p>Text has been added to the Final EIS to discuss these species.</p>
0021-0007	<p>Finally, Dominion acknowledges in the COP that the two rare plant species, the long beach seedbox and the multiflowered mud plantain, have been documented at the Proposed Project's onshore export cable route and at the Navy's "Oceana Ponds and Forest Special Interest Area" at Naval Air Station Oceana. [Footnote 290: Dominion COP at 4-157-59, Table 4.2-8.] Dominion states, however, that, because these imperiled plant species are "non-regulated," they were not "carried forward for further discussion." [Footnote 291: Id. at 4-158.] It makes no difference under NEPA, however, whether a species is "regulated" or not. Instead, BOEM must assess the potential impacts on both of these rare plant species, as well as the other species noted above, and consider potential avoidance and mitigation measures.</p>	<p>Thank you for your comment. Text has been added to the Final EIS to discuss these species</p>

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0014-0006	The Proposed Action neither avoids nor mitigates the impacts to commercial fisheries. All of the alternatives fail to accurately address the whelk, surf clam, and spiny dogfish fisheries.	Species-specific monitoring plans have been prepared and will be implemented for key species, including black sea bass, to help in identification of species-specific impacts during the Project.
0014-0014 & 0015-0010	The CVOW-C COP and CVOW-C DEIS both lack adequate fisheries and socioeconomic data for fisheries therefore limiting our ability to provide reasonable recommendations for avoiding and minimizing impacts to fisheries and habitats. The Proposed Action does not offer minimization or avoidance measures other than the orientation of inter-array cable to facilitate the movement of whelk. In addition, the DEIS discusses alternatives that include minimizing impacts to changes in benthic habitat that protect sensitive sand ridge habitat and marked fish haven areas (Triangle Wreck). However, the lack of adequate fisheries and socioeconomic data relevant to the project area in the CVOW-C COP and CVOW-C DEIS limits the ability to accurately determine if these proposed actions will be sufficient to protect these fisheries. VMRC appreciates this consideration for whelk but takes issue with BOEM stating "there is no indication that whelk movement would be hindered by the presence of inter array cables" because this statement lacks peer-reviewed scientific documentation to characterize the relationship between whelk and electromagnetic field (EMF) from submarine cables. While the DEIS cites EMF exposure research related to the behavioral characterization of mussels, this sessile species is a poor surrogate for those commercially sought whelk species. Research is needed regarding the effects on whelk species, as it relates to both AC and DC current to characterize behavior change to mid-Atlantic, commercially sought whelk species to allow for recommendations for avoidance or mitigation.	<p>Thank you for your comment. BOEM utilized the most up-to-date fisheries and socioeconomic data possible in crafting the CVOW EIS and believes the data is suitable for adequately assessing impacts.</p> <p>BOEM agrees that further research on EMF exposure on whelk and other benthic marine organisms could be conducted. Results of any such future research may be incorporated into future COP EISs as information becomes available.</p>
0014-0018 & 0015-0017	The Atlantic surf clam industry has only recently re-emerged in Virginia, demonstrating significant landings with potential to reinvigorate a dormant sector. Preconstruction surveys have not been completed to characterize the extent of those resources to inform the depth and breadth of avoidance and minimization necessary to ensure this fishery is accessed. The Atlantic surfclam industry and federal surveys have indicated that productive fishing grounds are within and adjacent to the project area. According to industry members, for these fisheries to operate after construction, a project would need to maintain a minimum spacing of 2 nm between turbines, due to the specific way gear is deployed and hauled back, chain lengths, vessel maneuverability, and other conditions. Turbine spacing less than 2 nm will	Thank you for your comment. In the CVOW COP, Dominion Energy describes how turbine spacing of 1 nm or more was considered but not carried forward because it would have precluded the Lease Area from attaining the goal in the Virginia Clean Economy Act to have a project capacity of between 2,500 and 3,000 MW offshore wind power by 2028; a larger spacing would result in a larger project footprint with significantly larger overall environmental impacts.

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	<p>impose a complete closure for this fishery, including for purposes of determining compensatory mitigation. VMRC supports consideration of the industry minimum separation between turbines of 2nm to permit the movement of vessels to operate after construction.</p>	
0014-0021	<p>The draft Guidelines only addresses replacement at 50% of gross income lost due to gear loss during the period from the discovery of lost gear to when it is repaired or replaced. BOEM should consider the reimbursement of 100% of gross income losses due to gear damage or necessary replacement, rather than 50% as indicated in the draft. Selecting 50% of gross income reimbursement is arbitrary and does not accurately reflect the loss of the claimants.</p> <ul style="list-style-type: none"> - VMRC recommends BOEM reconsider the 5-year sliding scale for loss reimbursements. Compensation for loss of fisheries revenue should be available and calculated for losses throughout the entire lifespan of a project. A 5-year timescale assumes that the fishing community will adjust and transition their activities to equally profitable locations due to the new ocean use. Not all fisheries are managed in a way to allow location adjustment or may not be biologically available for shifting harvest locations. Additionally, an increase in ocean development will lead to bottlenecking of ocean uses and may affect long term revenues. BOEM should consider that the vessel and permits follow the lifespan of the projects to permit retiring fishermen to have an option for post industry income. Additionally, BOEM should consider buy-outs of those active fisheries in lease areas. - VMRC recommends BOEM reconsider the estimates on the impacts to shoreside businesses, which BOEM currently estimates to be 1-2%. BOEM's current estimated rate insufficiently considers operating expenses and the economic multiplier of many industries to the State's economy This most likely undervalues the impacts to shoreside industry and is not based on science. - Data poor fisheries will pose unique challenges that will need to be further addressed. If a third party is identified and established, it will require them to be granted confidential data access from the states and provide for a confidential 	<p>Thank you for the comment. BOEM will require fisheries mitigation in line with BOEM's draft fisheries mitigation guidance. Additional clarifications regarding compliance have been added to the terms and conditions of the COP approval.</p>
0017-0040	<p>Mitigation measures are necessary to reduce the potential negative environmental and socioeconomic impacts of the CVOW 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. [Footnote 6: Available at</p>	<p>Thank you for your comment. Appendix H of this Final EIS includes the mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on commercial and for-hire recreational fishing. Additional</p>

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	<p>https://www.mafmc.org/correspondence.] These comments supported many of the mitigation measures recommended in that draft guidance. We recommend that all final mitigation guidelines be reflected in terms and conditions for BOEM's approval of this project.</p>	<p>mitigation and monitoring measures may arise from consultations and coordination with federal and state resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision.</p>
0015-0020	<p>The CVOW-C DEIS in Appendix H recommends the following, "BOEM would require that Dominion Energy implement a compensation program for lost income for commercial and recreational fishermen and other eligible fishing interests for construction and operations consistent with BOEM's [Bold and italicized: draft] [italicized: guidance for Mitigating Impacts to Commercial and Recreational Fisheries on the Outer Continental Shelf Pursuant to 30 CFR 585] or as modified in response to public comment (Appendix H, pg. H-74). The underlying lack of fisheries, habitat, and socioeconomic data continues to be the core concern by the VMRC with respect to developing a comprehensive compensation plan for mitigating the potential exposure from commercial fisheries. The VMRC submitted lengthy comments to BOEM as part of Docket BOEM-2022- 0033-0003 on the draft guidance indicating that we consulted with the commercial industry to inform our position for the following points:</p> <ul style="list-style-type: none"> - The draft Guidelines only addresses replacement at 50% of gross income lost due to gear loss during the period from the discovery of lost gear to when it is repaired or replaced. BOEM should consider the reimbursement of 100% of gross income losses due to gear damage or necessary replacement, rather than 50% as indicated in the draft. Selecting 50% of gross income reimbursement is arbitrary and does not accurately reflect the loss of the claimants. - The VMRC recommends BOEM reconsider the 5-year sliding scale for loss reimbursements. Compensation for loss of fisheries revenue should be available and calculated for losses throughout the entire lifespan of a project. A 5-year timescale assumes that the fishing community will adjust and transition their activities to equally profitable locations due to the new ocean use. Not all fisheries are managed in a way to allow location adjustment or may not be biologically available for shifting harvest locations. Additionally, an increase in ocean development will lead to bottlenecking of ocean uses and may affect long term revenues. BOEM should consider that the vessel and permits follow the lifespan of the projects to permit retiring fishermen to have 	<p>Thank you for your comment. BOEM will require fisheries mitigation in line with BOEM's draft fisheries mitigation guidance. Additional clarifications regarding compliance have been added to the terms and conditions of the COP approval.</p>

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	<p>an option for post industry income. Additionally, BOEM should consider buy-outs of those active fisheries in lease areas.</p> <ul style="list-style-type: none"> - The VMRC recommends BOEM reconsider the estimates on the impacts to shoreside businesses, which BOEM currently estimates to be 1-2%. BOEM's current estimated rate insufficiently considers operating expenses and the economic multiplier of many industries to the State's economy This most likely undervalues the impacts to shoreside industry and is not based on science. - Data poor fisheries will pose unique challenges that will need to be further addressed. If a third party is identified and established, it will require them to be granted confidential data access from the states and provide for a confidential data management system for proprietary data to be provided by affected parties. 	
0017-0041	<p>Section 3.9.8 of the DEIS lists three fisheries mitigation measures proposed by BOEM: compensation for gear loss and damage, compensation for lost fishing, and mobile gear-friendly cable protection measures. All these mitigation measures should be implemented. Appendix H describes additional potential mitigation and monitoring measures; however, it is unclear which of these measures are likely to be required by BOEM as opposed to optional. Assumptions about which mitigation measures are required will affect the impact determinations and overall conclusions in the FEIS.</p>	<p>Thank you for your comment. Appendix H of this Final EIS includes the mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on commercial and for-hire recreational fishing. The final mitigation measures to be implemented will be included as part of the ROD.</p>
0017-0048	<p>Unlike several other offshore wind projects along the east coast, the CVOW project may require relocation of few, if any, boulders. If boulder location is required, it should be done using whichever method is determined to have the least impact on the seafloor. The new locations of boulders should be widely communicated to commercial and recreational fishery participants to avoid gear damage and safety issues.</p>	<p>Thank you for the comment. BOEM will require fisheries mitigation in line with BOEM's draft fisheries mitigation guidance. Additional clarifications regarding compliance have been added to the terms and conditions of the COP approval.</p>
0019-0001	<p>Commercial fishing is a \$5.5 billion dollar industry in the United States. That number does not take into account the countless jobs, families and shoreside economy supporting the industry. We have been advocating for some time regarding the need to address the impact of offshore wind on commercial fishing in a unified and complete manner to ensure that both industries continue to thrive in the newly created environment off the Atlantic coast.</p> <p>It is vitally important 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.</p>	<p>Thank you for your comment. Dominion Energy has drafted a Fisheries Communication Plan (Appendix V of the COP) that establishes the principles Dominion Energy will use for outreach and interaction with the fishing industry.</p>

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0019-0002	<p>It is our hope and expectation that final guidance for mitigating impacts on commercial and recreational fisheries related to project siting, design, navigation, access, safety measure and most importantly financial compensation will be completed before a final Environmental Impact Statement on the Project is finalized. We provided extensive comments regarding fisheries mitigation in our comment letter submitted to BOEM in response to the previous RFI for the draft mitigation guidance. A copy of those comments is attached hereto.</p> <p>Our primary concern, which is also evident in this environmental impact statement, is the lack of definite, enforceable measures relative to fisheries mitigation. It starts with the phrase "BOEM [Bold: will consider] requiring mitigation measures that may help mitigate impacts on commercial and for-hire recreational fishing." (DEIS Section 3.9.8) (Emphasis Added).</p>	<p>Thank you for your comment. Appendix H of this Final EIS includes the mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on commercial and for-hire recreational fishing. The final mitigation measures to be implemented will be included as part of the ROD.</p>
0019-0003	<p>We appreciate that BOEM has attempted to address our previous comments on other EIS and placed a requirement that the mitigation measures on the project "shall" be consistent with the final mitigation recommendations of BOEM. [Italics: (Appendix H - Mitigation and Monitoring).] Having said that, we would still direct BOEM to our previous comments.</p> <p>The draft guidance failed to propose any definitive requirements as to the calculation of losses or even how to properly address shoreside losses. We remain concerned with the overall lack of clarity and enforceability with the language presented in the draft document. Throughout the draft guidance document equivocal words such as "may be required", "reasonable efforts", "if needed", "when feasible", "recommend", and "should consider" are used. BOEM must make every effort to make certain that there is a uniform approach to fisheries mitigation through all lease areas and developers. The developers are clearly waiting on BOEM to lead the way on this</p>	<p>Thank you for your comment. Appendix H of this Final EIS includes the mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on commercial and for-hire recreational fishing. The final mitigation measures to be implemented will be included as part of the ROD.</p>
0019-0004	<p>Of particular concern within the mitigation proposed in the DEIS is the language in Section 3.9.8 regarding Compensation for Lost Fishing Income. That section states, in relevant part:</p> <p>[Bold: "Compensation for Lost Fishing Income:] Dominion Energy would implement a compensation program for lost income for commercial and recreational fishermen and other eligible fishing interests for construction and operations consistent with BOEM's draft guidance for Mitigating Impacts to Commercial and Recreational Fisheries on the Outer Continental Shelf Pursuant to 30 CFR 585 or as modified in response to public comment. This measure, if adopted, would reduce impacts from the IPF presence of structures by compensating commercial and recreational fishing interests for</p>	<p>Thank you for your comment. Appendix H of this Final EIS includes the mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on commercial and for-hire recreational fishing. The final mitigation measures to be implemented will be included as part of the ROD.</p>

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	<p>lost income during construction and a minimum of 5 years post-construction. Levels of funding required by Dominion Energy to be set aside for fulfilling verified claims would be commensurate with commercial fishing revenue amounts in the Project area as described in Section 3.9.1.3. If adopted, this measure would reduce the negligible to major impact level from the presence of structures to negligible to moderate. This is because a compensation scheme will mitigate “indefinite” impacts to a level where the fishing community would have to adjust somewhat to account for disruptions due to impacts, but income losses would be mitigated.” While we applaud the inclusion of such a measure and the creation of a fund to compensate for lost fishing revenue, albeit with the words “if adopted” twice, there are two very flawed assumptions in this paragraph. The first is that 5 years post construction will be sufficient for compensating fishermen for revenue lost as a result of the construction of the Project. There is no way such a time frame is sufficient to help the fishermen recover from any impact of the project on their livelihood. Also, if it is left to the developer to decide how long the compensation period must go, they will always default to the shorter period. BOEM must make the period mandatory and much longer. The second flawed assumption is that somehow the fishermen can just “adjust somewhat” and that their losses associated with losing the ability to fish in large areas of the ocean where fishermen have fished for, in some cases, hundreds of years will be mitigated. There is a reason fisherman have fished for the same species in the same locations for years. The introduction of hundreds of wind turbines and new ecosystems in those areas cannot be addressed by a direction to the fishermen that they “adjust somewhat”. The fishermen are an existing user of the OCS. Statutorily BOEM must address the impact of the new use on them. “Adjust somewhat” is a direction to the fishermen, not the developer. The burden for mitigating the impact of offshore wind on the commercial fishing industry must rest with BOEM and the developers.</p> <p>We recognize that not all mitigation measures are within BOEM’s statutory and regulatory authority but could be adopted and imposed by other governmental entities. Yet, we feel strongly that if BOEM decides to approve the Project’s COP, then mitigation and monitoring must be clearly stated and identified. If such measures are not adopted, specific reasons for non-adoption must be presented and verified. Thank you for your comment.</p> <p>Appendix H of the EIS includes the mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on</p>	

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	commercial and for-hire recreational fishing The final mitigation measures to be implemented will be included as part of the ROD.	
0019-0008	<p>BOEM is required by law to take the cumulative impact of all approved structures and uses into consideration when addressing impact under an EIS. This is yet another DEIS where BOEM attempts to moderate the impact of the proposed action by blaming fisheries impact on the existence of other structures. The DEIS describes the impact of structure as follows: [Bold: "Presence of structures:] The presence of structures can lead to impacts on commercial fisheries and for-hire recreational fishing through fish aggregation, habitat conversion, allisions, displacement of certain vessels/gear types, entanglement or gear loss/damage, navigation hazards (including transmission cable infrastructure), alterations on fisheries management mechanisms, space use conflicts, and safety related issues (e.g., hindering search and rescue). These impacts may arise from buoys, met towers, foundations, OSSs, scour/cable protection, and transmission cable infrastructure." The DEIS then goes on to state that the for the purposes of consideration of the impact of "other structures" on this project, that consideration "would include over 3,135 WTGs, 4,592 acres (18.6 square kilometers) of WTG scour protection, and 2,684 acres (10.9 square kilometers) of new hard protection atop export and inter-array cables. Projects may also install additional buoys and met towers." The analysis further includes an estimate of the lost commercial fishing revenue from all anticipated approved structures. The DEIS includes a table that "shows the annual commercial fishing revenue exposed to offshore wind energy development in the Mid-Atlantic and New England regions by FMP fishery from 2021 through 2030." The report goes on to state that the numbers are: "only a lower-bound estimate of the maximum exposed revenue, as it is calculated using average historical revenue overlapping the WEAs and is based on vessel trip reporting data, which do not fully capture all fishery operations in the WEAs. The amount of revenue at risk increases as proposed offshore wind energy projects are constructed and come online and would continue beyond 2030 during the continued operational phases of the offshore wind energy projects. The largest impacts in terms of exposed revenue are expected to be in the sea scallop, other FMP, non-disclosed species, and non-FMP fisheries, and surfclam/ocean quahog FMP fisheries. The maximum exposed revenue is projected to occur in 2030, but exposure will continue to increase in years thereafter until facilities are decommissioned." Roughly translated, this language states that BOEM has no true measure of the actual impacts on or economic losses by the commercial fishing industry caused by</p>	<p>Thank you for your comment. Appendix H of this Final EIS includes the mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on commercial and for-hire recreational fishing. The final mitigation measures to be implemented will be included as part of the ROD.</p>

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	<p>approved or anticipated offshore wind projects or the duration of those impacts or losses. All the while BOEM is setting a limit mitigation of only five (5) years after installation. Despite this lack of definitive knowledge, BOEM has also issued 23 leases and counting for offshore wind projects and there remains no guidance on mitigation of those impacts. Families and livelihoods depend upon this revenue. It is vital that we collectively get this right as there may not be a second chance. We again strongly urge BOEM to put forth definitive guidance regarding fisheries mitigation and respectfully request that BOEM utilize its authority to review compliance with a project COP at least every five (5) years to ascertain the actual impact of its approved projects.</p>	
0019-0006	<p>As is the case with any new industry introduced into an existing environmental and economically diverse area, the true outcome of the new endeavor will not be known for some time after the industry is underway. There is an element in the submittals by the proponent of the wind developer asking BOEM to trust their numbers and their statements as to impact, or lack thereof. We strongly encourage BOEM to take advantage of its authority to actively monitor a project and require the developer to demonstrate that they not having additional negative impact through the life of the project. There must be some follow-up to make sure that the developer's assertions and BOEM assumptions based on them were indeed accurate. We feel that BOEM must require that a developer confirm the impact of the development at some point after the lease area has been fully operational such as 5 years after construction was commenced. We also feel strongly that it should not be the fishermen or government agencies/institutions who pay for any studies or surveys to assess the actual impact of the development. The proponent of a project who made certain assertions to obtain the permit must be the one to conduct whatever research is necessary to prove their assertions to be correct.</p>	<p>Thank you for your comment. Appendix H of this Final EIS includes the mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on commercial and for-hire recreational fishing. The final mitigation measures to be implemented will be included as part of the ROD.</p>
0024-0020	<p>final EIS should describe mitigation requirements within the preferred alternative and should require a minimum 2m cable burial depth where feasible to reduce EMF and prevent cable snags. BOEM's evaluation of potential EMF effects on fisheries resources in southern New England states: [Italics: Most inter-array and export cables are buried to a target depth between 0.9 and 1.8 m (3 and 6 ft). Increasing the burial depth from 1 to 2 m (3.3 to 6.6 ft) reduces the magnetic field at the seafloor about four-fold (CSA Ocean Sciences Inc and Exponent 2019).] Costs and benefits of the plans for</p>	<p>Thank you for your comment. Appendix H of this Final EIS includes the mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on commercial and for-hire recreational fishing. As stated in Appendix H, Dominion Energy has proposed to use high-voltage alternating-current (HVAC) offshore export cables; such cables emit EMF</p>

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	burial and coverage of cables at CVOW-C should be assessed in light of this finding.	below levels documented as having adverse effects on fish or marine mammal behavior.
0026-0018	<p>Fisheries Mitigation refers to siting and project design principles specifically adopted to reduce impacts to fishing. It is not satisfied through compliance with standard mandatory health and safety regulations, although these are important. BOEM has effectively pitted one industry against the other. On the one hand you have a historic, sustainably operated industry integral to our nation's food supply with environmental impacts that are well known and well understood and rates favorably in terms of the carbon footprint to produce a pound of protein. On the other you have a new industry with great promise; but unknown impacts. The fishing industry acknowledges the need to reduce our reliance on activities which will negatively impact our climate. But we cannot, nor should we, prioritize one industry over another. As we, and others, have consistently communicated, siting of OSW projects should be a collaborative effort with the primary goal of avoiding impacts. Unfortunately, that has not been an approach utilized and we are being forced to choose between feeding the nation and renewable energy. Early efforts focused on avoiding impacts could have better framed mitigation conversations. Unfortunately, mitigation to the commercial fishing industry is focusing on compensation. Mitigation is not synonymous with compensation.</p>	<p>Thank you for your comment. Dominion Energy has drafted a Fisheries Communication Plan (Appendix V of the COP) that establishes the principles Dominion Energy will use for outreach and interaction with the fishing industry.</p>
0026-0019	<p>BOEM's draft analyses recognize the potentially major impacts to fishing, marine mammals, and navigation of the proposed projects and their respective alternatives. Yet, not all mitigation proposals offered by the fishing industry were evaluated as alternatives in the DEISs. These are summarized below; a full discussion is included in prior RODA's scoping comments on these and other projects. - Additional modifications in the project areas to preserve fishing access; - Immediate strategies to address impacts to protected resources during the length of the lease so they are ready to be implemented immediately once impacts are detected; - Direct and transparent collaboration with the fishing industry on shoreside considerations including port infrastructure, dock usage, and economic impacts or opportunities; - Safe transit areas through the lease areas under consideration and those reasonably foreseeable, analyzed and implemented using a cumulative effects approach; - Adequate, independent processes for gear loss claims; - Adhere to a holistic approach to determining and awarding compensation from economic loss to fishing and fishing businesses; - Improved federal environmental review analysis and clear identification of scientific unknowns; - Require deicing technology and</p>	<p>Thank you for your comment. Proposed mitigation measures described in Final EIS Appendix H were developed in consultation between BOEM, Dominion Energy, and numerous stakeholders via public meeting and public comment periods.</p>

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	<p>practices; - Perform “micrositing” of turbines and cables with fishermen who know the areas and surrounding ecosystem(s); - Prohibit turbines, foundations, and cables in sensitive habitat including spawning areas and important fishing grounds; - Monitor fisheries impacts for the life of projects and utilize adaptive management; - Resolve impacts to National Marine Fisheries Service (NMFS) fishery-independent surveys; - Ensure that any economic benefits of offshore wind accrue to the U.S.—not at some undetermined point in the future, but now.</p>	
0026-0024	<p>Compensation for Gear Loss and Damage: Compensation for gear loss or damage as a result of interactions with the Project should be assured. Language should be added which allows fishery participants to be compensated for all gear loss and damage resulting from interactions with infrastructure supporting an OSW facility. Exceptions would exist for interactions which are intentional or the result of gross negligence on the part of the vessel operator. There are a number of things outside of the operator’s control which could result in interactions with infrastructure and facilities supporting OSW. [Footnote 30: Mechanical failures, abrupt and unforeseeable changes in wind or current, etc could all result in interactions with facilities supporting an offshore wind array. Interactions which would not have occurred but for the presence of the array should be fully compensable to such fishermen]</p>	<p>Thank you for your comment. Appendix H of this Final EIS includes the mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on commercial and for-hire recreational fishing. In Appendix H, it is proposed that BOEM would require that Dominion Energy implement a compensation program for lost income for commercial and recreational fishermen and other eligible fishing interests for construction and operations consistent with BOEM’s draft guidance for <i>Mitigating Impacts to Commercial and Recreational Fisheries on the Outer Continental Shelf Pursuant to 30 CFR 585</i> or as modified in response to public comment. This measure, if adopted, would reduce impacts from the impact-producing factor (IPF) <i>presence of structures</i> by compensating commercial and recreational fishing interests for lost income during construction and a minimum of 5 years post-construction. The final mitigation measures to be implemented will be included as part of the ROD.</p>
0026-0025	<p>Mobile Gear–Friendly Cable Protection Measures: In developing such protection measures, developers must engage with fishery participants in an effort to understand their needs. In particular, bottom tending gear such as surfclam and scallop dredges, bottom-trawl and others should be consulted to mitigate impacts to fleets utilizing that gear type. This may result in preferred orientation of subsea cables and cable protection or other recommendations from operators in the region should they choose to continue</p>	<p>Thank you for your comment. Dominion Energy has drafted a Fisheries Communication Plan (Appendix V of the COP) that establishes the principles Dominion Energy will use for outreach and interaction with the fishing industry.</p>

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0026-0026	<p>fishing in a project area.</p> <p>We have requested numerous times to BOEM, developers, and states to work directly with the fishing industry to provide readily accessible project information. Repeatedly, fishermen have requested Atlantic leaseholding developers to improve the basic dissemination of project information—shoreside and, perhaps more importantly, on the water. RODA urges BOEM to work with us to ensure that we can effectively get critical project information to fishermen in a relevant and accessible manner. We also respectfully request that timely provision of relevant project information for these purposes in a format determined by the fishing community be a condition of any OSW permit that BOEM may issue in the future.</p>	<p>Thank you for your comment. Dominion Energy has drafted a Fisheries Communication Plan (Appendix V of the COP) that establishes the principles Dominion Energy will use for outreach and interaction with the fishing industry.</p>
0026-0028	<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 Sunrise Wind and CVOW will be negatively impacted by these projects, should adapted survey methods not be implemented immediately.</p>	<p>Thank you for your comment. BOEM has updated the mitigation in consultation with the NMFS and in line with the Fisheries Survey Mitigation Strategy, which will be documented in the ROD and terms and conditions of COP approval.</p>
0026-0029	<p>A finding of [Bold: major] impacts to scientific research and surveys (Sunrise DEIS p. ES-xii, CVOW DEIS p. S-14) cannot be downplayed and the proposed mitigation measures do 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>Thank you for your comment. BOEM has updated the mitigation in consultation with the NMFS and in line with the Fisheries Survey Mitigation Strategy, which will be documented in the ROD and terms and conditions of COP approval.</p>
0026-0043	<p>Compensation for Lost Fishing Income: BOEM's draft guidance for Mitigating Impacts to Commercial and Recreational Fisheries on the Outer Continental Shelf was woefully inadequate in its approach to fisheries compensation. RODA submitted detailed comments outlining those inadequacies and we incorporate those comments by reference. [Footnote 31: See https://www.regulations.gov/comment/BOEM-2022-0033-0083]</p>	<p>Thank you for your comment.</p>

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0026-0044	<p>Fisheries Communications Plans The Fisheries Communication Plan (FCP) for both Sunrise Wind and CVOW focus primarily on informational meetings and information dissemination. While this is an important component of any FCP, we again reiterate the importance of having a two way communication flow to ensure that fishermen are authentically included. The first step must be the development of written commitments that the developer and their representatives respect the input, inclusion and limited available time to participate in meetings. Fishermen have already put time and resources into providing feedback (through meetings and written letters described above) and nowhere indicates if or how they plan to incorporate the feedback they have already solicited.</p>	<p>Thank you for the comment. BOEM will require fisheries mitigation in line with BOEM's draft fisheries mitigation guidance. Additional clarifications regarding compliance have been added to the terms and conditions of the COP approval.</p>
0017-0047	<p>The Councils are also concerned with the scour protection measures included within the DEIS (e.g., rock placement, mattress protection, sandbags, and stone bags). Per the Council's offshore wind energy policy, we recommend that if scour protection or 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. [Footnote 8: For examples, see: Glarou, M., M. Zrust and J. C. Svendsen (2020). "Using Artificial-Reef Knowledge to Enhance the Ecological Function of Offshore Wind Turbine Foundations: Implications for Fish Abundance and Diversity." Journal of Marine Science and Engineering 8(5). Hermans, A., O. G. Bos and I. Prusina (2020). Nature-Inclusive Design: a catalogue for offshore wind infrastructure. Den Haag, The Netherlands, Wageningen Marine Research: 121p. Lengkeek, W., K. Didden, M. Teunis, F. Driessen, J. W. P. Coolen, O. G. Bos, S. A. Vergouwen, T. C. Raaijmakers, M. B. de Vries and M. van Koningsveld (2017). "Eco-friendly design of scour protection: potential enhancement of ecological functioning in offshore wind farms. Towards an implementation guide and experimental set-up." (17-001): 87p]</p>	<p>BOEM is already evaluating the performance of different foundation and cable protection materials for commercial applicability (SDP PICOC Template (boem.gov)).</p>
0037-0018	<p>-Appendix H-37: [Bold: Why does this only address cultural resources in submerged disturbance situations? This whole effort should involve consultation on planning, and day-to-day consultation/coordination with VDMA-VaARNG Facilities Management, and the Environmental and Cultural Resources Programs as needed, and with leadership at SMR.]</p>	<p>BOEM has consulted with VDMA-VaARNG regarding options for minimizing and resolving adverse effects or impacts on cultural and natural resources at SMR. BOEM has requested that Dominion Energy develop Unanticipated Discovery Plans for marine and terrestrial archaeological</p>

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		resources, which include consultation with VDMA-VaARNG as appropriate.
0037-0022	-Appendix HI-10: Notification of designated contacts in the event of discovery of human remains and/or potentially human skeletal materials. [Bold: Add VDMA-VaARNG to the list of contacts for activities conducted at SMR.]	BOEM, in coordination with Dominion Energy, has revised the Unanticipated Discoveries Plan to include VDMA-VaARNG notification if the human remains or potential human skeletal materials are discovered.
0022-0001	The Nation also requests separate meeting opportunities with federally recognized tribes so that the Nation can provide meaningful input on project activities as well as on proposed avoidance, minimization, and mitigation measures.	BOEM held government-to-government meetings on September 27, 2021, and January 30, 2023, with federally recognized Tribes. After each government-to-government meeting, BOEM shared a meeting summary with Tribes. The Final EIS provides a summary of BOEM's consultations with Tribes in Appendix A, <i>Required Environmental Permits and Consultations</i> ; Section 3.12, <i>Environmental Justice</i> ; and Appendix O, <i>Finding of Adverse Effect for the Coastal Virginia Offshore Wind Construction and Operations Plan</i> .
0012-0009	Finally, Dr. Little recommended the formation of an external advisory committee to the Company on DEI matters. See Exhibit B, Little Testimony, at 25. By bringing outside expertise to bear on the Company's DEI progress, an official committee would help to "build the framework necessary to maintain focus and support Dominion staff who are responsible for meeting [Virginia statutory] goals," while also building another layer of accountability into the Company's Economic Development Plan. Id.	The Sierra Club and Dominion Energy agreed to DEI stipulations during the VA SCC proceedings, though the VA SCC did not adopt the stipulations. The VA SCC indicated that Dominion Energy is free to honor its DEI stipulations agreement with the Sierra Club.
0021-0110	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 project 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.	Comment noted.
0018-0028	West Neck Creek, North Landing River, and Pocatoy River have recently been designated Confirmed Anadromous Fish Use Areas and are in the project area. To best protect these resources from harm associated with instream work, we recommend that all instream work in these waters adhere to TOYR	Thank you for your comment. The project would not require instream activities within West Next Creek, North Landing River, or Pocatoy River. The only instream activities

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	<p>from February 15 through June 30 of any year. In addition, we recommend conducting any in-stream activities during low or no-flow conditions, using non erodible cofferdams or turbidity curtains to isolate the construction area, blocking no more than 50% of the streamflow at any given time (minimal overlap of construction footprint notwithstanding), stockpiling excavated material in a manner that prevents reentry into the stream, restoring original streambed and streambank contours, revegetating barren areas with native vegetation, and implementing strict erosion and sediment control measures.</p>	<p>required by the Project would be within one canal/ditch and consist of the placement of stormwater outfall infrastructure associated with the Harpers Switching Station. Impacts on this canal/ditch were included in the latest version of Dominion Energy’s JPA, which was submitted to USACE in June 2023. Dominion Energy has committed to purchasing 101 stream credits to mitigation for the minor stream impacts at the Harpers Switching Station.</p> <p>All major stream crossings identified in the COP and Final EIS are HDD or aerial/overhead crossings and would not require instream activities. Some minor streams and/or ditches may be crossed for construction access; however, these access crossings would utilize temporary stream crossings, which would have no permanent impact on the waterbody. The stream crossings under VRMC jurisdiction were included in Dominion Energy’s JPA. These crossings are covered by the recent VMRC permit issued for the Project.</p>
0018-0031	<p>We recommend that instream work be designed and performed in a manner that minimizes impacts upon natural streamflow and movement of resident aquatic species. If a dam and pump-around must be used, we recommend it be used for as limited a time as possible and that water returned to the stream be free of sediment and excess turbidity. To minimize potential wildlife entanglements resulting from use of synthetic/plastic erosion and sediment control matting, we recommend use of matting made from natural/organic materials such as coir fiber, jute, and/or burlap. To minimize harm to the aquatic environment and its residents resulting from use of the Tremie method to install concrete, installation of grout bags, and traditional pouring of concrete, we recommend that such activities occur only in the dry, allowing all concrete to harden and cure prior to contact with open water.</p>	<p>Thank you for your comment. See response to comment 0018-0028 regarding instream activities.</p> <p>Per COP, Section 4.2.2, Dominion Energy would implement the following measures to avoid, minimize, and or/mitigate impacts related to terrestrial biota from installation and placement of erosion-and sediment-control measures:</p> <ul style="list-style-type: none"> • Dominion Energy would initiate coordination with the VDWR and Virginia Natural Heritage Program to

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		<p>evaluate potential impacts to T&E reptile and amphibian species, including the canebrake rattlesnake;</p> <ul style="list-style-type: none"> • Dominion Energy would employ, when applicable, snake-friendly erosion-control blankets containing natural or biodegradable fibers or loose-weave netting in areas surrounding wetlands, waterbodies, and areas with the potential to contain habitat for reptiles and amphibians. • Dominion Energy would implement staggered silt fencing in areas surrounding wetlands, waterbodies, and areas with the potential to contain T&E species, rare natural communities, and habitat for reptiles and amphibians. Staggered gaps would ensure reptiles and amphibians could continue to move relatively unrestricted through the Onshore Project Area. This strategy would be employed on a site-specific basis following coordination with VDWR and the Natural Heritage Program
0018-0032	<p>Due to future maintenance costs associated with culverts, and the loss of riparian and aquatic habitat, we prefer stream crossings to be constructed via clear span bridges. However, if this is not possible, we recommend countersinking any culverts below the streambed at least 6 inches, or the use of bottomless culverts, to allow passage of aquatic organisms. We also recommend the installation of floodplain culverts to carry bankfull discharges.</p>	<p>Thank you for your comment. See response to comment 0018-0028 regarding instream activities. The Project would not require the installation of culverts. Some minor streams and/or ditches may be crossed for construction access; however, these access crossings would utilize temporary stream crossings.</p>

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0024-0031	given that CVOW is an early project relative to the coastwide buildout of offshore wind infrastructure, BOEM should commit to funding further in situ research on impacts to Atlantic sturgeon and other ESA-listed species.	Thank you for your comment. BOEM has updated the mitigation in consultation with the NMFS and in line with the Fisheries Survey Mitigation Strategy, which will be documented in the ROD and terms and conditions of COP approval.
0013-0013	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.	Appendix H of this Final EIS includes all mitigation measures proposed by Dominion Energy and that would be required by BOEM. This includes NARW-specific vessel strike reduction monitoring and mitigation measures, plus NARW-specific pile-driving monitoring and mitigation measures (Tables H-1 and H-2). These measures provide additional protections to the NARW to reduce risk to the species.
0013-0035	The Draft EIS states in at least five instances the following language concerning the impact of the Project on the NARW: "Due to its life history and current stock status, impacts on NARWs resulting from all IPFs (impact producing factor) and combined with ongoing and planned actions, including the Proposed Action or Alternative A-1, are expected to be [Bold for emphasis: major] (emphasis in original) because a measurable impact is anticipated that could have population-level effects and compromise the viability of the species. (Section 3.15.2. pp. 33-34)" Nearly identical statements indicating a "compromise of the species" is found at Sec. 3.15. 3.3, pp. 23,24; Sec. 3.15.6.1, pp.34,35; Table 3.15, and Sec. 2-40. A "major impact" is defined as "impacts on individual marine mammals or their habitat that would be detectable and measurable: they would be of severe intensity, can be long lasting and permanent, and would be extensive". Sec. 3.15.2.1 Despite these statements, however, the DEIS merely calls for "minimization" and "mitigation" of harm to NARW, not 100 percent avoidance of such harm. Given that the right whale's PBR is now down to 0.7, any harm to the whale that contributes to mortality will necessarily push the species towards extinction. For this reason, "minimization" and "mitigation" falls short of complete avoidance is simply not sufficient	Thank you for your comments regarding additional mitigation measures. BOEM currently works directly with NMFS ESA and MMPA to implement any and all mitigation measures to protect all ESA-listed and non-listed MMPA species. BOEM will continue to work closely with NMFS to ensure all mitigation measures are implemented as directed.
0013-0053	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	Mitigation and monitoring measures proposed by Dominion Energy and required by BOEM and NMFS, including those from

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	<p>acoustic monitory (PAM) equipment, will enable the applicant to detect each and every NARW that may enter the pile driving Level A harassment zone. [Footnote 3: Level A harassment noise is noise that has the potential to cause physical damage to the hearing organs of the animal in question and/or result in permanent threshold shift (PTS), which is a long-term reduction in hearing capability. Level B harassment noise is noise with the potential to disrupt normal species behavior, stimulate avoidance behaviors, and/or result in temporary threshold shift (TTS). However, Level B noise, as defined, is not intense enough to cause physical damage to hearing organs or cause PTS.] 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 1,500 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. [Footnote 4: “PAMGuard Quality Assurance Module for Marine Mammal Detection Using Passive Acoustic Monitoring,” by CSA Ocean Sciences, Inc. (August 2020).] 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>ESA Section 7 consultation, are listed in Appendix H, <i>Mitigation and Monitoring</i>. While the points that are raised in this comment are valid regarding PSO visual and PAM monitoring limitations, these limitations are largely accounted for in the assessment of their effectiveness at reducing risk to marine mammal species, including the NARW. As a result, they are accounted for in the effect determinations as presented. The 1,500 meter reference is highly variable by PSO location, sea conditions, and species. PSOs on stationary, elevated platforms can detect large whales at several kilometers with high detection rates.</p>
0021-0053	<p>As detailed in our scoping comments, vessel strikes are a leading cause of large whale injury and mortality and have been implicated as one of the major causes of death underlying the ongoing UME for North Atlantic right whales. The dire conservation status of the right whale means that even a single vessel strike poses an unacceptable risk as it will have population-level consequences. [Footnote 123: Id. at 3.15-1.] Females and calves are at elevated risk, exacerbating the impact of vessel strikes on the species’ recovery potential. [Footnote 124: 124 Dana A. Cusano et al., Implementing conservation measures for the North Atlantic right whale: Considering the behavioral ontogeny of mother?calf pairs, ANIMAL CONSERVATION (Oct. 19, 2018).] Vessel strikes also pose a significant risk to other large whale species currently experiencing UMEs, such as humpback whales and minke whales, as well as endangered fin whales and sei whales, and sea turtles. [Footnote 125: NMFS, 2016–2023 Humpback Whale Unusual Mortality Event</p>	<p>Thank you for your comments regarding additional mitigation measures. BOEM currently works directly with NMFS ESA and MMPA to implement any and all mitigation measures to protect all ESA-listed and non-listed MMPA species. BOEM will continue to work closely with NMFS to ensure all mitigation measures are implemented as directed.</p>

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	<p>Along the Atlantic Coast, supra note 64; NMFS, 2017–2023 Minke Whale Unusual Mortality Event along the Atlantic Coast (last visited Jan. 27, 2023), https://www.fisheries.noaa.gov/national/marine-life-distress/2017-2023-minke-whale-unusual-mortality-event-along-atlantic-coast. See also Renée P. Schoeman et al., A global review of vessel collisions with marine animals, <i>FRONTIERS MARINE SCI.</i> (May 19, 2020).]</p> <p>Short of entirely eliminating vessels from an area, reducing speeds to slower than 10 knots for all vessels is currently the only known way to reduce the risk of injury and mortality to marine mammals and sea turtles from vessel strikes. [Footnote 126: Schoeman et al., id.]</p>	
0021-0055	<p>Under the vessel strike avoidance measures provided in the DEIS, only Project-related vessels larger than 65 feet would be required to transit at less than 10 knots, and only within the Seasonal Management Area (“SMA”) defined by the 2008 North Atlantic Right Whale Vessel Strike Reduction Rule (“Vessel Speed Rule”), and only from November 1 to April 30. [Footnote 127: CVOW-C DEIS at Appendix H, Table H-1, H-31-32. We note confusing and potentially conflicting language about Dominion’s vessel speed restrictions in the DEIS. While in one location BOEM states only vessels 65 feet and longer shall abide by certain 10-knot speed limits, later in the document BOEM states that “[a]ll Project-related vessels will be required to comply with the Ship Strike Reduction Rule speed restrictions within the Mid-Atlantic U.S. SMA and any DMA that intersects the Study Area...” CVOW-C DEIS at Appendix H, Table H-1, H-32 (emphasis added). BOEM must clarify its language around vessel speed restrictions in the Final EIS.] Under the 2008 Vessel Speed Rule, however, a majority of the Project Area, including the entire Lease Area, is not covered by the Chesapeake SMA, leaving right whales under-protected from lethal vessel strikes during a significant portion of the activity proposed by Dominion.</p>	<p>There are combined measures, applicant-proposed measures, and BOEM-proposed measures. When conflicting language arises, the most conservative of the measures is applied. While the applicant-proposed measures in Table H-1 specify vessels >65 feet would adhere to this rule, the BOEM-proposed measures in Table H-2 have been updated through continued consultation to state:</p> <ul style="list-style-type: none"> • All vessels will comply with NMFS regulations and speed restrictions and state regulations as applicable for NARW. • All vessels regardless of size operating from November 1 through April 30 will operate at speeds of 10 knots or less when transiting from port to port within the Lease Area and export cable route, or within the boundaries of any DMA, slow zone, or SMA. <p>This will sufficiently ensure that the Project follows any updated rules for the NARW that come out after the Final EIS is published and that vessels of all sizes are following speed restrictions during the period when NARW have higher densities in the Project area.</p>

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0021-0056	We note that NMFS has proposed a new, larger “Atlantic Seasonal Speed Zone (SSZ)” to replace the Chesapeake SMA, which would completely cover Dominion’s Project Area from November 1-May 30, as part of a Proposed Rule to amend the Vessel Speed Rule. Several of our groups spoke in strong support of the proposed amendments to the Vessel Speed Rule – with certain improvements, as detailed in or letters – because they would significantly reduce the risk of mortality and injury	The BOEM-proposed measures in Table H-2 have been updated through continued consultation to state: <ul style="list-style-type: none"> All vessels will comply with NMFS regulations and speed restrictions and state regulations as applicable for NARW. This would sufficiently ensure that any changes to the proposed rule between the publication of the Final EIS and finalization of this rule will be followed by the Project as applicable.
0021-0057	[Bold: We therefore urge BOEM to implement a mandatory, year-round 10-knot speed restriction on all Project vessels at all times.] [Footnote 130: If it is proven through peer-reviewed scientific study that an “Adaptive Plan” which modifies these vessel speed restrictions is equally or more effective than a 10-knot speed restriction, BOEM and NMFS may allow Dominion to use such a plan as an alternative to a 10-knot speed limit. The Adaptive Plan must be developed in consultation with BOEM and NMFS and must follow a scientific study design using vessels traveling 10 knots or less.] Given that any interaction between a vessel and a right whale poses an unacceptable risk of serious injury or mortality that will have population-level consequences, these protections are vital.	Thank you for your comments regarding additional mitigation measures. BOEM currently works directly with NMFS ESA and MMPA to implement any and all mitigation measures to protect all ESA-listed and non-listed MMPA species. BOEM will continue to work closely with NMFS to ensure all mitigation measures are implemented as directed.
0021-0068	[Bold: Given these developments, BOEM should require Dominion to implement the best commercially available [bold and italics: 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 Bellman et al. (2020, 2022), which indicate a reduction of 20 dB SEL is feasible, we recommend that the minimum requirement of a 10 dB 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 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	As a part of the BOEM COP PDCs and BMPs (listed in row 8e of Table H-2) “Lessees and grantees should take efforts to minimize disruption and disturbance to marine life from sound emissions, such as pile driving, during construction activities,” which would require the applicant to explore all applicable NAS technology and select those systems that meet both the operational needs of the project and provide the greatest level of risk minimization for marine life practicable. The MMPA authorization dictates the noise reduction requirements, performance standards for an NAS, and field measurement requirements.

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	<p>measurements must be evaluated by both BOEM and NMFS prior to additional piles being installed and be made publicly available.</p>	
0021-0060	<p>Concerningly, no information about the specific size of Dominion’s clearance and exclusion zones is provided in the DEIS, beyond the following statement: BOEM and USACE may consider reductions in the shutdown zones for sei, fin, or sperm whales based upon sound field verification of a minimum of three piles; however, BOEM/USACE would ensure that the shutdown zone for sei whales, fin whales, blue whales, and sperm whales is not reduced to less than 3,280 feet (1,000 meters), or 1,640 feet (500 meters) for sea turtles. No reductions in the clearance or shutdown zones for North Atlantic right whales would be considered regardless of the results of sound field verification of a minimum of three piles. [Bold: Id. at Appendix H, Table H-2, H-60.]</p> <p>As discussed above, it is inappropriate for BOEM to withhold specifics about clearance and exclusion zone sizes and this information must be provided in the Final EIS.</p>	<p>The clearance and shutdown zones for the Project are provided in Table 3.15-7 of Section 3.15, <i>Marine Mammals</i>, of the Final EIS. This information is not listed in Table H-1 because it cannot be easily summarized within the table and needs the full context of the document. A cross-reference to Table 3.15-7 has been added to Table H-1 allowing readers to find this information more easily.</p>
0018-0036	<p>We recommend that Dominion consider implementation of wildlife impact mitigatory measures implemented at other wind energy facilities, including but not limited to noise reduction, operation time of day or time of year restrictions, use of non attractant lighting, curtailment and cut-in speed modifications, etc.</p>	<p>All of these measures, as appropriate for marine mammals and the Proposed Action, have been considered. The applicant will implement noise attenuation systems to achieve at least 10 dB noise reduction during pile driving; no nighttime piling will occur unless the safety of the crew or integrity of the pile is at risk; no pile-driving activities will occur between November and April to help protect NARW; and vessel strike avoidance procedures, for example, will be implemented under the Proposed Action.</p>
0021-0111	<p>The RWSC, an effort in which BOEM is engaged, is a multi-sector collective created and defined by federal agencies, states, conservation organizations, and offshore wind developers to “collaboratively and effectively conduct and coordinate relevant, credible, and efficient regional monitoring and research of wildlife and marine ecosystems that supports the advancement of environmentally responsible and cost-efficient offshore wind power development activities in U.S. Atlantic waters.” [Footnote 316: REG’L WILDLIFE SCI. COLLABORATIVE, About (last visited Feb. 7, 2023), https://rwsc.org/about/.] We urge that BOEM continue to participate in and</p>	<p>Thank you for your comment.</p>

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	<p>fund RWSC to support science plan development and to implement the monitoring and research activities identified in the science plan. BOEM, through RWSC and individually, must also continue to collaborate with state efforts, scientists, NGOs, the wind industry, and other stakeholders to use information from monitoring and other research, and evolving practices and technology, to inform cumulative impact analyses moving forward.</p>	
0021-0112	<p>We note that many of the proposed monitoring and mitigation plans are general at this point, relying on yet-to-be-developed plans. 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 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 plans noted in this comment have not yet been developed because they depend on project and engineering design specifics from Dominion Energy that are not known at this time. However, these plans will be developed in consultation with BOEM, NMFS, BSEE, and any other applicable regulatory agencies to ensure that they provide the best practicable risk minimization for marine mammals and are appropriate for the Proposed Action.</p>
0021-0118	<p>Even with seasonal and temporal restrictions in place, BOEM should expect North Atlantic right whales to be found throughout the year in and around the Project Area. The population size is now so small that even individual-level impact is cause for concern. Moreover, changes in oceanographic conditions driven by climate change are rapidly impacting the habitat use and seasonal distribution of the species. Therefore, we recommend that the most stringent impact avoidance, minimization, and mitigation measures are required to protect this species at all times during potentially harmful construction activities.</p>	<p>The potential year-round presence of this species in the Project area is acknowledged in Section 3.15, <i>Marine Mammals</i>, of the Final EIS, and all applicable mitigation that would specifically apply to this species (e.g., extended mitigation zones for pile driving, vessel strike avoidance protocols specific to this species) have been considered in this Final EIS.</p>
0021-0120	<p>To reduce impacts from noise produced by impact pile driving, Dominion proposes to use a double big bubble curtain for far field noise mitigation, which has the potential for noise attenuation of 10 dB (re: 1 μPa²s) sound exposure level ("SEL"). [Footnote 136: CVOW-C DEIS at 3.6-22.] However, the DEIS states that "a noise mitigation design has not been finalized at this time," [Footnote 137: Id.] and therefore "two levels (6 [dB] and 10 dB) of reduction were applied to potentially mimic the use of noise mitigation options such as bubble curtains." [Footnote 138: Id. at Appendix H, H-6, Table H-1.] Furthermore, BOEM does not require a minimum attenuation level. [Footnote 139: Id. at Appendix H, H-58, Table H-2.] Our groups are highly concerned with the lack of information about Dominion's noise reduction methods and the complete lack of requirement from BOEM in the DEIS.</p>	<p>The most current available information from Dominion Energy indicates: "Dominion Energy proposes using near-to-pile noise mitigation systems such as the Hydro Sound Damper, the Noise Mitigation Sleeve, or the AdBm Noise Mitigation System; far-from-pile noise mitigation systems, or both such as a double big bubble curtain (DBBC), to achieve, at minimum, acoustic isopleth ranges that meet the modeled scenario using 10 dB noise mitigation (Bellmann et al. 2020). A bubble curtain system is a</p>

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		<p>compressed air system (air bubble barrier) for sound absorption in water. Sound stimulation of air bubbles at or close to their resonance frequency effectively reduces the loudness of the radiated sound wave (i.e., the noise produced during pile driving) by means of scattering and absorption effects. The DBBC hoses will be deployed before the foundation installation vessel is in position. Two air hoses would be placed in a circular or elliptical shape at radii of approximately 591 feet (180 meters) and 755 feet (230 meters) from the monopile installation location. DBBCs will be pre-deployed at two to three foundation installation locations and would be recovered as soon as the piling is completed and re-deployed at another foundation installation location. Approximately 125.9 to 148.1 acres (50.9 to 59.9 hectares) of seafloor will be temporarily disturbed by the platform supply vessel during DBBC installation.”</p> <p>With the implementation of these systems, the applicant aims, and the assessment in the Draft EIS assumes, that a minimum of 10 dB noise reduction will be achieved for all pile-driving activities. This information has been incorporated into the Final EIS resource chapters, and Table H-1 has been edited to clarify the proposed noise mitigation level for this Project.</p>
0021-0121	<p>In addition to sound from pile driving, both impulsive and non-impulsive sound sources are used during HRG survey activities to conduct pre-, during-, and post-construction site characterization surveys. [Footnote 145: CVOW-C DEIS at 3.15-30.] Potential impacts from these activities to the marine mammals, particularly the critically endangered North Atlantic right whale, must be mitigated by BOEM. Appendix H of the DEIS states that BOEM will ensure</p>	<p>Thank you for your comments regarding additional mitigation measures. BOEM currently works directly with NMFS ESA and MMPA to implement any and all mitigation measures to protect all ESA-listed and non-listed MMPA species. BOEM will continue to</p>

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	<p>that best management practices found in the Programmatic Informal Consultation will be incorporated into the Final EIS during these activities as applicable. [Footnote 146: Id. at Appendix H, H-69, Table H-2.] As discussed above, we have profound concerns regarding the Programmatic Informal Consultation and urge BOEM to immediately reinstate consultation under the ESA to ensure the mitigation measures on which BOEM is relying for these activities are adequately protective of right whales. [Footnote 147: See generally North Atlantic Right Whale Reinitiation Letter.] 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, we urge the agency to incorporate the mitigation measures for HRG surveys found in Attachment 2 into the Final EIS.</p>	<p>work closely with NMFS to ensure all mitigation measures are implemented as directed.</p>
0021-0123	<p>Noise monitoring and abatement during impulsive pile driving for monopile installation was an established practice during the CVOW Pilot Project. [Footnote 164: Amaral et al., supra note 144.] Distances to injury-causing sound levels in that Pilot Project varied from 0.7 to 3.1 km for marine mammals during the installation activities. [Footnote 165: Id.] Thus, [Bold: adequate spatial buffers and/or observation distances may be necessary to factor into study designs that are used to monitor avian reactions to subsurface acoustic disturbance.]</p>	<p>Noise monitoring and noise abatement systems to achieve at least 10 dB noise attenuation during impact pile driving will be applied for the CVOW-C Project similar to how they were applied to the Pilot Project, with adjusted mitigation so it is appropriate for the Proposed Action.</p>
0021-0014	<p>BOEM is obligated by NEPA to consider the full range of potential impacts on all marine mammal and sea turtle species. In addition, to comply with the 2005 amendments to the Outer Continental Shelf Lands Act, BOEM must ensure that all activities related to renewable energy development on the OCS are “carried out in a manner that provides for...protection of the environment.” [Footnote 37; 43 U.S.C. § 1337 (p)(4)(B).] BOEM’s regulations under those amendments require Dominion to plan and conduct the projects in a manner that does not cause “undue harm or damage” to natural resources or wildlife. [Footnote 38: See, e.g., 30 C.F.R. §§ 585.606(a)(4), 585.621(d) (application of “undue harm” requirement to Site Assessment Plans and COPs).] The Project must also comply with the federal Endangered Species Act (“ESA”) and the Marine Mammal Protection Act (“MMPA”), including the MMPA’s least practicable adverse impact standard for [Italics: all] marine mammal species, before any activities are undertaken. [Footnote 39: Id. § 585.801(a), (b).] We therefore recommend BOEM review the mitigation measures we provide in Attachment 2 and incorporate them into the requirements for Dominion’s development.</p>	<p>Thank you for your comments regarding additional mitigation measures. BOEM currently works directly with NMFS ESA and MMPA to implement any and all mitigation measures to protect all ESA-listed and non-listed MMPA species. BOEM will continue to work closely with NMFS to ensure all mitigation measures are implemented as directed.</p>

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0021-0038	<p>The overall impact for marine mammals of increased noise and vessel traffic is lowered based on timing restrictions and other mitigation measures specifically intended to avoid adverse effects on right whales. However, as discussed in Section III.A.iii below, our groups find the proposed mitigation measures inadequate. For example, while the DEIS asserts that pile-driving activities could result in permanent or temporary hearing loss for marine mammals in almost functional hearing groups, BOEM assumes that all marine mammals will be absent from the ensonified areas due to the implementation of pre-clearance and shutdown protocols and will therefore be less exposed to underwater noise. [Footnote 101: Id. At 3.15-29.] However, as noted below, the DEIS is lacking specifics about such shutdown protocols, including the size of clearance and exclusion zones for each marine mammal group. The DEIS does state that “[p]iling would cease when practicable as determined by the lead engineer on duty until the animal had been observed moving away.” [Footnote 102: Id. (citations omitted).] Yet if shutdown is at the discretion of the engineer on duty, this is not a true mitigation measure. BOEM should endeavor to minimize and mitigate impacts to all marine mammal hearing groups and explicitly describe such measures before assuming away impact.</p>	<p>The size of the clearance and shutdown zones is included in Final EIS Section 3.15, Table 3.15-7, which specifies zones for each marine mammals group, including separate mitigation for NARW. The Project would only be unable to fully shutdown pile driving in a situation where there is a risk of injury or loss of life, and in those situations a reduction of the hammer energy will be implemented to help protect any individuals present in the area during pile driving. Table H-1 has been updated to clarify this point.</p>
0021-0047	<p>- [Bold: Entanglement impacts]: Sea turtles and marine mammals are at relatively high risk of entanglement with displaced and abandoned fishing gear and other marine debris. The DEIS describes such entanglement as having the potential for population-level impacts to critically endangered North Atlantic right whales. [Footnote 112: CVOW-C DEIS at 3.15-32.] It then goes on to say that required annual cleanup efforts will reduce the impact to minor effects. [Footnote 113: Id.] The sea turtle analysis describes interactions with displaced fishing gear as a “long-term,” potentially “high-intensity” risk with the potential for injury and death, but goes on to dismiss these impacts as minor with no supporting information. [Footnote 114: Id. at 3.19-20.] The details of the annual cleanup efforts must be provided in the Final EIS to support the assertion that the cleanup efforts will mitigate risk to vulnerable marine mammals and sea turtles.</p>	<p>For marine mammals, the EIS states that “Requirements for annual cleanup efforts around WTG foundations would remove any identified fishing gear and reduce the potential for impacts on mysticetes, odontocetes, and pinnipeds to negligible to minor levels for all species except NARW,” so NARW impacts are still determined to be major for this effect, and all other species are minor.</p> <p>Section 3.19.5 in the Final EIS for sea turtles has been updated to provide more supportive information for the minor impact determination.</p> <p>Additional information on the mitigation proposed specific to sampling/fishing gear has been added to Table H-2 in rows 19–25.</p>

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0021-0051	<p>As an initial matter, our groups are concerned with the lack of detail about the mitigation measures mentioned in the DEIS. Appendix H of the DEIS provides all mitigation measures proposed by Dominion in its COP, as well as additional mitigation measures required by BOEM. However, many of these measures are lacking specificity or are yet to be finalized. For example, during pile driving, Dominion would “apply monitoring and exclusion zones as appropriate to underwater noise assessments and impact thresholds.” [Footnote 121: CVOW-C DEIS at Appendix H, Table H-1, H-31.] Such measures are too vague for BOEM or the public to determine whether they are adequately protective of Virginia’s vulnerable marine mammals. In addition, rather than require any additional specific mitigation measures beyond what Dominion proposes in its COP, BOEM simply says it will incorporate requirements of NMFS’s yet-to-be issued Letter of Authorization (“LOA”) under the MMPA, and that it will require Dominion to prepare mitigation “plans” for PAM, pile driving monitoring, and vessel strike mitigation, which need not be submitted until 120 days before construction begins and will not be published for public comment. [Footnote 122: Id. at Appendix H, Table H-2, H-59.] BOEM cannot expect the public to refer to Dominion’s LOA application to find specifics about [Italics: potential] mitigation measures or wait until mitigation “plans” are finalized to understand the impact of the proposed activities on marine mammals and sea turtles.</p>	<p>Additional detail regarding the applicable mitigation measures has been added to Appendix H and, where appropriate, the Section 3.15, <i>Marine Mammals</i>, in the Final EIS. As for plans that are not yet finalized, these are dependent on Project engineering specifics that are not yet known by the applicant, but are being prepared in coordination with BOEM, NMFS, BSEE, and any other applicable regulatory agencies to ensure they are appropriate for the Project and sufficiently protective of marine mammals.</p>
0021-0058	<p>We are pleased that Dominion proposes a six-month seasonal restriction on pile driving from November 1 through April 30 to minimize impacts to North Atlantic right whales. [Footnote 131: CVOW-C DEIS at 2-6.] We are also strongly supportive of Dominion’s proposal to not conduct pile driving during nighttime hours. [Footnote 132: Id. at 3.15-29.] Time and area restrictions designed to protect certain species groups and habitats are one of the most effective available means to reduce the potential impacts of noise and disturbance on marine mammals. However, we urge BOEM to implement these two important protections as required mitigation measures in the Final EIS for added regulatory certainty.</p>	<p>Additional details regarding these mitigation measures have been added to Appendix H.</p>
0021-0059	<p>We also note that the dates of the seasonal restriction may not reflect the best available scientific information about right whale presence in the Mid-Atlantic. As discussed above, the Atlantic SSZ proposed by NMFS in its Vessel Strike Reduction Proposed Rule extends from November 1 through May 30, in partial recognition of elevated right whale presence and vessel strike risk in the Mid-Atlantic during this time period. Given the extended duration and cumulative acoustic impact of the pile-driving activities, we urge BOEM to</p>	<p>Thank you for your comments regarding additional mitigation measures. BOEM currently works directly with NMFS ESA and MMPA to implement any and all mitigation measures to protect all ESA-listed and non-listed MMPA species. BOEM will continue to work closely with NMFS to ensure all</p>

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	<p>work with NMFS to reassess the science used in the Proposed Rule around seasonal right whale presence and risk in the Mid-Atlantic (including the updated Roberts et al. models) to consider prohibiting pile driving activities from November 1 through May 30.</p>	<p>mitigation measures are implemented as directed.</p>
0021-0062	<p>In particular, as we have urged in the past, NMFS' reliance on a 160 decibel (dB) (re 1 μPa_{2s}) threshold for behavioral harassment in establishing its zones is not supported by the best available scientific information and such reliance grossly underestimates Level B take. Behavioral disturbance of right whales must be minimized to the greatest extent possible if the species is to be adequately protected. [Bold: For impact pile driving with a minimum noise reduction/attenuation level of 10-12 dB (re 1 μPa_{2s}), BOEM should require the following minimum clearance and exclusion zone distances for pile-driven foundations during the CVOW-C Project:]</p> <ul style="list-style-type: none"> - A visual Clearance Zone and Exclusion Zone must extend at minimum 5,000 m in all directions from the location of the driven pile. - An acoustic Clearance Zone must extend at minimum 5,000 m in all directions from the location of the driven pile. - An acoustic Exclusion Zone must extend at minimum 2,000 m in all directions from the location of the driven pile. <p>In addition, clearance and exclusion zone distances for other large whale species must be designed in a manner that eliminates Level A take and minimizes behavioral harassment to the fullest extent possible.</p>	<p>The Proposed Action includes a clearance zone at any distance for NARW and up to 6,500 meters for all other mysticetes and sperm whales; and a shutdown zone at any distance for NARW and 1,750 meters for all other mysticetes and sperm whales (Table 3.15-7, Section 3.15). These ranges are based on the project-specific modeling for the PTS thresholds, which is the greater concern for marine mammals compared to the relatively short-term behavioral impacts likely to occur during impact pile driving.</p> <p>BOEM currently works directly with NMFS ESA and MMPA to implement any and all mitigation measures to protect all ESA-listed and non-listed MMPA species. BOEM will continue to work closely with NMFS to ensure all mitigation measures are implemented as directed.</p>
0021-0065	<p>If pile driving cannot be avoided for CVOW-C and other future projects, we encourage BOEM to work closely with NMFS to pursue measures that could lead to greater levels of noise reduction during pile driving. Noise minimizing approaches during discrete phases of development have been identified by experts as one of the most promising solutions to overcoming noise challenges associated with offshore wind development. [Footnote 134: Juliette Lee & Brandon Southall, Practical Approaches for Reducing Ocean Noise Associated with Offshore Renewable Energy Development, Workshop Report: Global Alliance for Managing Ocean Noise (2022).] Such activities may include the development of a noise reduction standard that is tailored to protect species of concern in U.S. waters (akin to the German standard for harbor porpoise) 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. [Footnote 135: Id. Note that building robust regulatory</p>	<p>Thank you for your comments regarding additional mitigation measures. BOEM currently works directly with NMFS ESA and MMPA to implement any and all mitigation measures to protect all ESA-listed and non-listed MMPA species. BOEM will continue to work closely with NMFS to ensure all mitigation measures are implemented as directed.</p>

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	standards for noise reduction and attenuation which can be used internationally was identified by ocean noise experts as an important next step. Our groups support this recommendation and encourage BOEM's rapid development of this standard.]	
0021-0066	Given that underwater noise pollution negatively affects species across frequency hearing groups, in the pursuance of this standard we encourage BOEM and NMFS 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.	Thank you for your comments regarding additional mitigation measures. BOEM currently works directly with NMFS ESA and MMPA to implement any and all mitigation measures to protect all ESA-listed and non-listed MMPA species. BOEM will continue to work closely with NMFS to ensure all mitigation measures are implemented as directed.
0021-0067	Even a 10-dB level of noise reduction and attenuation falls below what can now be achieved with best available noise control technology, and we recommend BOEM include a requirement in the Final EIS to maximize the level of noise reduction during construction. As described in Bellman et al. (2020) and Bellman et al. (2022), [Footnote 140: Michael A. Bellmann et al., Underwater noise during the impulse pile-driving procedure: Influencing factors on pile-driving noise and technical possibilities to comply with noise mitigation values, FED. MAR. & HYDROGRAPHIC AGENCY (BSH) (Aug. 2020); Michael A. Bellmann et al., Underwater noise during percussive pile driving: Influencing factors on pile-driving noise and technical possibilities to comply with noise mitigation values (Presentation at The Effects of Noise on Aquatic Life Conference, 2022).] noise reduction levels achieved in Europe through the combined use of two noise abatement systems ("NAS," i.e., one positioned in the near-field and one in the far-field) have reached a 20-dB SEL reduction or greater. [Footnote 141: Sound Exposure Level (SEL) is defined following Bellmann et al. (2020), id. at 31-32. Findings are based on post-processed underwater noise measurement data and many relevant meta data of more than 2,000 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 has proven among the most effective to date, with a minimum, average, and maximum SEL reduction of 17, 19, and 23 dB, respectively. [Footnote 142: Bellman et al. (2020), id., at Table 4.] The deployment of a combination NAS is considered to be "state of the art" in terms of SEL reduction and is also important for attenuating sound across a	Thank you for your comments regarding additional mitigation measures. BOEM currently works directly with NMFS ESA and MMPA to implement any and all mitigation measures to protect all ESA-listed and non-listed MMPA species. BOEM will continue to work closely with NMFS to ensure all mitigation measures are implemented as directed.

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	<p>range of frequencies and maximizing transmission loss. [Footnote 143: Id. at 8. See also Yaxi Peng et al., Study of sound escape with the use of an air bubble curtain in offshore pile driving, J. MARINE SCI. & ENG'G (Feb. 22, 2021).] We recognize that there are differences between the European offshore wind context and that of the United States, making the direct transference of findings difficult. The monopiles included in the data set examined by Bellman et al. (2020, 2022) were approximately 8 m or less in diameter, compared with the approximately 10 m diameter monopiles planned for the United States, which generate greater noise levels at the source. The noise reduction standard in Europe was also specifically designed to protect harbor porpoises in German waters (i.e., SEL less than or equal to 160 dB at 750 m from the monopile installation site), and not tailored to the low-frequency cetaceans that are a priority in the United States. However, the water depths are, in some cases, comparable across both regions (up to 40 m), and the European findings can be directly applied to the installation of smaller diameter piles in the U.S. In particular, the limitations of using a single NAS have been demonstrated at the CVOW Pilot Project, where measurements of sound pressure recorded during the installation of an unmitigated and mitigated monopile indicate that a double bubble curtain (i.e., a single NAS) did not attenuate sound as effectively at lower frequencies. [Footnote 144: Jennifer L. Amaral et al., Bubble curtain effectiveness during impact pile driving for monopile installation at the Coastal Virginia Offshore Wind project, J. ACOUSTICAL SOC'Y AM. (Dec. 2, 2020).] This indicates that the deployment of a second NAS designed to attenuate noise at lower frequencies would have further reduced noise impacts.</p>	
0021-0007	<p>[Italics: For marine mammals and sea turtles.] BOEM should use best available science to improve the mitigation measures according to Attachment 2, which include: (1) a mandatory, year-round 10-knot speed restriction on all Project vessels; (2) a seasonal prohibition on pile driving based on the best available science defining periods of highest risk to North Atlantic right whales; (3) adequately protective clearance and exclusion zones; and (4) a combined noise attenuation system on monopiles.</p>	<p>Thank you for your comments regarding additional mitigation measures. BOEM currently works directly with NMFS ESA and MMPA to implement any and all mitigation measures to protect all ESA-listed and non-listed MMPA species. BOEM will continue to work closely with NMFS to ensure all mitigation measures are implemented as directed.</p>
0024-0027	<p>Clarify required mitigation and monitoring in the Final EIS] For all resources, clearly identify the minimum mitigation requirements and monitoring measures that will become required permitting conditions as part of the final Record of Decision regardless of the alternative selected. Include as much detail in the</p>	<p>Appendix H has been updated to clarify what is being proposed by the applicant (Table H-1), additional BOEM-proposed measures</p>

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	Final EIS as possible about what measures will be used, the performance standards they must meet, and how the developer will be evaluated on meeting those standards.	(Table H-2), and other measures determined through consultations (Table H-3).
0024-0030	The final EIS should describe mitigation requirements within the preferred alternative. Ultimately, the final permit or Record of Decision should require the best technology available be used to mitigate pile driving noise (bubble curtains or other), beyond the proposed daytime limit on pile driving. We also urge BOEM to require testing of the efficacy of noise mitigation approaches used, mandatory public sharing of testing results, and making continual adjustments and improvements within and among projects using an adaptive management approach.	Thank you for your comments regarding additional mitigation measures. BOEM currently works directly with NMFS ESA and MMPA to implement any and all mitigation measures to protect all ESA-listed and non-listed MMPA species. BOEM will continue to work closely with NMFS to ensure all mitigation measures are implemented as directed.
0017-0049	Deliberate mitigation measures that support vessel radar upgrades could help to reduce 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 fund for CVOW in order to support vessel radar upgrades and training to help minimize impacts to fisheries and others navigating through and around the project area.	Dominion Energy has provided BOEM with a fisheries mitigation plan consistent with BOEM's draft guidance for mitigating impacts on fisheries. Additionally, BOEM is requiring compensatory mitigation consistent with the guidance. The BOEM draft guidance is available at https://www.boem.gov/renewable-energy/reducing-or-avoiding-impacts-offshore-wind-energy-fisheries .
0018-0016	In the DEIS, it is stated that the wind turbines proposed for installation will have a maximum blade tip of 869 feet (265 meters) above mean sea level (AMSL). We note, then, that aerial survey track lines for cetacean and sea turtle abundance surveys could not be performed effectively within the project area because the planned maximum height of the blade tip at 869 feet AMSL would exceed the typical survey altitude. The increased altitude necessary for safe survey operations could result in lower chances of detecting marine mammals and sea turtles, especially smaller species. Therefore, we recommend close coordination with the organizations conducting these surveys and consideration that there may be additional expenditures incurred from updated survey methodologies necessarily employed during the construction and operation of the proposed project due to the proposed maximum blade height.	Thank you for your comment. Section 3.17.5.6 of the Final EIS discusses these impacts. BOEM has committed to working with NOAA to implement the Federal Survey Mitigation Strategy program (https://repository.library.noaa.gov/view/noaa/47925).
0019-0011	In adhering to federal survey mitigation guidance, cooperation and collaboration with our regional colleges and universities on data collection and assessment would provide additional valuable data and resources.	Thank you for your comment. BOEM has committed to working with NOAA to implement the Federal Survey Mitigation

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	Additionally, providing opportunities for our fishermen and their vessels to take part as data collectors for research and environmental assessments, or at the very least encouraging a robust engagement between the two industries, could result in more comprehensive and instructive data gathering.	Strategy program (https://repository.library.noaa.gov/view/noaa/47925).
0037-0019	-Appendix H-40: "Short-term disruption to adjacent land uses at the Cable Landing Location and along the Onshore Export Cable Route and Interconnection Cable Route Corridors, [<i>including recreational uses associated with the SSMM property. . .</i> "] [Meant to refer to SMR? Disruption to military training and other military support activities at SMR?]	The typo in this applicant-proposed mitigation measure has been corrected in the Final EIS.
0037-0020	-Appendix H-40: "Dominion Energy would coordinate shoreline construction activities with localities and stakeholders to avoid and minimize conflicts with users [<i>to the extent practicable.</i>] In addition, Dominion Energy intends on [<i>coordinating construction activities with the Virginia SMR to avoid and minimize conflicts with recreational uses to the extent practicable.</i> "] [SMR is an active training facility. Coordination is needed with VDMA-VaARNG, and with POCs at SMR, proactively and on an ongoing basis for access to SMR and to minimize/avoid disruption to military training and other military support activities at SMR. This item has been included in discussions between the project proponent and VDMA-VaARNG.]	The text in question is in Table H-1, which includes Dominion Energy's proposed measures. Thank you for confirming that Dominion Energy has been coordinating with VDMA VaARNG.
0037-0021	-Appendix H-52: "Dominion Energy intends to [<i>coordinate with the SMR</i>] to identify what, if any, land use may continue within land acquired or leased for the Cable Landing Location, as well as any additional mitigation measures that may be appropriate related to impacts on DoD activities and resources during O&M." [Coordination with VDMA-VaARNG, the agency that manages SMR, is needed.]	
0037-0025	-Pg. 0-55: Additional mitigation options could be identified through consultation with BOEM, the Virginia SCC, VDHR, the SMR, and other consulting parties. [Consult with VDMA-VaARNG on all mitigation options pertaining to SMR – VDMA-VaARNG is the agency that manages SMR, including environmental compliance.]	
0018-0015	To address our concerns about impacts upon sea turtles and sea mammals, we recommend that Dominion adhere to the construction and post-construction monitoring protocols and recommendations being developed by our conservation partners, the Regional Wildlife Science Collaborative (RSWC), and the Environmental Technical Working Group (E-TWG).	Thank you for your comments regarding additional mitigation measures. BOEM currently works directly with NMFS ESA and MMPA to implement any and all mitigation measures to protect all ESA-listed and non-listed MMPA species. BOEM will continue to work closely with NMFS to ensure all

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		mitigation measures are implemented as directed.
0018-0022	<p>The beach where the submarine cables are proposed to come ashore is known to periodically support federal-listed sea turtle nesting. It should be noted that six Green Sea Turtle and three Kemp's Ridley Sea Turtle nests have been documented in Virginia, all of which occurred on the ocean-facing mainland beaches between Ft. Story and the Virginia/North Carolina border. Therefore, barring further coordination with us and the USFWS regarding nest searches and monitoring, we recommend that all activities proposed to occur on or below beach/dune habitat in Virginia Beach, including the buried cable installation and daylighting onshore, adhere to a time of year restriction (TOYR) from May 1 through November 15 of any year. If nest searches are performed, in adherence to guidance provided by us and/or the USFWS, the TOYR may end when the last nest hatches or is determined non-viable by members of an approved nest search crew.</p>	<p>This information has been added to Section 3.19.1 of the Final EIS for reference. However, the Project plans to use trenchless installation to install all Project cables under the beach and dune and bring them to shore through a series of conduits including HDD, direct steerable pipe thrusting, and microtunneling to avoid effects on the sensitive beach and dune habitats; the Project would therefore not be expected to result in any significant disruptions to sea turtle nests within the Project area such that population viability is affected.</p>
0014-0040	<p>We have several pollution prevention recommendations that may be helpful in the construction and operation of this project:</p> <ul style="list-style-type: none"> -Consider development of an effective Environmental Management System (EMS). An effective EMS will ensure that the proposed facility is committed to minimizing its environmental impacts, setting environmental goals, and achieving improvements in its environmental performance. DEQ offers EMS development assistance and it recognizes facilities with effective Environmental Management Systems through its Virginia Environmental Excellence Program (VEEP). VEEP provides recognition, annual permit fee discounts, and the possibility for alternative compliance methods. -Consider environmental attributes when purchasing materials. For example, the extent of recycled material content, toxicity level, and amount of packaging should be considered and can be specified in purchasing contracts. -Consider contractors' commitment to the environment (such as an EMS) when choosing contractors. Specifications regarding raw materials and construction practices can be included in contract documents and requests for proposals. -Integrate pollution prevention techniques into the facility maintenance and operation. Maintenance facilities should be designed with sufficient and suitable space to allow for effective inventory control and preventative maintenance. 	<p>Thank you for your comment. As identified in Final EIS Appendix H (Table H-1) and COP, Table 4.3-18, Dominion Energy has committed to maintaining the Onshore Project area free of debris, trash, and waste to the extent possible during construction, and areas temporarily disturbed during construction would be restored to the conditions required by state and/or local permits.</p>
0014-0051	<p>DEQ encourages all construction projects and facilities to implement pollution prevention principles, including the reduction, reuse, and recycling of all solid</p>	<p>Thank you for your comment. As identified in Final EIS, Appendix H (Table H-1) and COP,</p>

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	wastes generated. All generation of hazardous wastes should be minimized and handled appropriately.	Table 4.3-18, Dominion Energy has committed to maintain the Onshore Project area free of debris, trash, and waste to the extent possible during construction, and areas temporarily disturbed during construction would be restored to the conditions required by state and/or local permits. Dominion Energy would manage accidental spills or releases of oils or other hazardous wastes through the Oil Spill Response Plan (Appendix Q).

N.6.23 NEPA/Public Involvement Process

Table N.6.23-1 Responses to Comments on NEPA/Public Involvement Process

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Impact Conclusions		
0017-0039	<p>The FEIS, and all future NEPA documents for other wind projects, should always specify if an impact is adverse or beneficial. The DEIS indicates that impacts are adverse unless specified as beneficial.</p> <p>However, some impact producing factors (e.g., presence of structures) are expected 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 always specified for each impact. This should be done consistently throughout all sections of the document. The evidence and information provided should be consistent with impact determinations.</p>	<p>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.</p>
0021-0141	<p>The lack of a more in-depth discussion of the potential impacts on the resources of the North Landing River watershed also raises concerns about the public’s ability to fully participate in the process. The twin aims of NEPA are to ensure that the significant environmental impacts of a proposal are considered before a decision is made and that the public is informed of the environmental consequences of a proposal. [Footnote 284: See Baltimore Gas & Elec. Co. v. NRDC 462 U.S. 87,97 (1983).] The DEIS falls short of the latter aim. As an example, BOEM indicates in the DEIS that “[i]mpacts on higher quality forest corridors in the vicinity of the North Landing River crossing were minimized in coordination with [TNC] by using existing corridors and selectively identifying the areas needed for expansion of the ROW where expansion is needed.” [Footnote 285: CVOW-C DEIS at 3.22-9.] BOEM does not provide any further details, however; the DEIS does not indicate in what ways the crossings were “minimized,” which areas were specifically avoided, and which were identified as areas where expansion of the ROW could occur—or any other details. To satisfy the aims of NEPA, this information should be disclosed to the public.</p>	<p>BOEM analyzed the Proposed Action as described in Dominion Energy’s COP. This includes the rights-of-way proposed by Dominion Energy for Interconnection Cable Route Options 1 and 6 carried forward in the PDE and analyzed in the Draft EIS, as described in Section 2.1.2.1.1 of the Draft EIS. Dominion Energy’s rationale for selecting Interconnection Cable Route options for its PDE are described in Section 2.1.2.4 of the COP.</p>
Cumulative Impacts		
0013-0012	<p>The DEIS fails to adequately assess the how the CVOW 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</p>	<p>Planned offshore wind projects are considered reasonably foreseeable activities, i.e., planned actions that could</p>

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	added to the stressors that already threaten the species (e.g., commercial vessel traffic)	occur during the life of the Project and could contribute to cumulative impacts when combined with impacts from the Proposed Action and other alternatives.
0014-0012	Recent research in the North Sea has indicated the potential for large scale changes in annual primary production at offshore wind projects, replicating the negative effects of changes in climate on fishery resources. We kindly request this project be considered as part of a comprehensive analysis of all current and future OSW projects in the Atlantic to understand the cumulative and cascading effects to changes in ocean use to ensure that fisheries and those families and communities reliant on those jobs are protected.	Appendix F, <i>Planned Activities Scenario</i> , describes the methodology used for assessing impacts from planned activities in the EIS. Using the methodology described in Appendix F, each resource-specific environmental consequences section in Chapter 3 of the Draft EIS discussed cumulative impacts.
0017-0031	The DEIS considers future offshore wind energy activities in other lease areas as part of future baseline conditions against which the impacts of this project are compared. It appears that the areas off New York/New Jersey which were leased in 2022 are not included (e.g., Figure 3.6-4). This should be corrected in the FEIS. As we understand it, the DEIS has two baseline conditions, one with other planned, but not yet approved, wind projects and one without. The alternatives should be compared against both sets of conditions in a consistent way to better describe the expected magnitude of project's impacts.	Draft EIS Chapter 3 provided a discussion of ongoing offshore wind and non-offshore wind activities (the No Action Alternative) as well as the ongoing activities in combination with other planned offshore wind and non-offshore wind activities (Cumulative Impacts of the No Action Alternative for all resources). The planned activities analyzed in the Draft EIS includes activities identified prior to initiating drafting of the EIS in early 2022; therefore, these areas were not included in the Final EIS.
0019-0005	Section 3.17.1.6 addresses potential impact and mitigation measures for other uses (scientific research and surveys) proposed by BOEM and other cooperating agencies. It is important to reiterate that current and future wind projects do not occur separate from one another. As acknowledged in the DEIS, "[t]he impacts on regulated fishing effort would vary depending on the fishery and the changes in fishing behavior due to offshore wind development in the geographic analysis area. Offshore wind development may change the distribution of fishing effort in ways not contemplated in current fishery management plans. Additionally, impacts on fisheries scientific surveys may result in more conservative quota and effort management measures." The project cannot help but have an impact on commercial fishing but there is no way to know the actual impact at this time. Thus, any review or analysis must consider the cumulative effects of all wind projects on species and their habitat.	Draft EIS Chapter 3 provided a discussion of ongoing offshore wind and non-offshore wind activities (the No Action Alternative) as well as the ongoing activities in combination with other planned offshore wind and non-offshore wind activities (Cumulative Impacts of the No Action Alternative for all resources).

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	It is therefore the responsibility of BOEM to assess cumulative impacts across multiple wind energy projects regionally, through all phases of the project and through all life history stages of the various species effected.	
0017-0060	The FEIS should more clearly explain the extent to which the nearby Kitty Hawk Wind project is expected to have overlapping impacts with CVOW, especially given that both projects will connect to shore in the Virginia Beach area. The degree of potential overlapping impacts from the offshore export cables for the two projects is not clear in the DEIS. We recommend that the FEIS include a map to show the likely location of the offshore export cable routes for the two projects.	The proposed location of the Kitty Hawk Wind North offshore export cable route was described in the relevant discussions of resources, include in Section 3.17, <i>Other Uses (Marine Minerals, Military Use, Aviation)</i> .
0018-0035	Although construction of the Kitty Hawk project is not expected to begin until 2027, we recommend that the CVOW project incorporate an assessment of cumulative impacts upon fish and wildlife resources during the operational phases of both projects. Further, we recommend review of other offshore wind projects, how they assessed impacts upon wildlife and fish during construction, operation, and decommissioning of the project.	Draft EIS Chapter 3 provided a discussion of ongoing offshore wind and non-offshore wind activities (the No Action Alternative) as well as the ongoing activities in combination with other planned offshore wind and non-offshore wind activities (Cumulative Impacts of the No Action Alternative for all resources). Kitty Hawk Wind North and South projects are included in the CVOW-C Final EIS analyses for all resources for which they fall within the geographic analysis area.
0026-0035	RODA and its members have submitted hundreds of comment letters to BOEM and its cooperating federal and state agencies outlining significant concerns associated with offshore wind energy (OSW) development on the Atlantic OCS, where these projects are proposed, and other areas that are essential to U.S. seafood production and U.S. food security. Unfortunately, BOEM continues to conduct environmental review using a piecemeal, rather than regional, approach.	Draft EIS Chapter 3 provided an analysis of the direct, indirect, and cumulative impacts of the proposed Project. The geographic analysis area for Section 3.9, <i>Commercial Fisheries and For-Hire Recreational Fishing</i> , included the management areas of the South Atlantic Fishery Management Council (SAFMC) from the South Carolina/Georgia border northward, the Mid-Atlantic Fishery Management Council (MAFMC), and the New England Fishery Management Council (NEFMC) for all federal fisheries within the U.S. Exclusive Economic Zone (from 4 to 230 miles [6 to 370 kilometers] from the coastline) and all adjacent state

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		waters (from 0 to 4 miles [0 to 6 kilometers] from the coastline). For for-hire recreational fisheries, this includes all areas managed by the NEFMC south of Cape Cod, Massachusetts, the MAFMC, and the SAFMC to Cape Hatteras, North Carolina, including all adjacent state waters (from 0 to 4 miles [0 to 6 kilometers] from the coastline).
0013-0014	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 CVOWP, 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 CVOWP’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 CVOWP project.	BOEM acknowledges that upstream processes such as materials extraction and component manufacturing and transport create emissions as part of the life cycle of an offshore wind project. Information has been added to the Final EIS describing life cycle considerations and providing references to recent life cycle analyses of offshore wind.
0021-0003	Cumulative noise impacts may also be considerable, particularly in areas where pile driving is taking place simultaneously across adjacent lease areas—a possibility that is increasing in likelihood as projects experience delays and construction windows for different projects overlap—and during operations, where expansive areas of the ocean may experience elevated noise levels that exceed the harassment threshold for right whales and other low-frequency hearing cetaceans. [Footnote 22: Uwe Stöber & Frank Thomsen, How could operational underwater sound from future offshore wind turbines impact marine life?, JOURNAL ACOUSTICAL SOC’Y AM. (Mar. 15, 2021); Jordan Carduner, Characterizing the operational soundscape of floating offshore wind parks: Implications for environmental risk assessment and wildlife (Presentation to the State of the Science Workshop on Wildlife and Offshore Wind Energy, July 28, 2022).]	Final EIS Appendix H, Table H-X, describes noise mitigation systems that Dominion Energy proposes to use to reflect and dampen underwater sound waves caused by pile driving during construction. These include the Hydro Sound Damper, the Noise Mitigation Sleeve, the AdBm Noise Mitigation System, and double big bubble curtains. BOEM and NMFS will require additional noise mitigation and monitoring measures for construction and operations, as described in Appendix H, Table H-X. There are no adjacent lease areas to CVOW-C currently.
0026-0001	While the DEISs do provide 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. RODA, other fishing industry representatives, marine scientists, fishery	Planned offshore wind projects are considered reasonably foreseeable activities, i.e., planned actions that could occur during the life of the CVOW-C

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	<p>management councils, the environmental community, and others have consistently requested BOEM take a 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>Project and potentially could contribute to cumulative impacts when combined with impacts from the Proposed Action or other alternatives. BOEM analyzed the possible extent of future other offshore wind energy development activities on the Atlantic OCS to determine reasonably foreseeable cumulative effects measured by installed power capacity. Appendix F, <i>Planned Activities Scenario</i>, describes the methodology used for assessing impacts from planned activities in the EIS. Using the methodology described in Appendix F, each resource-specific environmental consequences section in EIS Chapter 3 discusses cumulative impacts.</p>
0026-0003	<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 EW 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, and physical to navigational and access-related—must be looked at in a cumulative manner.</p>	
0026-0004	<p>The Supplemental Environmental Impact Statement (SEIS) completed in 2020 for the Vineyard Wind I project was intended to serve as a cumulative impacts analysis for multiple projects in the region. However, the SEIS was only incorporated into the record of that project as BOEM used an entirely different—and grossly insufficient—approach for the South Fork project just weeks later. It is unclear what, if any, approach BOEM plans to use going forward, although the new leadership at Department of Interior has made clear that they disapprove of any of the environmental review practices of the last Administration so these are likely to change. Politics must not interfere with scientific integrity or transparency and we request BOEM clarify what document the public should review to understand the cumulative impacts of potentially 3,000 turbines whose installation it is “streamlining” into the seabed between MA and VA alone. We further request BOEM to provide explicit information as to how it will approach cumulative impacts reviews for this and future projects.</p>	<p>The CVOW-C EIS analyzes the offshore wind energy project proposed for Lease Area A-0483. No other projects are proposed for Lease Area OCS-A 0483. Other offshore wind energy projects are analyzed as planned activities that could occur during the life of the CVOW-C Project and potentially could contribute to cumulative impacts when combined with impacts from the Proposed Action and other alternatives. Appendix F, <i>Planned Activities Scenario</i>, describes the methodology used for assessing impacts from ongoing and planned activities in the EIS. Using the methodology described in</p>

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		Appendix F, each resource-specific environmental consequences section in EIS Chapter 3 discusses cumulative impacts.
0026-0005	<p>BOEM, as the agency hiring consultants to draft Environmental Impact Statements for offshore wind projects, has implemented an inadequate cumulative impacts strategy. It is unclear how BOEM decides which projects are included in an EIS. For the earliest projects (Vineyard Wind 1, South Fork, and Ocean Wind 1) BOEM’s NEPA review focused on a single proposed project with a Power Purchase Agreement (PPA) in place. For CVOW, the EIS will be prepared without the project having a PPA. The CVOW DEIS describes the purpose of the proposed actin as “to respond to Dominion Energy’s COP proposal.” This is based, in part, “on the goals of Dominion Energy, BOEM’s authority, and Executive Order 14008.” “Dominion Energy’s Dominion Energy’s goal is to develop a commercial-scale offshore wind energy facility in the Lease Area; to provide between 2,500 and 3,000 megawatts (MW) of energy, making landfall in Virginia Beach, Virginia; and to use the offshore wind power generated from the proposed Project to supply its own customers.” [Footnote 14: See CVOW DEIS S-1] In summation, there appears to be no standard protocol for when BOEM will conduct a project’s EIS, and inconsistency is increased when analyses are conducted piecemeal for each phase versus across an entire lease area or geographic region. As the PPAs have, in the past, determined BOEM’s range of alternatives and what fisheries mitigation measures can be considered within the project parameters, this leads to significant uncertainty regarding how BOEM will conduct the upcoming NEPA reviews. Moreover, the current approach makes it nearly impossible to conduct any cumulative analysis as there is no appropriate time in the federal process to do so.</p>	<p>The Energy Policy Act of 2005 authorized the development of regulations for the Outer Continental Shelf (OCS) Renewable Energy Program. This regulatory framework establishes a process for environmental review of proposed offshore wind projects. Each project is subject to a review under NEPA, as well as consultations with NMFS and USFWS.</p> <p>BOEM has prepared the Final EIS following the requirements of NEPA (42 U.S.C. 4321–4370f) and NEPA implementing regulations of the CEQ (40 CFR 1500–1508). NEPA requires Federal agencies to assess the environmental effects of their proposed action(s), and reasonable alternatives. Additionally, the Final EIS was prepared consistent with the U.S. DOI NEPA regulations (43 CFR Part 46), longstanding federal judicial and regulatory interpretations, and Administration priorities and policies including the Secretary of the Interior’s Order No. 3399 requiring bureaus and offices to not apply any of the provisions of the 2020 changes to CEQ regulations (85 Federal Register 43304–43376) “in a manner that would change the application or level of NEPA that would have been applied to a proposed action before the 2020 Rule went into effect.”</p> <p>Additionally, Appendix F, <i>Planned Activities Scenario</i>, describes the methodology used for assessing impacts</p>

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		<p>from ongoing and planned activities in the EIS. Using the methodology described in Appendix F, each resource-specific environmental consequences section in Final EIS Chapter 3 discusses cumulative impacts.</p> <p>This Project does not include a Power Purchase Agreement because Dominion Energy is the developer and will provide the power to its customers directly.</p>
0026-0006	<p>Additionally, since the Notice of Intents to prepare these DEISs, [Footnote 15: Sunrise - August 31, 2021; CVOW - July 2, 2021] BOEM has taken action on many other relevant activities in the region. There have been multiple DEISs, a regional USCG Port Access Route Study, an auction for six additional leases in the New York Bight, publication of several more Draft WEAs (Central Atlantic WEAs), and identification of Draft Call Areas in the Gulf of Maine. Both DEISs include an Appendix entitled [<i>Italics: Planned Activities Scenario.</i>] [Footnote 16: Appendix E to the Sunrise DEIS, Appendix F to the CVOW DEIS] Each of these estimate the total number of operational turbines in the Atlantic OCS to be 3,101 by 2029. This does not include areas which have been identified for potential development (Central Atlantic and Gulf of Maine) which could increase that number significantly. Yet, BOEM has not sufficiently evaluated the cumulative impacts of prospective activity in the region. This must be remedied immediately and should be incorporated into all future analyses conducted by BOEM.</p>	<p>Through a competitive leasing process under 30 CFR 585.211, Dominion Energy was awarded Commercial Renewable Energy Lease OCS-A 0483 and submitted a COP to BOEM proposing the construction and installation, O&M, and conceptual decommissioning of an offshore wind energy facility in the Lease Area. The submittal of the COP triggers a NEPA review by BOEM and this EIS is the result of that.</p> <p>Similarly, BOEM is preparing an EIS for other offshore wind projects for the same reason and will be receiving COPs for the Lease Areas, which will also trigger NEPA reviews. These are not connected actions, as they do not meet the criteria within the CEQ NEPA regulations at 40 CFR 1508.25. However, these other projects are reasonably foreseeable activities, i.e., planned actions that could occur during the life of the CVOW-C Project and potentially could contribute to cumulative impacts when combined with impacts from the Proposed Action and other alternatives. Appendix F, <i>Planned Activities Scenario</i>, describes the methodology used for assessing impacts from ongoing and</p>

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		planned activities in the EIS. Using the methodology described in Appendix F, each resource-specific environmental consequences section in Draft EIS Chapter 3 discusses cumulative impacts.
0037-0017	Appendix F: Page F-15: [Bold: Include the VDMA-VaARNG under National Security and Military Use along with other DoD agencies.]	VDMA-VAARNG and the SMR were added to Final EIS Appendix F, Page F-15.
0037-0017	Appendix F: Page F1-30, Table F1-8: This seems vague in terms of responsibilities and costs. [Bold: Please advise on forthcoming information.]	Thank you for your comment. 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.
0039-0011	Overall, readability of the EIS may be enhanced by more direct comparison of the Action Alternatives with the No Action Alternatives. We recommend that the cumulative impact assessment of the No Action Alternatives follow this assessment.	Thank you for your comment. The Executive Summary discusses the No Action Alternative and four action alternatives evaluated in the Final EIS and cumulative impacts are analyzed and concluded separately in each resource-specific Environmental Consequences section in Chapter 3. Additionally, Appendix F, <i>Planned Activities Scenario</i> , describes the actions that BOEM has identified as potentially contributing to the existing baseline and the actions potentially contributing to cumulative impacts when combined with impacts from the alternatives.
0041-0110	Section: F.1 PDF Page: 113 Comment: Appendix F - Planned Activities Scenario: Table F-1. NMFS requests further clarification for the bounding of the Geographic Analysis Areas (GAAs). Please either, provide an explanation in the text for the reason the GAA was restricted to capturing "the majority of the movement range for most species", or expand the GAA to include all movement of all species. NMFS has made this comment on multiple other project EISs, but this issue remains unresolved.	Final EIS Table F-1 was changed to read "the majority of the movement range for all species" for the Finfish, invertebrates, and essential fish habitat and Marine Mammals geographic analysis areas. BOEM worked with the MMPA and ESA groups at NMFS to address the movement range of all species under MMPA and ESA. Additional information is provided in the NMFS BA

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		and Final EIS Section 3.15, <i>Marine Mammals</i> .
0041-0113	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 current projects or future actions proposed for the Central Atlantic, will collectively impact the resources in this region.	<p>Other offshore wind projects are considered reasonably foreseeable impacts i.e., planned actions that could occur during the life of the CVOW-C Project and potentially could contribute to cumulative impacts when combined with impacts from the Proposed Action and other alternatives. Appendix F, <i>Planned Activities Scenario</i>, describes the methodology used for assessing impacts from ongoing and planned activities in the EIS. Using the methodology described in Appendix F, each resource-specific environmental consequences section in Final EIS Chapter 3 discusses reasonably foreseeable impacts.</p> <p>Additionally, BOEM provided as much information as is possible, under current regulatory guidance, within the main body of the Final EIS with supporting or additional information provided in the appendices. Appendix B, <i>List of Preparers and Reviewers, References Cited, and Glossary</i>, contains the references used throughout the Final EIS. References include as much information as possible, including web links where available to make them accessible to the reader.</p>
0041-0021	<p>Section: 1.6 PDF Page: 43</p> <p>Comment: Introduction: NMFS has concerns about the structure, content and usage of Appendix F. In the last sentence of the paragraph, please indicate whether the list of activities in Appendix F has been developed for this specific project, or whether this same list of activities was developed for and is being</p>	Thank you for your comment. Appendix F, <i>Planned Activities Scenario</i> , describes the methodology used for assessing impacts from planned activities in the EIS. This section includes a list and description of ongoing and planned activities that could

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0041-0111	<p>included for all OWS projects in the Atlantic, regardless of project location, scale or details. Please also see related comment in Appendix F.</p> <p>Section: Attachment F1 PDF Page: 149</p> <p>Comment: Appendix F - Planned Activities Scenario: Please remove or revise the text at the top of the page that reads: "BOEM developed the following tables based on its 2019 study National Environmental Policy Act Documentation for Impact-Producing Factors in the Offshore Wind Cumulative Impacts Scenario on the North Atlantic Outer Continental Shelf (BOEM 2019), which evaluates potential impacts associated with ongoing and future non-offshore wind activities. The content of these tables has been vetted by cooperating agencies to the SFWF EIS and therefore has been included in whole for their use in impact and cumulative analyses, and for ease in reference by the reader." This language suggests that the exact content of the tables that now appear in Appendix F were copied in their entirety from another document which had been vetted by the cooperating agencies at some point. NMFS, in its cooperating agency role, has not vetted the content of these tables. While NMFS has approved of tables that appeared in previous EISs and follow a similar approach and contain similar elements (i.e., South Fork Wind and Vineyard Wind), the content and variables of the tables in Appendix F are different than what appear in the tables of prior EISs.</p>	<p>contribute baseline conditions and trends within the geographic analysis area for each resource topic analyzed in this EIS. The methodology for developing the scenario is the same as for the Vineyard Wind 1 Project and details of the scenario development are described in the Vineyard Wind 1 Final EIS. Using the methodology described in Appendix F, BOEM analyzed the possible extent of future other offshore wind energy development activities on the Atlantic OCS to determine reasonably foreseeable cumulative effects on each resource-specific environmental consequences section in Final EIS Chapter 3.</p> <p>The sentence referencing cooperating agencies has been removed in the Final EIS.</p>
0041-0022	<p>Section: 1.6.1 PDF Page: 44</p> <p>Comment: Introduction: In the second sentence, please change "activities in the geographic analysis area" to "activities in the resource-specific geographic analysis area".</p>	<p>Thank you for your comment. The requested change has been made.</p>
Opportunity for Public Review and Comment		
0021-0080	<p>BOEM presumably relies in part on a biological assessment that it prepared for the USFWS in September 2022 for its conclusion regarding the potential impacts on bats. [Footnote 198: BOEM, Coastal Virginia Offshore Wind Commercial Biological Assessment for the U.S. Fish and Wildlife Service (Sept. 2022).] While Appendix A to the DEIS indicates that BOEM has initiated consultation under Section 7 of the ESA, to the best of our knowledge, BOEM has not made the biological assessment available to the public. Without this information, the public's ability to comment on this important issue is limited, thus also</p>	<p>BOEM has publicly posted a draft biological assessment for ongoing USFWS ESA Section 7 consultations, including for the CVOW-C Project, here: https://www.boem.gov/renewable-energy/state-activities/fws-esa-consultations.</p>

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	<p>undermining a key purpose of NEPA to ensure that the public is informed of the environmental consequences of a proposal before a decision is made.</p>	
0026-0034	<p>It is unrealistic for BOEM, or any Agency for that matter, to inundate interested stakeholders and the public with public comment opportunities that seem designed to overwhelm and overburden those who the Agency's serve. The EPA's National Environmental Policy Act (NEPA) describes public participation, including subsection (a)(5) which highlights the need to "ensure meaningful public participation throughout the NEPA process." [Footnote 3: 40 CFR § 6.203] We question how meaningful input is possible given that BOEM currently has three DEISs in the Atlantic [Footnote 4: As RODA and our members have stated numerous times before, the fishing industry is not constrained to one region and often operates coastwide. Thus activities throughout the Atlantic will have impacts to fisheries, marine protected species, and coastal communities in geographically distinct regions] which have public comment deadlines between February 14th and February 21st.</p> <ul style="list-style-type: none"> - The Sunrise DEIS, including Appendices, totals over 1,800 pages; - The Coastal Virginia Offshore Wind, including Appendices, totals over 1,200 pages; and - The New England Wind DEIS, including Appendices, totals over 1,400 pages. <p>[Footnote 5: Note, these numbers do not include each project's Construction and Operations Plans which are cross-referenced in the applicable DEIS and themselves number in the thousands of pages]</p> <p>This is in addition to other Agency activities, including BOEM, that stakeholders are currently following. Stakeholder fatigue is real and will surely impact the specificity, quality and detail of responses to these comment opportunities [Footnote 6: See - 40 CFR §1503.3]. This is particularly concerning for actions, like those covered in the DEISs, proposing to bring large-scale developments to our nation's oceans.</p>	<p>Given the multiple projects with similar public comment periods, BOEM extended the normal Draft EIS 45-day comment period to 60 days for the three projects described.</p>
0026-0008	<p>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. If the site assessment is fully complete prior to 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</p>	<p>EIS Chapter 1, Table 1-1 describes the history of BOEM planning and leasing offshore Virginia, Including a Final Environmental Assessment for commercial wind lease issuance and site assessment activities on the Atlantic OCS offshore New Jersey, Delaware, Maryland, and Virginia. NEPA regulations at 40 CFR 1501.10 provide time limits for NEPA documents to</p>

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	<p>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>“ensure that agencies conduct NEPA reviews as efficiently and expeditiously as practicable.”</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. 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 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</p>

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		initiate the NEPA analysis through publication of an NOI.
0022-0027	NEPA, however, requires not only that federal agencies select a preferred alternative that will best accomplish the purpose and need of a project but also fulfill statutory missions and responsibilities, giving full consideration to economic, environmental, technical, and other factors. Therefore, failing to provide information needed by tribes to evaluate Project alternatives and provide feedback means that BOEM's analysis of alternatives is incomplete as a matter of law.	BOEM considered all comments received on the Draft EIS during development of the preferred alternative. BOEM's preferred alternative is identified in the Final EIS, consistent with 40 CFR § 1502.14(d). BOEM has held several meetings with the Tribes to understand what information the Tribes need to evaluate the project alternatives. Additional revisions have been made to the Final EIS in response to these requests by the Tribes.
General EIS Comments		
0037-0030	Acronyms and Abbreviations, pg. xv: [Bold: Add VDMA-VaARNG]	This acronym has been added to Final EIS.

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N.7. General Comment Summaries and Responses

N.7.1 Purpose and Need

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

General Comment Summaries and Responses
<p>Comment Summary 1: Commenters expressed support for this project as it will help meet state and federal emissions and offshore wind goals, specifically satisfying requirements set by the Virginia Clean Economy Act and Presidential Executive Order No. 14008.</p>
<p>Response: Thank you for your comment. EIS Section 1.2 outlines the policy goals of the Biden Administration to combat the climate crisis and the State of Virginia’s offshore wind energy generation goals to which the Proposed Action would contribute, including the Virginia Clean Economy Act and Executive Order No. 14008.</p>
<p>Submission IDs contributing to comment summary: 0005-0004; 0010-0006; 0025-0007</p>
<p>Comment Summary 2: A commenter felt the location of the Proposed Action was poorly chosen due to it being an area of high intensity international traffic, particularly because there is no law or policy that requires the specific location chosen for the Proposed Action.</p>
<p>Response: Thank you for your comment. In the EIS (Chapter 2, <i>Alternatives Including the Proposed Action</i>, Table 2-2), 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 analyze Dominion Energy’s proposal to build a commercial-scale wind energy facility on the Lease Area.</p>
<p>Submission IDs contributing to comment summary: 0034-0002</p>

N.7.2 Proposed Action and Alternatives

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

General Comment Summaries and Responses
<p>Comment Summary 1: Commenters expressed support for the Proposed Action, urging BOEM to pursue Alternative A. Two commenters expressed support for Alternative A, stating that Alternative A would produce the most benefits for communities while having less negative impacts, when compared to other alternatives. One commenter expressed support for Alternative A, stating that other alternatives would have negative consequences including delays in project deployment, less flexibility, and reduced capacity to deliver energy to communities.</p>
<p>Response: Thank you for your comment. Chapter 2 of the EIS discusses each alternative BOEM analyzed in detail, including the Proposed Action, as well as a summary and comparison of impacts by alternative in Section 2.3.</p>
<p>Submission IDs contributing to comment summary: 0010-0001; 0010-0003; 0025-0003</p>
<p>Comment Summary 2: Some commenters expressed their support for whichever alternative had the least amount of negative impacts, including impacts to navigational safety, and the most positive impacts, including maximizing the creation of jobs, economic benefits, and protecting communities, wildlife, and the environment.</p>
<p>Response: Thank you for your comment. Section 2 of the EIS discusses each alternative BOEM analyzed in detail, including the Proposed Action, and provides a summary and comparison of impacts by alternative in Section 2.3.</p>
<p>Submission IDs contributing to comment summary: 0011-0003; 0020-0009</p>

General Comment Summaries and Responses
Comment Summary 3: A commenter suggested that the proposed lease area be moved to 12 miles offshore to reduce impacts on national security and military uses.
Response: In the Draft EIS (Chapter 2, Table 2-2) 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 analyze Dominion Energy's proposal to build a commercial-scale wind energy facility on the Lease Area. This alternative would effectively be the same as selecting the No Action Alternative.
Submission IDs contributing to comment summary: 0034-0016; 0034-0025
Comment Summary 2: A commenter felt that the lease area should be removed from the leasable areas of the ocean and noted that floating turbines would remove previously considered lease area constraints.
Response: Thank you for your comment. In the Draft EIS (Chapter 2, Table 2-2) 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 analyze Dominion Energy's proposal to build a commercial-scale wind energy facility on the Lease Area. This alternative would effectively be the same as selecting the No Action Alternative.
Submission IDs contributing to comment summary: 0034-0013; 0034-0027

N.7.3 Air Quality

Table N.7-3 General Comments on Air Quality

General Comment Summaries and Responses
Comment Summary 1: A commenter supported this project as it will negate the need for burning many tons of coal annually to generate electricity.
Response: Thank you for your comment. Section 3.4 of the EIS describes the Project's anticipated potential impact on air quality. As discussed in Section 3.4.5 of the EIS, temporary air pollutant emissions from equipment used in the construction, O&M, and decommissioning phases could affect air quality in the Project area and nearby coastal waters and shore areas, but the Proposed Action would result in a net decrease in overall emissions over the region compared to the No Action Alternative.
Submission IDs contributing to comment summary: 0035-0003

N.7.4 Bats

There were no general comments coded to bats.

N.7.5 Benthic Resources

There were no general comments coded to benthic resources.

N.7.6 Birds

Table N.7-4 General Comments on Birds

General Comment Summaries and Responses
Comment Summary 1: A commenter expressed concern that bird strikes occur in land-based windmills and may occur offshore as well.

General Comment Summaries and Responses
Response: Thank you for your concern regarding bird strikes. Impacts on birds from strikes are considered in Section 3.7 of the EIS.
Submission IDs contributing to comment summary: 0036-0003

N.7.7 Coastal Habitat and Fauna

There were no general comments coded to coastal habitat and fauna.

N.7.8 Commercial Fisheries and For-Hire Recreational Fishing

There were no general comments coded to commercial fisheries and for-hire recreational fishing.

N.7.9 Cultural, Historical, and Archaeological Resources

There were no general comments coded to cultural, historical, and archaeological resources.

N.7.10 Cumulative Impacts

Table N.7-5 General Comments on Cumulative Impacts

General Comment Summaries and Responses
Comment Summary 1: A commenter felt the cumulative benefits to environmental resource areas from renewable energy projects would outweigh adverse impacts, and that the CVOW-C project specifically would not have large adverse impacts compared to other planned offshore wind projects.
Response: Thank you for your comment. Beneficial impacts are considered for all environmental resource areas, and the impacts of the CVOW-C Project alone (the Proposed Action) are discussed in comparison to cumulative impacts of other planned offshore wind projects for each resource section.
Submission IDs contributing to comment summary: 0010-0005
Comment Summary 2: A commenter wanted to know if BOEM had assessed the impacts of all planned offshore wind projects in the East Coast.
Response: Cumulative impacts are analyzed and concluded separately in each resource-specific <i>Environmental Consequences</i> section in Chapter 3, <i>Affected Environment and Environmental Consequences</i> , of the EIS, including existing baseline conditions and future planned offshore wind projects. The geographic analysis area is specific to each environmental resource category, and for some (including all biological resources), includes all existing and planned projects on the East Coast.
Submission IDs contributing to comment summary: 0027-0001

N.7.11 Demographics, Employment, and Economics

Table N.7-6 General Comments on Demographics, Employment, and Economics

General Comment Summaries and Responses
Comment Summary 1: A commenter requested BOEM ensure jobs are accessible to a diverse workforce.
Response: Thank you for your comment. BOEM conducts robust community engagement and outreach to reach the residents of the local and potentially affected communities.
Submission IDs contributing to comment summary: 0020-0006
Comment Summary 2: Commenters provided support for offshore wind energy and the positive economic effects associated with offshore wind energy.
Response: Thank you for your comment. As described in Section 3.11.5 of the EIS, the Proposed Action would have beneficial impacts through job creation, expenditures on local businesses, tax revenues, grant funds, and support for additional regional offshore wind development.
Submission IDs contributing to comment summary: 0005-0002, 0008-0002, 0020-0001
Comment Summary 3: A commenter suggested including information on material specifications and description of foreign jobs created by the industry.
Response: Thank you for your comment. The demographics, employment, and economics area for analysis in the EIS includes local impacts of the Proposed Action and cumulative impacts across the East Coast.
Submission IDs contributing to comment summary: 0020-0010
Comment Summary 4: Commenters stated that the installation of WTGs, substations, and cables would aid in establishing local/regional supply chains, and that any delays may threaten the existing supply chains.
Response: Thank you for your support and recognizing that regional supply chains may be created as a result of the installation of WTGs, and that jobs and economic flow may experience subsequent positive economic benefits.
Submission IDs contributing to comment summary: 0011-0001, 0025-0005, 0025-0008, 0025-0009
Comment Summary 5: Commenters requested that BOEM include detailed information regarding trainings, education, and any workforce agreements in place.
Response: Dominion Energy has stated that in September 2021, they signed an MOU with the North America’s Building Trades Union (NABTU) and its state affiliate to identify opportunities to utilize union labor on CVOW. Because the Project will require skilled and qualified workers in Hampton Roads, the MOU also includes commitments to utilize local workers; the hiring, apprenticeship, and training of veterans; and the use of workers from historically economically disadvantaged communities. These commitments were included in the MOU because Dominion Energy is working to satisfy the provisions of the Virginia Clean Economy Act, which calls for the priority hiring of veterans, local workers, and individuals from economically disadvantaged communities. Dominion Energy is now in the process of establishing a Project Labor Agreement with NABTU in collaboration with DEME and Siemens Gamesa Renewable Energy (SGRE). Dominion Energy does not currently have any Community Workforce Agreements in place.
Submission IDs contributing to comment summary: 0020-0011, 0020-0012, 0020-0002, 0020-0003, 0020-0004, 0020-0005, 0020-0007

N.7.12 Environmental Justice

Table N.7-7 General Comments on Environmental Justice

General Comment Summaries and Responses
Comment Summary 1: Commenters noted positive benefits from offshore wind energy regarding environmental benefits to environmental justice communities specifically, and the benefits to the residents of Virginia as a whole.
Response: Section 3.12.5 of the EIS describes impacts on environmental justice populations in the analysis area. The analysis includes minor beneficial impacts on environmental justice populations resulting from port utilization and increased vessel traffic, and resulting employment and economic activity, as well as improvements in air quality and health outcomes due to the displacement of local fossil fuel energy generation.
Submission IDs contributing to comment summary: 0010-0007, 0020-0013, 0020-0008
Comment Summary 1: A commenter requested that BOEM ensure all Tribes within the geographic analysis area are properly consulted.
Response: Tribes who wish to participate in the Project are consulted with under the Section 106 process of the National Historic Preservation Act of 1966 (NHPA) and through Government-to-Government coordination meetings.
Submission IDs contributing to comment summary: 0020-0014

N.7.13 Finfish, Invertebrates, and Essential Fish Habitat

Table N.7-8 General Comments on Finfish, Invertebrates, and Essential Fish Habitat

General Comment Summaries and Responses
Comment Summary 1: Commenters noted the potential benefit of introducing structures such as wind turbines into the ocean, as they provide mini reefs, which shelter fish stocks and, as was found in the results of a study done on the Block Island Wind Farm off the coast of Rhode Island, that fish caught per effort has actually increased.
Response: Thank you for your comment. Section 3.13 of the EIS includes the potential beneficial impacts of the Proposed Action on fish through the creation of hard substrate, which would attract structure-oriented species.
Submission IDs contributing to comment summary: 0029-0002; 0035-0002

N.7.14 Land Use and Coastal Infrastructure

There were no general comments coded to land use and coastal infrastructure.

N.7.15 Marine Mammals

There were no general comments coded to marine mammals.

N.7.16 Navigation and Vessel Traffic

Table N.7-9 General Comments on Navigation and Vessel Traffic

General Comment Summaries and Responses
<p>Comment Summary 1: Some commenters expressed concern about the potential for the Project to have negative impacts on navigational risk and vessel traffic. Commenters proposed measures to help mitigate any negative impacts, including routing measures to facilitate commercial vessel traffic above and below the project area and formally establishing vessel routing measures. One commenter suggested that if there were to be a reduction in the total number of WTGs installed, that they are removed from the perimeter of the project area to reduce navigational risk and congestion.</p>
<p>Response: Thank you for your comment. Section 3.16 of the EIS discusses the potential navigation and vessel traffic impacts on the waterways and water from the proposed Project, alternatives, and ongoing and planned activities in the navigation and vessel traffic geographic analysis area. Appendix I, <i>Environmental and Physical Setting</i>, Table I-7 and Table I-8 also discuss navigation-related mitigation measures.</p>
<p>Submission IDs contributing to comment summary: 0011-0002; 0011-0005; 0034-0028</p>
<p>Comment Summary 2: One commenter requested that BOEM evaluate the project’s compatibility with increasing vessel size and call volume at nearby ports, considering current shipping trends and navigational best-practices in their evaluation.</p>
<p>Response: Thank you for your comment. Section 3.16.1 of the EIS discusses how traffic patterns, traffic density, and statistics were developed from one year of Automatic Identification System (AIS) data collected and analyzed in the Navigation Safety Risk Assessment (NSRA) for the Proposed Action.</p>
<p>Submission IDs contributing to comment summary: 0011-0004</p>
<p>Comment Summary 3: A commenter expressed concern that this project is in the middle of an existing traditional route for vessels up to 1,000 feet long that come in and out of Chesapeake Bay and that any proposed new sea lanes need to include a two nautical mile buffer zone on either side to allow for a vessel casualty.</p>
<p>Response: Thank you for your comment. Impacts on navigation and vessel traffic are analyzed in Section 3.16 of the EIS, and mitigation and monitoring measures are described in Appendix H.</p>
<p>Submission IDs contributing to comment summary: 0031-0001</p>

N.7.17 Other Uses (Marine Minerals, Military Use, Aviation)

Table N.7-10 General Comments on Other Uses (Marine Minerals, Military Use, Aviation)

General Comment Summaries and Responses
<p>Comment Summary 1: Commenters expressed concern over impacts of the project to the US Navy from its location, including regular operations, operations in time of war, and financial impacts due to addressing concerns.</p>
<p>Response: Section 3.17.5.2 in the EIS analyzes the impacts the Proposed Action would have on national security and military uses, including U.S. Navy operations in the Project area.</p>
<p>Submission IDs contributing to comment summary: 0028-0001; 0034-0010; 0034-0011; 0034-0012; 0034-0017-0034-0018; 0034-0023; 0034-0024; 0034-0003; 0034-0008; 0034-0009; 0034-0015; 0034-0020; 0034-0026; 0034-0004</p>
<p>Comment Summary 2: A commenter asked whether the Department of Defense participated in the review of the project and whether BOEM was able to analyze impacts to national security.</p>

General Comment Summaries and Responses
Response: The Department of Defense reviewed Dominion Energy’s COP and submitted comments to BOEM. Impacts on national security and military uses are discussed in Section 3.17 of the EIS, and required mitigation and monitoring measures from the Department of Defense and BOEM are described in Appendix H.
Submission IDs contributing to comment summary: 0028-0001; 0034-0014
Comment Summary 3: A commenter noted that US Navy determined that CVOW-C will not interfere with Fleet Exercises.
Response: Thank you for your comment.
Submission IDs contributing to comment summary: 0035-0001

N.7.18 Project Design Envelope

There were no general comments coded to project design envelope.

N.7.19 Recreation and Tourism

There were no general comments coded to recreation and tourism.

N.7.20 Sea Turtles

There were no general comments coded to sea turtles.

N.7.21 Scenic and Visual Resources

Table N.7-11 General Comments on Scenic and Visual Resources

General Comment Summaries and Responses
Comment Summary 1: A commenter was concerned that windmills are an eyesore to the coastline.
Response: Thank you for your comment. Impacts on scenic and visual resources are analyzed in Section 3.20 and Appendix M, <i>Seascape, Landscape, and Visual Impact Assessment</i> , of the EIS.
Submission IDs contributing to comment summary: 0036-0001

N.7.22 Water Quality

There were no general comments coded to water quality.

N.7.23 Wetlands

There were no general comments coded to wetlands.

N.7.24 Mitigation and Monitoring

Table N.7-12 General Comments on Mitigation and Monitoring

General Comment Summaries and Responses
Comment Summary 1: A commenter suggested using “ecological concrete” for the offshore infrastructure, including scour and cable protection. The commenter stated that using ecological concrete as a mitigation measure would encourage the growth of flora and fauna and support compliance with environmental regulations.
Response: Thank you for your comment, Appendix H in the EIS outlines mitigation and monitoring measures that will be implemented throughout the course of the Project, including those specific to reducing impacts on benthic resources.
Submission IDs contributing to comment summary: 0006-0001
Comment Summary 2: A commenter noted that mitigation measures, including restricting vessel speeds, changing timing of construction, and mandating noise abatement technologies, can reduce impacts to species.
Response: Thank you for your comment. Appendix H of the EIS includes all mitigation measures proposed by Dominion Energy and that would be required by BOEM. This includes restricting vessel speeds, seasonal construction, and noise mitigation measures
Submission IDs contributing to comment summary: 0010-0004

N.7.25 Planned Activities Scenario/Cumulative Impacts

Table N.7-13 General Comments on the Planned Activities Scenario/Cumulative Impacts

General Comment Summaries and Responses
Comment Summary 1: Commenters expressed that offshore wind projects are crucial to achieving energy transition and asked if BOEM has done a comprehensive evaluation of all offshore wind projects on the East Coast.
Response: The evaluation of all offshore wind projects on the East Coast can be found in Appendix F, <i>Planned Activities Scenario</i> , and additionally in individual resource sections where there are multiple offshore wind projects occurring in a geographical analysis area.
Submission IDs contributing to comment summary: 0010-0005, 0027-0001

N.7.26 National Environmental Policy Act/Public Involvement Process

Table N.7-14 General Comments on the National Environmental Policy Act/Public Involvement Process

General Comment Summaries and Responses
Comment Summary 1: A commenter stated that meaningful and dedicated community engagement throughout the entire project, from planning to operation, is a necessary tool for ensuring that the benefits of offshore wind are equitably distributed while minimizing the energy burden for Virginia’s most vulnerable populations.
Response: Thank you for your comment. Impacts on environmental justice populations from the Proposed Action are analyzed in Section 3.12 of the EIS.
Submission IDs contributing to comment summary: 0010-0008

N.7.27 Accidental Releases

There were no general comments coded to accidental releases.

N.7.28 General Support or Opposition

Table N.7-15 Comments Reflecting General Support or Opposition

General Comment Summaries and Responses
<p>Comment Summary 1: Commenters expressed opposition to the project due to adverse impacts to wildlife (including that caused by underwater noise), national defense, and navigation, as well as concern over using taxpayer money.</p>
<p>Response: Thank you for your comments. More detailed and specific comments were provided on many of these topics and are included and addressed within those topics. BOEM acknowledges your opposition to the Project based on these concerns.</p>
<p>Submission IDs contributing to comment summary: 0002-0001; 0003-0001; 0036-0002; 0034-0001; 0036-0004; 009-0001</p>
<p>Comment Summary 2: Commenters emphasized their support of the CVOW Project and its associated environmental and economic benefits.</p>
<p>Response: Comment noted, thank you for your comment.</p>
<p>Submission IDs contributing to comment summary: 0005-0001; 0008-0003; 0010-0002; 0011-0006; 0025-0001; 0029-0001; 0030-0001; 0030-0002; 0032-0001; 0035-0004</p>
<p>Comment Summary 3: A commenter felt that other types of renewal energy would have fewer environmental impacts than the Proposed Action.</p>
<p>Response: Thank you for your comment. BOEM analyzed the Proposed Action (i.e., the proposed Project as described in Dominion Energy’s COP), as well as a reasonable range of alternatives. BOEM acknowledges your opposition to the Project based on these concerns.</p>
<p>Submission IDs contributing to comment summary: 0045-0001</p>

N.8. Form Letters

No form letters were received.

N.9. List of Commenters by Commenter Type and Submission Number

Table N.9-1 Federal Agencies

Submission Number	Commenter	Agency
0038	N/A	Coast Guard (USCG)
0039	N/A	U.S. Environmental Protection Agency (EPA)
0041	N/A	National Marine Fisheries Service
0042	N/A	National Park Service (NPS)
0043	N/A	Advisory Council on Historic Preservation
EMAIL-0006	N/A	US Army Corps of Engineers
EMAIL-0012	N/A	USACE Army Norfolk District

N/A = not applicable

Table N.9-2 Tribes and Native Organizations

Submission Number	Commenter	Tribe or Native Organization
0022	N/A	Nansemond Indian Nation
0023	N/A	Upper Mattaponi Indian Tribe

N/A = not applicable

Table N.9-3 State Government or Agency

Submission Number	Commenter	Government Organization
0007	N/A	Virginia Offshore Wind Development Authority
0014	N/A	Virginia Department of Environmental Quality
0015	N/A	Virginia Marine Resources Commission
0018	N/A	Virginia Department of Wildlife Resources
0037	N/A	The Virginia Department of Military Affairs-Virginia Army National Guard

N/A = not applicable

Table N.9-4 Local Government, Agency, or Organization

Submission Number	Commenter	Government Organization
0032	Gretchen Heal	Hampton Roads Chamber
0040	N/A	City of Virginia Beach

N/A = not applicable

Table N.9-5 Businesses and Organizations

Submission Number	Commenter	Organization
0006	N/A	ECONcrete
0008	N/A	Hampton Roads Alliance
0009	N/A	American Waterways Operators
0010	N/A	Southeastern Wind Coalition
0011	N/A	Virginia Maritime Association
0012	N/A	Sierra Club
0013	N/A	Committee for a Constructive Tomorrow; the American Coalition for Ocean Protection; and, The Heartland Institute
0016	N/A	Dominion Energy
0017	N/A	Mid-Atlantic Fishery Management Council and New England Fishery Management Council
0019	N/A	New Bedford Port Authority
0020	N/A	BlueGreen Alliance
0021	N/A	Southern Environmental Law Center
0024	N/A	The Nature Conservancy
0025	N/A	Business Network for Offshore Wind
0025	N/A	Responsible Offshore Development Alliance
0031	Nicholas Tabor	World Shipping Council
0033	Julia Beaty	Mid-Atlantic Fishery Management Council

N/A = not applicable

Table N.9-6 Individuals

Submission Number	Commenter	Form Letter (FL) or Other Applicable Information
0002	Vic Nicholls	N/A
0003	Roman Parr	N/A
0004	Samuel Taylor	N/A
0005	Kathy Owens	N/A
0027	Keating	N/A
0028	James Sherlock	N/A

Submission Number	Commenter	Form Letter (FL) or Other Applicable Information
0029	Thomas Turner	N/A
0030	David Yancey	N/A
0034	James Sherlock	N/A
0035	Earle Mithshell	N/A
0036	Robert L. Thomas	N/A

N/A = not applicable

