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Coastal Virginia Offshore Wind Commercial Project Final Environmental Impact Statement

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Coastal Virginia Offshore Wind Commercial Project Final Environmental Impact Statement

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Author:

Bureau of Ocean Energy Management
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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
<p>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.</p>	<p>BOEM’s Preferred Alternative is identified in the Final EIS as Alternative B in combination with Alternative D-1.</p>
<p>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.</p>	<p>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.</p>
<p>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.</p>	<p>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.”</p> <p>The impacts in the Final EIS consider the use of BOEM’s required mitigation and avoidance measures.</p>
<p>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</p>	<p>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.</p>

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>

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<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>

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<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>

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<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>

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	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)."

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<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>

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<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
<p>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</p>	<p>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.")</p>
<p>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</p>	<p>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.</p>

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. 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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(doi.org/10.3389/fmars.2022.884943). Please include in your analysis the potential impacts on larval transport.	
<p>Section 3.6.5 PDF Page: 154</p> <p>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</p> <p>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</p> <p>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</p> <p>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 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 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 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: micro-siting 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 micro-siting 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 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." 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 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 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>

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<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>

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<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>

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<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>

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<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."</p> <p>This conclusion should be removed. No ASLF impacts are anticipated.</p>	
<p>DEIS Section: Appendix O Page Number: O-23</p> <p>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.</p> <p>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</p> <p>Recommended Revision/DEIS Text: "BOEM is attempting to obtain all information essential to a reasoned choice among alternatives for environmental justice impacts."</p> <p>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>

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<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
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).	
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.	Comment noted.
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.	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.
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.	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> .
DEIS Section: 3.12 Environmental Justice	Because ASLF may have major impacts on cultural resources, they are mentioned in Section 3.12, <i>Environmental Justice</i> , as awareness

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: $R_{95\%} \text{ Radius (m)} = \sqrt{((\text{Area} \cdot 0.95) / \pi)}$ 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	<p>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.</p>	<p>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.</p>
0026-0010	<p>[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</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. “No construction” was not included in the evaluation of alternatives because decisions that were made regarding other projects are</p>

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>

Comment No.	Comment	Response
	<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>

Comment No.	Comment	Response
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>	

Comment No.	Comment	Response
	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."

Comment No.	Comment	Response
	<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

Comment No.	Comment	Response
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	

Comment No.	Comment	Response
	<p>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.</p>	
0013-0040	<p>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?</p>	<p>The Project by itself would not result in a net reduction of CO₂ in the atmosphere. Rather, it would reduce the rate at which human activities add CO₂ to the atmosphere by displacing fossil-fuel energy and, therefore, reducing GHG emissions. Because CO₂ 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.</p>
0013-0041	<p>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.</p>	<p>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.</p>
0013-0059	<p>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.</p>	<p>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.</p>

Comment No.	Comment	Response
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>

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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>

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	<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>

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	<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>

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	<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>

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	<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>

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	<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>

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	<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>

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	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

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	<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>

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	<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>

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		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

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	<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	<p>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.</p>	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.

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	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 (Phalacrocorax carbo) can detect auditory cues while diving, SCI. OF NATURE (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, SCIENTIFIC REPORTS (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, MARINE TECH. SOC'Y J. (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	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.	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. 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.
0024-0017	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	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. 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.

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: Ludwigia brevipes], Long beach seedbox (G2G3/S2/NL/NL) -[Italics: Perimyotis subflavus], 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: Trillium pusillum var. virginianum], 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>	Text has been added to the Final EIS to include this information.
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>	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

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

Comment No.	Comment	Response
	<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>

Comment No.	Comment	Response
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> .

Comment No.	Comment	Response
	<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

Comment No.	Comment	Response
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

Comment No.	Comment	Response
		<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>

Comment No.	Comment	Response
	<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>

Comment No.	Comment	Response
	<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>

Comment No.	Comment	Response
	<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 Tribes 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 Tribes 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 Tribes and consulting parties on November 11, 2022. Additionally, BOEM provided available information on terrestrial archaeological resources to Tribes 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 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</p>

Comment No.	Comment	Response
		<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>
0022-0014	<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>
0022-0022	<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>

Comment No.	Comment	Response
	<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>

Comment No.	Comment	Response
0037-0025	<p>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.]</p>	<p>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.</p>
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>	<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.</p>

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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 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>

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	<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 DEMA 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
	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	<i>Invertebrates, and Essential Fish Habitat, under Gear utilization.</i>
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>	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
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>	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> .
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>	Text has been added to Final EIS Appendix D, <i>Analysis of Incomplete or Unavailable Information</i> .

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	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"	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.
0013-0037	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	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

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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	<p>[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</p>	<p>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.</p>
0021-0116	<p>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.</p>	<p>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.</p>
0021-0117	<p>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</p>	<p>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.</p>

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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:</i> regional] occurrence, abundance, and seasonality of species likely to occur in the Project Area, rather than the [<i>Italics:</i> Project Area-specific] 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>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.

Comment No.	Comment	Response
	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	<p>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>	<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	<p>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.</p>	<p>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.</p>
0013-0048	<p>{Study Name: Wind Turbine Generator (WTG) Impacts to Marine Vessel Radar (MVR)(2022)] “WTGs are large</p>	<p>Dominion Energy conducted a robust Navigation Safety Risk Assessment (NSRA) in accordance with USCG requirements. In</p>

Comment No.	Comment	Response
	<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>

Comment No.	Comment	Response
		<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
		<p>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>0021-0092; 0021-0094</p>	<p>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.]</p>	<p>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</p>

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>

Comment No.	Comment	Response
	<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>
0021-0077	<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>
0021-0078	<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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	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.	the Project.
0014-0037	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.	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.
0014-0041	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.	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.
0014-0052	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.	Thank you for your comment; comment noted.
0018-0025	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	Text has been added to Section 3.8.1.4 of the Final EIS to include information about canebrake rattlesnakes.

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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: <i>Id.</i> 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., <i>Implementing conservation measures for the North Atlantic right whale: Considering the behavioral ontogeny of mother?calf pairs</i>, 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	<p>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</p>	<p>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. <p>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.</p>
0021-0057	<p>[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.</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>
0021-0068	<p>[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</p>	<p>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.</p>

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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 µPa_{2s}) 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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	<p>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.</p>	<p>Strategy program https://repository.library.noaa.gov/view/noaa/47925.</p>
0037-0019	<p>-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 SSMMR property. . .</i>"] [Meant to refer to SMR? Disruption to military training and other military support activities at SMR?]</p>	<p>The typo in this applicant-proposed mitigation measure has been corrected in the Final EIS.</p>
0037-0020	<p>-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.]</p>	<p>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.</p>
0037-0021	<p>-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.]</p>	
0037-0025	<p>-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.]</p>	
0018-0015	<p>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).</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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		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 [Italics: Planned Activities Scenario.] [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>

Comment No.	Comment	Response
	<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>

Comment No.	Comment	Response
	<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>

Comment No.	Comment	Response
		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
<p>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.</p>
<p>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.</p>
<p>Submission IDs contributing to comment summary: 0006-0001</p>
<p>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.</p>
<p>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</p>
<p>Submission IDs contributing to comment summary: 0010-0004</p>

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
<p>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.</p>
<p>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.</p>
<p>Submission IDs contributing to comment summary: 0010-0005, 0027-0001</p>

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
<p>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.</p>
<p>Response: Thank you for your comment. Impacts on environmental justice populations from the Proposed Action are analyzed in Section 3.12 of the EIS.</p>
<p>Submission IDs contributing to comment summary: 0010-0008</p>

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

Appendix O Finding of Adverse Effect for the Coastal Virginia Offshore Wind Commercial Construction and Operations Plan

The Bureau of Ocean Energy Management (BOEM) has made a Finding of Adverse Effect under Section 106 of the National Historic Preservation Act (NHPA) pursuant to 36 Code of Federal Regulations (CFR) 800.5 for the Coastal Virginia Offshore Wind Commercial Project (CVOW-C or Project) Construction and Operations Plan (COP) (Dominion Energy 2023b). BOEM finds that the undertaking would adversely affect the following historic properties:

- 24 historic aboveground resources, including the First Cape Henry Lighthouse National Historic Landmark (NHL) (Table O-7; Sections O.3.1.2.3, *Historic Aboveground Resources*, and O.3.1.3, *Assessment of Effects on Historic Properties in the Visual APE*).

The Project is considered to have the potential to have adverse effects on these cultural resources, which are historic properties presently listed or potentially eligible for listing in the National Register of Historic Places (NRHP). The adverse effects would occur as a result of either physical effects or the visual effects of introducing changes to the setting of historic properties whose importance is partially derived from having a maritime setting.

Construction of the Project would cause physical adverse effects on one historic aboveground resource that is a historic property listed in the NRHP: the Camp Pendleton/State Military Reservation Historic District, which is also one of 24 historic aboveground resources located within the visual APE for Offshore Project components anticipated to be visually adversely affected by the undertaking. This historic district would experience adverse effects due to the demolition of two contributing structures (Buildings 59 and 410) and removal of vegetation.

The Project would also cause visual and contribute to cumulative effects from Offshore Project component visibility on 24 historic aboveground resources, including one NHL (i.e., the First Cape Henry Lighthouse), for which ocean views are a character-defining feature that contributes to their NRHP eligibility. For compliance with NHPA Section 110(f) at 36 CFR 800.10, which applies specifically to NHLs, BOEM has determined the First Cape Henry Lighthouse NHL would be adversely affected by the undertaking and that the one other NHL located within the APE (i.e., Eyre Hall) would not be adversely affected by the undertaking (COP, Appendix H-1; Dominion Energy 2023b).

Since the publication of the Draft EIS, BOEM has determined certain historic properties identified in and adjacent to the APE, that had been anticipated to be adversely affected by the Project in the Draft EIS, would no longer be subject to effects or adverse effects based on avoidance commitments made by Dominion Energy (see Attachment A for the Memorandum of Agreement [MOA], which BOEM is using to codify avoidance, minimization, and mitigation measures for historic properties). The Project would avoid effects on all 31 identified marine archaeological resources and six (6) identified ancient submerged landform features (ASLFs) with potential archaeological or traditional cultural property (TCP) significance by implementing avoidance buffers around the defined spatial extent of each of these historic properties (Section O.3.1.1, *Assessment of Effects on Historic Properties in the Marine APE*). Additionally, BOEM has determined that no terrestrial archaeological resources that are historic properties are subject to adverse effects from the undertaking due to avoidance commitments made by Dominion Energy (Section O.3.1.2, *Assessment of Effects on Historic Properties in the Terrestrial APE*).

BOEM elected to use the National Environmental Policy Act (NEPA) substitution process for Section 106 purposes, as described in 36 CFR 800.8(c), during its review. The regulations at 36 CFR 800.8(c) provide for use of the NEPA process to fulfill a federal agency's NHPA Section 106 review obligations in lieu of the procedures set forth in 36 CFR 800.3 through 800.6. NEPA substitution is described at http://www.achp.gov/integrating_nepa_106. Both NEPA and Section 106 allow participation of consulting parties. Consistent with use of the NEPA substitution process to fulfill Section 106 requirements, BOEM has decided to codify the resolution of adverse effects through a MOA pursuant to 36 CFR 800.6(c). See Attachment A.

O.1. Project Overview

On June 29, 2021, BOEM received a COP from Dominion Energy proposing an offshore wind energy project within Lease Area OCS-A-0483 offshore Virginia. In addition, Dominion Energy submitted updates to the COP on October 29, 2021, December 3, 2021, May 6, 2022, February 28, 2023, and July 31, 2023. In its COP, Dominion Energy proposes the construction, operation, and eventual decommissioning of an up-to 3,000 MW wind energy project consisting of offshore wind turbine generators (WTGs) and their foundations, offshore substations (OSSs) and their foundations, scour protection for foundations, inter-array cables linking the individual turbines to the OSSs, substation interconnector cables linking the substations to each other, offshore export cables, and an onshore export cable system, onshore substations, and connections to the existing electrical grid in Virginia. At their nearest point, WTG and OSS components of the Project would be approximately 23.75 nautical miles (27 statute miles) east of Virginia Beach, Virginia. Offshore Project elements would be on the Outer Continental Shelf (OCS), with the exception of a portion of the offshore export cables within state waters. Dominion Energy is utilizing a Project Design Envelope (PDE) in its COP, which represents a reasonable range of design parameters that may be used for the Project. In reviewing the PDE, BOEM is analyzing the maximum-case scenario that could occur from any combination of the contemplated parameters. BOEM's analysis and review of the PDE may result in the approval of a project that is constructed within that range or a subset of design parameters within the proposed range. The Proposed Action is based on Dominion Energy's maximum-case design parameters, which are described in the COP and summarized in Appendix E, *Project Design Envelope and Maximum-Case Scenario*.

If approved by BOEM and other agencies with authority to approve Project components outside BOEM's jurisdiction, Dominion Energy would be allowed to construct and operate WTGs, export cables to shore, and associated facilities, including those outside BOEM's jurisdiction, for a specified term. BOEM is now conducting its environmental and technical reviews of the COP and, on December 16, 2022, published a Draft Environmental Impact Statement (EIS) under NEPA for its decision regarding approval of the plan (BOEM 2022a). A detailed description of the proposed Project can be found in Chapter 2 of the Final EIS. The Final EIS considers reasonably foreseeable impacts of the Project, including impacts on cultural resources, which include historic properties.

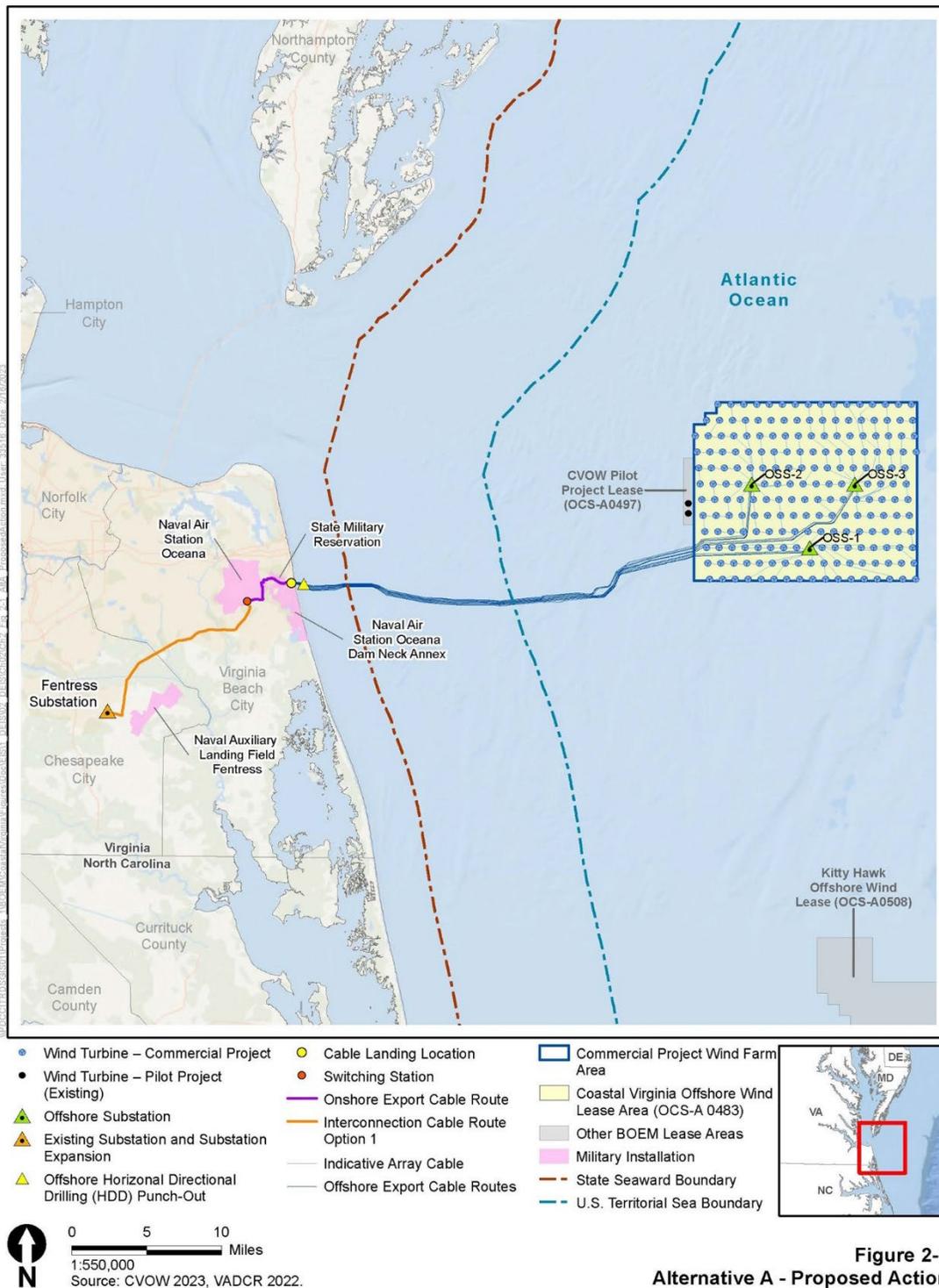


Figure O-1 CVOW-C Proposed Action

O.1.1 Background

The Project is within a commercial lease area that has received previous Section 106 review by BOEM regarding the issuance of the commercial lease and approval of site assessment activities and is subject to one prior Programmatic Agreement. In 2014, BOEM executed a Programmatic Agreement among the State Historic Preservation Office (SHPO) of North Carolina and the Advisory Council on Historic Preservation (ACHP) to consider renewable energy activities offshore North Carolina (refer to <https://www.boem.gov/sites/default/files/renewable-energy-program/State-Activities/HP/offshore-windfarm-development.pdf>).

On February 3, 2012, BOEM also published in the *Federal Register* a Notice of Availability for the final Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) for commercial wind lease issuance and site assessment activities on the Atlantic OCS offshore New Jersey, Delaware, Maryland, and Virginia. The commercial lease sale for Virginia was held on September 4, 2013. At the conclusion of the sale, BOEM announced that Virginia Electric and Power Company (Dominion Energy) was the provisional winner. On November 1, 2013, the commercial wind energy lease with Dominion Energy went into effect. On October 12, 2017, BOEM approved the Site Assessment Plan (SAP) for Lease OCS-A 0483.

Dominion Energy's COP (2023) proposed installing a maximum of 202 WTGs extending up to 869 feet (276 meters) above mean sea level (MSL). Dominion Energy would mount the WTGs on monopile foundations. The proposed facility includes up to three OSS, which would be built on pile jacket foundations. Where required, scour protection would be placed around foundations to stabilize the seabed near the foundations as well as the foundations themselves. Inter-array cables would transfer electrical energy generated by the WTGs to the OSSs. The OSSs would include transformers and other electrical equipment needed to connect the inter-array cables to the offshore export cables. The offshore export cables would be buried under the seabed floor within the offshore export cable route corridor (ECRC) to connect the proposed wind energy facility to the onshore electrical grid. The offshore export cables would make landfall at and deliver electrical power to the cable landing location, which is the proposed parking lot located west of the firing range associated with Camp Pendleton/State Military Reservation in Virginia Beach, Virginia.

From the cable landing location, the onshore export cables would transfer the electricity to a switching station. The switching station, which would either be at the Harpers Switching Station or Chicory Switching Station location, would collect power and transfer it to interconnection cables. There are two options for the interconnection cables and switching station locations in the PDE: Route Option 1, which would include use of the Harpers Switching Station, and Route Option 6, which would include use of the Chicory Switching Station. Only one of these two options would be selected in the final Project design, with Route Option 1 being Dominion Energy's preferred option as well as the option approved by the Virginia State Corporation Commission (SCC). The interconnection cables would transfer energy to the onshore substation, which is the existing Fentress Substation located northwest of the intersection at Centerville Turnpike and Etheridge Manor Boulevard in Chesapeake, Virginia. The onshore substation would be expanded and upgraded and serve as the final Point of Interconnection (POI) for power distribution to the Pennsylvania-New Jersey-Maryland Interconnection (PJM) grid.

Dominion Energy intends on leasing a portion of an existing facility to act as the operations and maintenance (O&M) facility. Dominion Energy is evaluating leasing options in Virginia Port Authority's (VPA's) Portsmouth Marine Terminal and Newport News Marine Terminal in the Hampton Roads area of Virginia. Generally, offshore O&M activities would include inspections of Offshore Project components, including WTG and offshore substation electrical components and equipment, for signs of corrosion, quality of coatings, and structural integrity of the WTG components; surveys of the offshore export cables

and inter-array cables routes to confirm the cables have not become exposed or that any cable protection measures have not worn away; sampling and testing (including of lubricating oils, etc.); replacement of consumable items; repair or replacement of worn, failed, or defective systems; updating or improving systems; and disposal of waste materials and parts. Dominion Energy would need to use vessels, vehicles, and aircraft during O&M activities described above.

The switching station and the onshore substation would be equipped with monitoring equipment. Onshore O&M activities would include regular inspections and routine maintenance activities, including the replacement of or update to electrical components and equipment. The onshore export cables and interconnection cables would require periodic testing, with readings taken from access chambers, but should not require maintenance, though occasional repair activities may be required should there be a fault or damage caused by a third party or unanticipated events. Overhead lines would be inspected prior to each line being energized and then inspected every 3 years after. Overhead lines would also be inspected following localized storm events. Right-of-way (ROW) vegetation management crews would inspect the overhead easement every 3 years for woody vegetation and hazard trees.

Although the proposed Project is anticipated to have an operational life of 33 years, it is possible that some installations and components may remain fit for continued service after this time. Dominion Energy would be required to remove or decommission all Project infrastructure and clear the seabed of all obstructions following termination of Project operational activities and the Lease. All Project components would be removed to 15 feet (4.6 meters) below the mudline (30 CFR 585.910(a)), unless other methods are deemed suitable through consultation with the regulatory authorities, including BOEM. Unless otherwise authorized by BOEM, Dominion Energy would complete decommissioning within 2 years of termination of the Lease and either reuse, recycle, or responsibly dispose of all materials removed. Offshore export cables and inter-array cables would be retired in place or removed in accordance with a decommissioning plan; Dominion Energy would need to obtain separate and subsequent approval from BOEM to retire any portion of the Project in place. Section 106 review would be conducted at the decommissioning stage.

O.1.2 Undertaking

BOEM has determined that the Project constitutes an undertaking subject to Section 106 of the NHPA as amended (54 USC 306108) and its implementing regulations (36 CFR 800), and the Project activities proposed under the COP have the potential to affect historic properties. Confidential appendices to the COP referenced in this document were sent electronically or by mail depending on expressed preference to all consulting parties on November 11, 2022, March 20, 2023, June 5, 2023, and July 14, 2023. The COP, as well as its public and confidential appendices, is hereby incorporated by reference.

The undertaking for this Section 106 review is the Proposed Action. As described in Chapter 2, Section 2.1.1 of the Final EIS, the Proposed Action would include the construction, O&M, and conceptual decommissioning of a 2,500 MW to 3,000 MW wind energy facility on the OCS offshore Virginia, occurring within the range of design parameters outlined in the CVOW-C COP (Dominion Energy 2023b), subject to applicable mitigation measures.

O.1.3 Area of Potential Effect

Per 36 CFR 800.16(d), the APE is defined as “the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist.” BOEM defines the APE for the undertaking to include the following geographic areas:

- The depth and breadth of the seabed potentially impacted by any bottom-disturbing activities, constituting the marine portion of the APE.

- The depth and breadth of terrestrial areas potentially impacted by any ground-disturbing activities, constituting the terrestrial portion of the APE.
- The viewshed from which renewable energy structures, whether offshore or onshore, would be visible, constituting the visual portion of the APE.
- Any temporary or permanent construction or staging areas, both onshore and offshore, which may fall into any of the above portions of the APE.

These are described below in greater detail with respect to the proposed activities, consistent with BOEM’s *Guidelines for Providing Archaeological and Historic Property Information Pursuant to 30 CFR Part 585* (BOEM 2020). Effects are assessed on only historic properties in the APE for the Project. This includes reasonably foreseeable effects caused by the Project that may occur later in time, be farther removed in distance, or be cumulative (36 CFR 800.5(a)(1)). An overview map of the Project APE is presented in Attachment B, Figure O.B-1.

On November 11, 2022, BOEM released a technical memorandum delineating the APE and demonstrating how the Preliminary APE (PAPE) developed in the CVOW-C technical studies sufficiently encompasses the scope and boundaries of the undertaking (ICF 2022). Additionally, on March 20, 2023, BOEM released another technical memorandum revising the terrestrial portion of the APE based on updates to Dominion Energy’s PDE (Dominion Energy 2023b).

O.1.3.1 Marine Portion of the APE

The marine portion of the APE (hereafter referred to as the *marine APE*) for the Project is the depth and breadth of the seabed potentially impacted by any bottom-disturbing activities and temporary or permanent offshore construction or staging areas (Attachment B, Figure O.B-2). It includes a conservative PDE that can accommodate a number of potential designs. The marine APE encompasses activities within the Lease Area (Attachment B, Figure O.B-3) and offshore ECRC (Attachment B, Figure O.B-4).

The Lease Area encompasses 112,799 acres (45,658 hectares) within which Dominion Energy proposes up to 202 WTGs, 3 OSSs, and inter-array cables within the extent of the PDE. In the maximum design scenario, the offshore ECRC would measure approximately 49.01 miles (79 kilometers) in length and would range in width from 1,970 feet (600 meters) to 9,400 feet (2,865 meters).

The approximate maximum horizontal area and vertical depth of seabed disturbance associated with the construction or installation of each of these aforementioned Offshore Project components and composing the marine APE are provided in Table O-1.

Table O-1 Approximate Maximum Horizontal and Vertical Extents of Seabed Disturbance for Construction of Offshore Project Components Composing the Marine APE

Project Component	Seabed Disturbance	
	Maximum Horizontal Area	Maximum Vertical Depth
Per WTG (monopile foundation)	984.3 ft (300.0 m) radius	197 ft (60 m)
Per OSS	497,092 sq ft (46,181 sq m)	69 ft (82 m)
Inter-array cables	48 ac (19 ha)	11.5 ft (3.5 m)
Offshore Export Cable Route Corridor	15,886 ac (6,429 ha)	18.5 ft (5.5 m)

Source: COP, Tables 3.3-3, 3.3-7, 3.4-1, 3.4-2; Dominion Energy 2023b.
 ac = acres; ft = feet; ha = hectares; m = meters; OSS = offshore substation; sq = square; WTG = wind turbine generator.

O.1.3.2 Terrestrial Portion of the APE

The terrestrial portion of the APE (hereafter referred to as the *terrestrial APE*) includes the depth and breadth of terrestrial areas potentially impacted by any ground-disturbing activities and temporary or permanent onshore construction or staging areas (Attachment B, Figures O.B-5 to O.B-8). In the COP, Dominion Energy's conservative PDE of Onshore Project components includes the proposed cable landing location, nearshore trenchless installation area, Harpers Switching Station, Chicory Switching Station, upgrades at the onshore substation (existing Dominion Energy Fentress Substation), onshore export cable route, Interconnection Cable Route Options 1 and 6, and affiliated temporary workspaces or laydown yards. The depth and breadth of potential ground-disturbing activities are described below for each location.

The PDE includes the sea-to-shore transition cable landing location located at the proposed parking lot west of the firing range at the State Military Reservation (SMR) in Virginia Beach, Virginia. The cable landing location would utilize trenchless installation and entail use of the nearshore trenchless installation area. From the cable landing location, the approximately 4.41-mile (7.10-kilometer) long onshore export cable would be installed underground within vaults and duct banks with the onshore export cable route corridor. A switching station would then transfer energy from the onshore export cables to the interconnection cables. Construction of the switching station would involve site clearing and grading, foundation and equipment construction, and site mitigation and restoration. Interconnection Cable Route Options 1 and 6 would follow the same approximately 14.3-mile (22.9-kilometer) cable route; however, Route Option 1 would involve use of the Harpers Switching Station and overhead cabling only, and Route Option 6 would involve use of the Chicory Switching Station and a hybrid of overhead and underground cabling. The Interconnection Cable Route would transfer electricity to the onshore substation (the existing Fentress Substation and POI). Expansion or upgrading of the existing onshore substation would involve site clearing and grading, foundation and equipment installation, and site restoration.

Since the publication of the Draft EIS, Dominion Energy adjusted a portion of the overhead alignment for the proposed Interconnection Cable Route located south of the Princess Anne Athletic Complex in the City of Virginia Beach, Virginia, to accommodate landowner concerns. The alignment for this 2,365.77-foot (721.09-meter) segment of the Interconnection Cable Route has been rerouted approximately 200 feet (61 meters) to the north and onto land primarily consisting of developed, open space associated with the Princess Anne Athletic Complex. BOEM has adjusted the terrestrial APE to accommodate this Interconnection Cable Route shift as depicted in Figure O.B-8.

The approximate maximum horizontal area and vertical depth of ground disturbance associated with the construction or installation each of these aforementioned Onshore Project components and composing the terrestrial APE are provided in Table O-2.

Table O-2 Approximate Maximum Horizontal and Vertical Extents of Ground Disturbance for Construction of Onshore Project Components Composing the Terrestrial APE

Project Component		Ground Disturbance	
		Maximum Horizontal Area	Maximum Vertical Depth
Cable Landing Location		2.8 ac (1.1 ha)	125 ft (38 m)
Nearshore Trenchless Installation Area		0.36 ac (0.15 ha)	
Onshore Export Cable Route Corridor		26.6 ac (10.8 ha) temporary; 1.0 ac (0.4 ha) permanent	13 ft (4 m)
Switching Station	Harpers (Interconnection Cable Route Option 1)	465. (18.4 ha)	Static pole structures: 30 ft (9 m); Backbone structures: 50 ft (15 m)
	Chicory (Interconnection Cable Route Option 6)	35.5 ac (14.4 ha)	
Interconnection Cable Route Corridor	Route Option 1	0 ac (0 ha) temporary; 1.0 ac (0.4 ha) permanent	Single-circuit monopole structures: 60 ft (18 m); Double-circuit monopole structures: 80 ft (24 m); Open trench interconnect duct bank: 13 ft (4 m)
	Route Option 6	29.0 ac (11.7 ha) temporary; 4.2 ac (1.7 ha) permanent	
Onshore Substation (Dominion Energy Fentress Substation expansion)		15.2 (6.2 ha)	50 ft (15 m)

Source: COP, Tables 1.2-1 and 3.4-6, and Appendix DD, Table DD-3; Dominion Energy 2023b.
 ac = acres; ft = feet; ha = hectares; km = kilometers; m = meters.

O.1.3.3 Visual Portion of the APE

The visual portion of the APE (hereafter referred to as the *visual APE*) includes the viewshed from which renewable energy structures—whether offshore or onshore—would be visible (Attachment B, Figure O.B-9).

For the visual APE for Offshore Project components, geographic information system analysis was used to delineate the APE methodically through a series of steps, beginning with the maximum theoretical distance WTGs could be visible. This was determined by first considering the visibility of a WTG from the water level to the tip of an upright rotor blade at a height of 869 feet. The analysis then accounted for how distance and Earth curvature impede visibility as the distance increases between the viewer and WTGs (i.e., with a 40-mile [64-kilometer] distance, even blade tips would be below the sea-level horizon line). This area was refined through computer modeling with the addition of a land cover vegetation layer to account for large areas of tall vegetation that limit projected visibility to the Project. Data layers for building footprints and building heights were then added to account for existing development projected to screen views to the Project (COP, Appendices H-1 and I-1; Dominion Energy 2023b). Areas with unobstructed views of Offshore Project elements then constituted the APE.

For the visual APE for Onshore Project components, the APE includes the following components included in the PDE: the cable landing location at the Virginia SMR; the underground transmission line connecting it to a point north of Harpers Road in Virginia Beach, known as the Cable Landing to Harpers (CLH) Route; Fentress Substation; proposed Chicory Switching Station for the Hybrid Route; and one potential overhead transmission line route and one underground/overhead hybrid transmission route,

known as Interconnection Cable Route Options 1 and 6. For these route options, the APE was defined in accordance with the nature of the proposed construction for specific segments, as follows:

- For portions of the proposed routes to be constructed within the existing ROW where no new vegetation would be cleared outside of the maintained ROW and where there would be no substantial increase in tower height, the APE consists of resources adjacent to the ROW.
- For portions of the proposed routes to be constructed within the existing ROW and where there would be areas of new vegetation clearance, the APE consists of 0.5 mile on either side of the existing ROW.
- For portions of the routes to be constructed in the proposed new ROW where there is no existing ROW, the APE consists of 0.5 mile on either side of the proposed new ROW (see Attachment B, Figure O.B-14) (COP, Appendix H-3, page 11; Dominion Energy 2023b).

On August 5, 2022, Dominion Energy received approval from the Virginia SCC for use of the portion of the Offshore Export Cable from 3 miles (4.8 kilometers) offshore landward and other preferred Onshore Project components (i.e., Interconnection Cable Route Option 1) in the Commonwealth of Virginia. As a result, the Onshore Project components would exclude Interconnection Cable Route Options 2, 3, 4, and 5 and include only Route Options 1 and 6. Additionally, since publication of the Draft EIS, Dominion Energy adjusted a portion of the overhead alignment for the proposed Interconnection Cable Route located south of the Princess Anne Athletic Complex in the City of Virginia Beach, Virginia, to accommodate landowner concerns. The alignment for this 2,365.77-foot (721.09-meter) segment of the interconnection cable route has been rerouted approximately 200 feet (61 meters) to the north and onto land primarily consisting of developed open space associated with the Princess Anne Athletic Complex. Therefore, BOEM has adjusted the visual APE, which includes a 0.5-mile (0.8 kilometer) buffer around the cable route, to include only the remaining Route Options 1 and 6 in the PDE and to accommodate the shift of the cable route to the north (Figure O.B-17).

O.2. Steps Taken to Identify Historic Properties

O.2.1 Technical Studies and Reports

To support the identification of historic properties within the APE, Dominion Energy provided survey reports detailing the results of cultural resource investigations in the marine, terrestrial, and visual portions of a PAPE. Table O-3 provides a summary of these efforts to identify historic properties, including results and key findings of each investigation.

Collectively, BOEM finds that these reports represent a good-faith effort to identify historic properties in the Project APE. All documents summarized in Table O-3 have been shared with consulting parties and are hereby incorporated by reference.

Table O-3 Cultural Resources Studies Performed by Dominion Energy in the Project APE

Portion of APE	Report	Description	Key Findings/Recommendations
Marine	<i>Marine Archaeological Resources Assessment for the Coastal Virginia Offshore Wind Commercial Project Located on the Outer Continental Shelf Offshore Virginia (COP, Appendix F; Dominion Energy 2023b)</i>	MARA. Prepared by Tetra Tech, Inc. Assessment of the high-resolution geophysical survey data collected during non-intrusive survey campaigns and the geotechnical assessment in the marine PAPE representing the extent of anticipated seabed effects associated with the Project.	Tetra Tech identified 31 potential marine archaeological resources, 18 within or near the Lease Area and 13 within or near the offshore ECRC. For each marine archaeological resource, a resource-specific avoidance zone, entailing a minimum distance of 50 meters from the resource, was recommended. In addition, 5 ASLFs were identified within the Lease Area. One additional landform was identified outside of but near the Lease Area and considered for potential effects from the Proposed Action due to its proximity. No ASLFs were identified within the offshore ECRC. For each of the ASLFs, a resource-specific minimum area of avoidance was recommended.
Marine	<i>Marine Archaeological Resources Assessment for the Coastal Virginia Offshore Wind Commercial Project Located on the Outer Continental Shelf Offshore Virginia: Amendment I (COP, Appendix F; Dominion Energy 2023b)</i>	Amendment to MARA. Prepared by RCG&A.	Dominion Energy submitted this amendment to advance development of the Project. RCG&A, under subcontract to Tetra Tech and on behalf of Dominion Energy, conducted this archaeological assessment of marine HRG data and evaluated the marine PAPE for the presence of submerged cultural resources along the offshore ECRC affected by OEC alignment changes and some missing data. The additional data coverage has not altered previous interpretations presented in the MARA (COP, Appendix F; Dominion Energy 2023b).

Portion of APE	Report	Description	Key Findings/Recommendations
Terrestrial	<i>Terrestrial Archaeological Resources Assessment</i> (COP, Appendix G; Dominion Energy 2023b) ¹	TARA. Prepared by Tetra Tech, Inc. Background research, examination of historical maps, assessment of primary documents available at the VDHR, field reconnaissance of the proposed Onshore Project component locations, archaeological sensitivity assessment, preliminary findings from Phase IB cultural resource survey efforts, and proposed methodology for further cultural resources work.	Terrestrial archaeological background research and survey encompassed areas proposed for Onshore Project components. Investigations identified 24 terrestrial archaeological resources (i.e., 14 sites and 10 isolated finds [IFs]) and 1 mid-twentieth century cemetery with 1 grave in or near the terrestrial PAPE. Portions of the terrestrial APE that were unsurveyed as of May 2022 have since been surveyed in this version of the report.
Terrestrial	<i>Terrestrial Archaeological Resources Assessment of the Proposed Route Shift</i> (COP, Appendix G, Addendum; Dominion Energy 2023b)	Addendum to TARA. Prepared by Tetra Tech, Inc. Reporting on onshore route shift for Interconnection Cable Route Option 1 in Dominion Energy's PDE.	A total of 83 shovel tests (STs) were dug along the length of the proposed route shift as part of Survey Unit 0022, which also includes the original PAPE to the south. None of the 83 STs (106–188) contained artifacts. Numerous STs contained deflated soils or inverted stratigraphy with a layer of subsoil above topsoil indicating grading and/or filling. In some STs the topsoil contained modern plastic and Styrofoam, likely from food containers. ST 113 contained a packet of hot sauce. The subsurface disturbance and modern refuse are likely associated with the construction of the Princess Anne Athletic Complex in the early 21 century. No further survey along the proposed route shift is recommended.

Portion of APE	Report	Description	Key Findings/Recommendations
Terrestrial	<i>Section 106 Phased Identification Plan (COP, Appendix DD; Dominion Energy 2023b)</i>	PIP. Prepared by Tetra Tech, Inc. Overview of Project and PAPE. Plan for completion of phased historic property identification and completion of the TARA.	Dominion Energy used a process of phased identification and evaluation of historic properties to complete the TARA prior to preparation of the CVOW-C Final EIS. Preparation of the TARA had been phased because of the lack of private property access permission for the entirety of the Onshore Project components under consideration. This document details the steps Dominion Energy took to complete the required cultural resources surveys following Virginia SCC's approval and issuance of the CPCN. Dominion Energy completed the remainder of the TARA for parcels where access was not previously gained and provided the TARA report to BOEM in March 2023 (see previous rows in the table for the TARA).
Visual/ Terrestrial	<i>Phase I Historic Architectural Survey of Alternative Routes, Coastal Virginia Offshore Wind Commercial Project, City of Virginia Beach and City of Chesapeake, Virginia (COP, Appendix H-3; Dominion Energy 2023b)</i>	HRVEA for Onshore Project components. Desktop and field identification of previously recorded as well as newly identified aboveground historic resources within the PAPE for the electric transmission line alternative routes, extending from the cable landing location in Virginia Beach to the existing Fentress Substation in the city of Chesapeake.	A total of 322 resources were identified within the PAPE (see Table H-3.4.1-1), including 153 previously identified and 169 newly identified resources. All 169 newly recorded resources were recommended ineligible for the NRHP. Of the 153 previously recorded resources, 47 are no longer extant, 93 were recommended not eligible, 7 were recommended eligible, 4 are listed on the NRHP, and 2 are locally significant. This report also identified one archaeological resource (44VB0388) for consideration by the Project. A total of 13 aboveground historic resources were assessed for potential effects. The report found that one historic property, the Camp Pendleton/State Military Reservation Historic District, would be adversely affected by the Cable Landfall to Harpers Route. As described in the report, five additional historic properties could be adversely affected, depending on the Harpers to Fentress (HF) cable route chosen for construction. Among the alternative HF routes, HF Routes 2, 3, 4, and 5 would have adverse effects on historic properties—four in the case of HF Route 5, three in the case of HF Routes 2 or 3, and two in the case of HF Route 4.

Portion of APE	Report	Description	Key Findings/Recommendations
Visual	<i>Offshore Project Components Historic Properties Effects Analysis</i> (COP, Appendix H-1; Dominion Energy 2023b)	HRVEA for Offshore Project components. A study evaluating visual effects of Offshore Project components on historic properties.	This report identified 712 properties (see Attachment H-1-7 of the HRVEA) within the portion of the visual PAPE for Offshore Project components. The report assessed the maritime setting and important character-defining ocean views for each property. According to the report, 25 historic properties would be adversely affected, including the First Cape Henry Lighthouse National Historic Landmark and the Camp Pendleton/State Military Reservation Historic District (see Table O-7). ²

Sources: COP, Appendices DD, F, G, H-1, and H-3; Dominion Energy 2023b.

¹ Because of Dominion Energy’s process of phased identification and evaluation of historic properties that occurred between the Draft and Final EISs, the PIP had been shared with consulting parties in lieu of the TARA report in November 2022 (COP, Appendix DD; Dominion Energy 2023b; Section O.5, *Phased Identification and Evaluation*). BOEM shared the completed TARA report with consulting parties on March 20, 2023.

CPCN = Certificate of Public Convenience and Necessity; HRG = high-resolution geophysical; HRVEA = Historic Resource Visual Effects Assessment; MARA = Marine Archaeological Resources Assessment; PIP = Phased Identification Plan; SCC = (Virginia) State Corporation Commission; TARA = Terrestrial Archaeological Resources Assessment; VDHR = Virginia Department of Historic Resources.

² Through Section 106 consultation with the U.S. Navy and NAS Oceana, it was determined that the Dam Neck Annex was misidentified as an NRHP-eligible property. The only eligible property associated with NAS Oceana is the Surface-Launched Guided Missile School Historic District. Through a review of the historic significance of the property and consultation with NAS Oceana, BOEM determined that this property, though within the visual APE, would not be adversely affected by the Project. Therefore, BOEM determined that 24 historic properties within the visual APE for Offshore Project components would be adversely affected.

BOEM has reviewed the reports summarized in Table O-3, found them sufficient for proceeding with Section 106 consultations, and reached the following conclusions:

- The marine cultural resource investigations include surveys of areas of potential seafloor disturbance, following BOEM’s guidelines (BOEM 2020). BOEM has reviewed the final Marine Archaeological Resources Assessment (MARA) and determined that the data are sufficient for identifying historic properties in the marine APE.
- The terrestrial archaeological resource investigations include surveys of areas of potential ground disturbance, following BOEM’s guidelines (BOEM 2020). BOEM has reviewed the TARA and its addendum and determined that the investigations summarized in these reports are sufficient for identifying historic properties in the terrestrial APE.
- The aboveground historic resource investigations included an assessment of visual effects on historic properties within the entire PDE. Effects assessments also considered visual simulations prepared as part of the Visual Impact Analysis (VIA) (COP, Appendix I-1; Dominion Energy 2023b). BOEM has reviewed the Historic Resource Visual Effects Assessment (HRVEA) and determined that the completed investigations summarized in the documents are sufficient for identifying and assessing effects on historic properties in the visual APE. BOEM finds that the APE for potential visual effects is appropriate for the scale and scope of the undertaking.

In addition to the conclusions summarized above, BOEM has found that the assessment of effects on historic properties in the marine, terrestrial, and visual APes contained within these reports is sufficient for applying the criteria of adverse effects and continuing consultation with consulting parties to resolve adverse effects on historic properties.

Consequent to the reports prepared for the COP submittal, ICF prepared a technical report for BOEM to support BOEM’s cumulative effects analysis, the *Cumulative Historic Resources Visual Effects Assessment for Coastal Virginia Offshore Wind Commercial Project* (BOEM 2022b). The Cumulative Historic Resources Visual Effects Assessment (CHRVEA) presents the analysis of cumulative visual effects in which BOEM, in review of the HRVEA for offshore Project components (COP, Appendix H-1; Dominion Energy 2023b), determined that Offshore Project components would cause adverse visual effects on historic properties. The effects of other reasonably foreseeable wind energy development activities are additive to those adverse effects from the Project, resulting in cumulative effects. Twenty-five aboveground historic properties within the viewshed of WTGs for the Project and other reasonably foreseeable offshore wind energy development activities would be adversely affected by cumulative visual effects (offshore Virginia Beach, Virginia) (BOEM 2022b).

O.2.2 Consultation and Coordination with the Parties and Public

O.2.2.1 Early Coordination

Since 2009, BOEM has coordinated OCS renewable energy activities offshore Virginia with its federal, state, local, and tribal government partners through its Intergovernmental Renewable Energy Task Force. BOEM has met regularly with federally recognized tribes that may be affected by renewable energy activities in the area since 2009, specifically during planning for the issuance of leases and review of site assessment activities. BOEM also hosts public information meetings to help keep interested stakeholders updated on major renewable energy milestones. Information pertaining to BOEM’s Intergovernmental Renewable Energy Task Force meetings for offshore Virginia is available at <https://www.boem.gov/renewable-energy/state-activities/virginia-task-force-meetings-0>, and information pertaining to BOEM’s stakeholder engagement efforts in Virginia is available at <https://www.boem.gov/renewable-energy/state-activities/virginia-activities>.

O.2.2.2 NEPA Scoping and Public Hearings

On July 2, 2021, BOEM announced its Notice of Intent (NOI) to prepare an EIS for the COP. This purpose of the NOI was to solicit input on issues and potential alternatives for consideration in the EIS. Throughout the scoping process, federal agencies; state, tribal, and local governments; and the general public had the opportunity to help BOEM determine significant resources and issues, IPFs, reasonable alternatives, and potential mitigation measures to be analyzed in the EIS, as well as provide additional information. BOEM also used the NEPA commenting process to allow for public involvement in the NHPA Section 106 consultation process (54 USC 300101 et seq.), as permitted by 36 CFR 800.2(d)(3). Through this notice, BOEM announced its intention to inform its NHPA Section 106 consultation using the NEPA commenting process and invited public comment and input regarding the identification of historic properties or potential effects on historic properties from activities associated with approval of the COP. In addition, BOEM held virtual public scoping meetings, which included specific opportunities for engaging on issues relative to NHPA Section 106 for the COP, on July 12, 14, and 20, 2021. Virtual public scoping meeting materials and records are available at <https://www.boem.gov/CVOW-C-Scoping-Virtual-Meetings>.

Through this NEPA scoping process, BOEM received comments related to cultural, historic, archaeological, or tribal resources. These are presented in BOEM's EIS Scoping Report (BOEM 2021) and are summarized as follows:

- Commenters asked that BOEM ensure compliance with Section 106 of the NHPA including ensuring adequate consultation with SHPOs, tribes, and other stakeholders throughout the EIS process.
- Commenters stated that BOEM should recognize tribes' sovereign status and provide adequate government-to-government consultation with tribal governments throughout the EIS process.
- Commenters provided information sources from which BOEM could find data related to cultural, historical, and archaeological resources including the Virginia Department of Historic Resources data sharing system and the Virginia Department of Conservation and Recreation natural heritage search in Virginia.
- Commenters recommended that BOEM perform offshore and onshore archaeological and architectural surveys to identify historic properties that may be affected by the Project and coordinate these surveys with appropriate groups including SHPOs and tribes. Commenters noted that they expect adverse effects on historic properties to be addressed through the development of appropriate avoidance, minimization, and mitigation measures with these groups.
- Commenters noted that pursuant to Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act, a permit would likely be required from the U.S. Army Corps of Engineers (USACE) for the Project, and USACE has designated BOEM as the lead federal agency to fulfill federal responsibilities under NHPA Section 106.
- Commenters felt that the COP VIA was not adequate and expressed concern over viewshed or visual impacts on historic properties from the proposed Project, including lighting in general and at specific locations such as the Bunder Overlook, Assateague Lighthouse, Colonial National Historic Park, the Cape Henry Memorial, as well as NHLs such as the First Cape Henry Lighthouse. These commenters asked that these areas be included within the APE.
- Commenters asked that the cultural reports associated with the Project be provided to consulting parties and tribes as soon as they are available.
- Commenters expressed concern over the methods presented in the COP for marine archaeological surveys in that the methods did not include significant reports related to Mid-Atlantic coastal shelf

archaeology in the past decade. These commenters also requested that BOEM request and receive expert input from the State Underwater Archaeologist at the Virginia Department of Historic Resources during the scoping process.

- Commenters expressed concern over the methods presented in the COP for terrestrial archaeological surveys in that the methods did not include an evaluation of historic properties that might have associations with tribal families. Commenters stated that the methods should include a review of literature from Frank Speck and James Mooney’s visits with specific tribes in the late nineteenth and early twentieth centuries. They also provided names of authors who recently published accounts focused on specific tribes.
- Commenters asked that the EIS include public and stakeholder review of the methods for examining and evaluating cultural landscapes.
- Commenters asked for more information regarding the location of underground cable paths coming onshore as historical archaeological material from habitats of African American and Native American people.

On August 2, 2021, additional comments from the Nansemond Indian Nation (the Nation) were submitted by Cultural Heritage Partners (CHP) on behalf of the Nation to BOEM and the Virginia SCC. The comments are summarized below:

- The letter indicates concern that methods for identification were not clearly defined; that the federally recognized tribes should be invited to discuss the methods and preliminary survey and modeling data so that the Nation can provide meaningful input into Project scoping as well as avoidance, minimization, and mitigation measures.
- The letter inquired whether the scale of involvement by the Nation reaches the ACHP’s threshold in the *Guidance on Assistance to Consulting Parties* in the Section 106 Review Process for providing compensation for tribal expertise and consultant services.
- The letter requested that cultural resources reports associated with the [Site Assessment Plan] be provided to the Nation as soon as they are available to assist with their review of this Project.
- The letter noted that the methods for marine archaeological survey appear to predominantly cite scholarship based on other areas of the United States, even though BOEM itself has produced several significant reports related to Mid-Atlantic coastal shelf archaeology and requested that BOEM base the marine archaeology approach for this Project on previous work in the Mid-Atlantic region.
- The letter requested that evaluation of historic properties include an evaluation of whether properties might have associations with Nansemond families and that it include review of certain literature.
- The letter expressed a concern for consideration of cultural landscapes and traditional communities along the transmission line and within the underwater portion of the Project in keeping with BOEM’s 2015 *Guidance Document for Characterizing Tribal Cultural Landscapes*.
- The letter suggested that BOEM should reach out to existing stakeholder groups, such as the Great Dismal Swamp Stakeholders Collaborative, to identify any other communities that may identify the Project area as traditional cultural properties.
- The letter expressed that the Nation is particularly concerned about protection of wildlife, marine life, and water quality in rivers and streams in southeastern Virginia because of the tremendous environmental degradation of Nansemond traditional territory.
- The letter expressed concerns about the adequacy of visual effects analysis, with a request that

additional vantage points should include all historic districts, and should also include multiple assessments for the entirety of the Nation's ancestral lands, including areas planned to route cables over waterways. These areas include without limitation the Nation's historic hunting and fishing grounds throughout the Back Bay area, as well as the Nansemond River and Princess Anne County.

- The letter expressed concern about potential lighting impacts on the dark night sky both during and after construction, and urges BOEM to mandate Automatic Detection Lighting Systems (ADLS).

On December 16, 2022, BOEM published a Notice of Availability for the Draft EIS. As part of this process, BOEM held virtual public hearings on January 25, January 31, and February 2, 2023. The public comment periods closed on February 14, 2023. The input received via this process has been used to inform preparation of the Final EIS.

O.2.2.3 NHPA Section 106 Consultations

On June 28 and July 9, 2021, BOEM contacted ACHP, Virginia Department of Historic Resources (VDHR [the Virginia SHPO]), and North Carolina SHPO to provide Project information, to notify these organizations of BOEM's intention to use the NEPA process to fulfill Section 106 obligations in lieu of the procedures set forth in 36 CFR 800.3 through 800.6, and to invite these organizations to be consulting parties.

On June 28, 2021, BOEM corresponded with 59 points of contact from governments and organizations by mail and email, including information about the Project, an invitation to be a consulting party to the NHPA Section 106 review of the COP, and the NOI to prepare an EIS. BOEM also used this correspondence to notify of its intention to use the NEPA process for Section 106 purposes, as described in 36 CFR 800.©), during its review. To aid those consulting parties not familiar with the NEPA substitution process, BOEM developed a *National Environmental Policy Act (NEPA) Substitution for Section 106 Consulting Party Guide* (available at <https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/NEPA-Substitution-Consulting-Party-Guide.pdf>), which it attached to this correspondence.

On July 2, 2021, BOEM contacted the Eastern Shawnee Tribe of Oklahoma, Shawnee Tribe, Cherokee Nation, Eastern Band of Cherokee Indians, United Keetoowah Band of Cherokee Indians in Oklahoma, Absentee-Shawnee Tribe of Indians of Oklahoma, The Delaware Nation, Delaware Tribe of Indians, The Shinnecock Indian Nation, The Narragansett Indian Tribe, Pamunkey Indian Tribe, Chickahominy Indian Tribe, Chickahominy Indian Tribe – Eastern Division, Upper Mattaponi Indian Tribe, Rappahannock Tribe, Nansemond Indian Nation, Tuscarora Nation, and the Monacan Indian Nation by email and mail with information about the Project, an invitation to be a consulting party to the NHPA Section 106 review of the COP, and the NOI to prepare an EIS. BOEM also used this correspondence to notify of its intention to use the NEPA process for Section 106 purposes, as described in 36 CFR 800.8(c), during its review.

During the period of July 12–19, 2021, outreach was conducted by phone to confirm receipt of correspondence among the governments and organizations that had not responded to the invitation to consult. The list of the governments and organizations contacted is included in Attachment C. Entities that responded to BOEM's invitation or were subsequently made known to BOEM and added as consulting parties are listed in Attachment D.

On August 13, 2021, BOEM invited the Nansemond Indian Nation, Catawba Indian Nation, and Delaware Tribe of Indians to participate in a government-to-government consultation meeting during the week of September 6–10, 2021.

On September 27, 2021, BOEM hosted a single government-to-government consultation meeting for both the CVOW-C and Kitty Hawk Wind projects in accordance with a request for CHP on behalf of the Nansemond Indian Nation; the meeting was held with the Rappahannock Indian Tribe, Pamunkey Indian Tribe, Nansemond Indian Nation, Chickahominy Indian Tribe, Upper Mattaponi Indian Tribe, Monacan Indian Nation, Delaware Nation, Delaware Tribe of Indians, Mashpee Wampanoag Tribe, Eastern Band Cherokee Indians, Passamaquoddy Tribe, Mashantucket (Western) Pequot Tribal Nation, and Cultural Heritage Partners. During the meeting, BOEM presented information about both the CVOW-C and Kitty Hawk Wind projects and discussed scoping comments received from a Federally Recognized Tribe for both projects.

On August 10 and 19, 2022, BOEM conducted outreach to Tribes and consulting parties to request input regarding options for scheduling Consultation Meeting #1. BOEM collected date and time preferences via a Doodle poll. The meeting invitation with a meeting agenda was distributed to consulting parties on August 24, 2022.

On September 9, 2022, BOEM held virtual NHPA Section 106 Consultation Meeting #1. The presentation included a brief Project overview, review of NEPA substitution for the NHPA Section 106 process, overview of Section 106 consultation opportunities for the Project, NHPA Section 110(f) compliance requirements, and a question-and-answer session with discussion.

On November 1 and 7, 2022, BOEM conducted outreach to Tribes and consulting parties to request input regarding options for scheduling Consultation Meeting #2. BOEM collected date and time preferences via a Doodle poll. The meeting invitation with a meeting agenda was distributed to consulting parties on November 11, 2022.

On November 11, 2022, BOEM shared with consulting parties the complete marine archaeological resources report, complete historic resources visual effects assessment, complete cumulative historic resources visual effects analysis, and a phased identification plan for terrestrial archaeological resources. At that time, BOEM also shared with consulting parties a technical memorandum detailing the delineation of the APE for the Project and the CHRVEA for review and comment.

On December 15, 2022, BOEM held virtual NHPA Section 106 Consultation Meeting #2. The presentation included a discussion of the Section 106 technical reports and documents distributed for consulting party review in November and a question-and-answer session with discussion.

On December 16, 2022, BOEM distributed a Notice of Availability to notify the consulting parties that the Draft EIS was available for public review and comment until February 14, 2023.

On January 13, 2023, BOEM shared with consulting parties the Draft MOA for review and comment.

On March 9 and 13, 2023, BOEM conducted outreach to Tribes and consulting parties to request input regarding options for scheduling Consultation Meeting #3. BOEM collected date and time preferences via a Doodle poll. The meeting invitation with a meeting agenda was distributed to consulting parties on March 20, 2023.

On March 20, 2023, BOEM shared with consulting parties the TARA. BOEM also revised its delineation of the terrestrial APE based on revisions to Dominion Energy's February 2023 COP PDE; a memo with the revisions was provided with the TARA for review and comment.

On April 13, 2023, BOEM held virtual NHPA Section 106 Consultation Meeting #3. The presentation included a discussion of the TARA and APE memo distributed for consulting party review and a question-and-answer session with discussion.

On May 2, 2023, BOEM conducted outreach to Tribes and consulting parties to request input regarding options for scheduling Consultation Meeting #4. BOEM collected date and time preferences via a Doodle poll. The meeting invitation with a meeting agenda was distributed to consulting parties on May 15, 2023.

On June 5, 2023, BOEM shared with consulting parties a revised draft MOA and associated attachments, including draft Historic Property Treatment Plans (HPTPs) and Unanticipated Discoveries Plans, and revised MARA and Offshore HRVEA reports for review and comment.

BOEM held virtual NHPA Section 106 Consultation Meeting #4 on June 12, 2023. The presentation included a discussion on the resolution of adverse effects, an overview of the revisions to the MARA and Offshore HRVEA, updates on the terrestrial APE, a discussion of the revised MOA and HPTPs, and a question-and-answer session with discussion.

On June 30, 2023, BOEM shared with consulting parties a meeting summary for Consultation Meeting #4 and a Response to Comments matrix containing comments from the Draft EIS and Section 106 document review periods from November 2022 to April 2023.

On July 14, 2023, BOEM shared with consulting parties an addendum to the TARA, a memorandum describing changes to the Visual APE, and the Section 106 Finding of Effect (FOE; Appendix O) for review and comment.

BOEM held Consultation Meeting #5 on August 28, 2023, to discuss revisions to the MOA and HPTPs.

The list of the governments and organizations invited to participate as consulting parties is included in Attachment C. Entities that responded to BOEM's invitation with an acceptance to participate or were subsequently made known to BOEM and added as consulting parties are listed in Attachment D.

O.3. Application of the Criteria of Adverse Effect

The Criteria of Adverse Effect under NHPA Section 106 (36 CFR 800.5(a)(1)) states that an undertaking has an adverse effect on a historic property if the following occurs:

when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the NRHP in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association...Adverse Effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative.

According to regulation, adverse effects on historic properties include, but are not limited to (36 CFR 800.5(a)(2)):

- i. Physical destruction of or damage to all or part of the property;
- ii. Alteration of a property, including restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation, and provision of handicapped access, that is not consistent with the Secretary of the Interior's standards for the treatment of historic properties (36 CFR part 68) and applicable guidelines;
- iii. Removal of the property from its historic location;
- iv. Change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance;

- v. Introduction of visual, atmospheric, or audible elements that diminish the integrity of the property's significant historic features;
- vi. Neglect of a property, which causes its deterioration, except where such neglect and deterioration are recognized qualities of a property of religious and cultural significance to an Indian tribe or Native Hawaiian organization; and
- vii. Transfer, lease, or sale of property out of federal ownership or control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the property's historic significance.

O.3.1 Assessment of Effects on Historic Properties

This section documents assessment of effects for the affected historic properties in the marine APE, terrestrial APE, and visual APE.

O.3.1.1 Assessment of Effects on Historic Properties in the Marine APE

This section assesses effects on marine cultural resources (i.e., marine archaeological resources and ASLFs) in the marine APE. The extent of marine cultural investigations performed for the Proposed Action does not enable conclusive determinations of eligibility for listing identified resources in the NRHP; as such, all identified marine archaeological resources and ASLFs are considered eligible and, therefore, historic properties at this time. Since the publication of the Draft EIS, Dominion Energy has committed to avoiding all historic properties in the marine APE (see Attachment A for the MOA). As such, BOEM finds the undertaking would have no effect on historic properties in the marine APE.

O.3.1.1.1 Marine Archaeological Resources

Marine geophysical archaeological surveys performed for the Proposed Action identified 42 potential marine archaeological resources (Table O-4; COP, Appendix F; Dominion Energy 2023b): 29 within or near the proposed offshore Lease Area and 13 within or near the offshore ECRC (COP, Appendix F; Dominion Energy 2023b). Of the 29 marine archaeological resources within the northern border of the Lease Area, 11 consist of large scuttled World War II-era ships, tires, cable spools, and other materials intentionally deposited since the 1970s to facilitate development of the Triangle Reef Fish Haven (COP, Sections 2.1.1 and 4.2.4.2; Dominion Energy 2023b). As such, BOEM has determined these 11 resources are not historic properties eligible for listing in the NRHP. Because the ages and NRHP eligibility of the other 31 marine archaeological resources cannot be confirmed through the current marine cultural investigations, these resources are all assumed to be archaeological and potentially eligible for listing in the NRHP; as such, they are considered historic properties. Additional archaeological surveys or analyses, if completed, may enable more refined assessments of integrity, significance, and eligibility for listing these resources in the NRHP. The majority of the potential marine archaeological resources likely relate to recent debris, industrial objects, and non-cultural geological features, although many may represent known and potential shipwrecks and related debris fields from the post-Contact period (COP, Appendix F; Dominion Energy 2023b). Of the 31 marine archaeological resources considered historic properties eligible for listing in the NRHP, a total of 27 marine archaeological resources were located in the marine APE (i.e., Targets 1, 2, 4–13, 15–18, 21–31): 16 within the Lease Area and another 11 within the offshore ECRC. An additional 4 marine archaeological resources (i.e., Targets 3, 14, 19, and 20) are located outside of but near the marine APE and have been considered for potential effects from the Proposed Action due to their proximity.

Table O-4 Marine Archaeological Resources In or Near the Marine APE

Resource ID	Potential Source	Location	Finding of Effect
WN 002a	Intentionally sunk <i>USNS Garrison</i>	Lease Area (TRFH)	N/A
WN 002b	Intentionally sunk <i>USNS Webster</i>	Lease Area (TRFH)	N/A
WN 003a	Intentionally sunk <i>USNS Haviland</i>	Lease Area (TRFH)	N/A
WN 003b	Intentionally sunk <i>USNS Clark</i>	Lease Area (TRFH)	N/A
WN 007	<i>USNS John Morgan</i>	Lease Area (TRFH)	N/A
WN 009	Unknown	Lease Area (TRFH)	N/A
WN 010	<i>Lillian Luckenback</i>	Lease Area (TRFH)	N/A
WN 011	Intentionally sunk <i>Kurn</i>	Lease Area (TRFH)	N/A
WN 013	Intentionally sunk <i>Tripca</i>	Lease Area (TRFH)	N/A
WN 014	Unknown	Lease Area (TRFH)	N/A
WN 015	Unknown	Lease Area (TRFH)	N/A
Target 1	Unknown	Lease Area	No effect
Target 2	Unknown	Lease Area	No effect
Target 3	Unknown	Adjacent to Lease Area	No effect
Target 4	Unknown	Lease Area	No effect
Target 5	Unknown	Lease Area	No effect
Target 6	Unknown	Lease Area	No effect
Target 7	Disintegrated section of an unknown shipwreck	Lease Area	No effect
Target 8	Unknown	Lease Area	No effect
Target 9	Unknown debris	Lease Area	No effect
Target 10	Known shipwrecks <i>Cuyahoga</i> , <i>Middle Ground</i> , or chartered NOAA #15064	Lease Area	No effect
Target 11	Unknown debris	Lease Area	No effect
Target 12	Unknown	Lease Area	No effect
Target 13	Unknown	Lease Area	No effect
Target 14	Known shipwreck <i>Francis E. Powell</i>	Adjacent to Lease Area	No effect
Target 15	Unknown shipwreck and debris	Lease Area	No effect
Target 16	Unknown	Lease Area	No effect
Target 17	Unknown	Lease Area	No effect
Target 18	Unknown	Lease Area	No effect
Target 19	Unknown debris	Adjacent to Offshore ECRC	No effect
Target 20	Unknown debris	Adjacent to Offshore ECRC	No effect
Target 21	Unknown debris	Offshore ECRC	No effect
Target 22	Unknown	Offshore ECRC	No effect
Target 23	Unknown	Offshore ECRC	No effect
Target 24	Chartered debris NOAA #14936	Offshore ECRC	No effect
Target 25	Unknown	Offshore ECRC	No effect
Target 26	Unknown	Offshore ECRC	No effect

Resource ID	Potential Source	Location	Finding of Effect
Target 27	Unknown debris	Offshore ECRC	No effect
Target 28	Unknown debris	Offshore ECRC	No effect
Target 29	Unknown object	Offshore ECRC	No effect
Target 30	Unknown object or debris	Offshore ECRC	No effect
Target 31	Unknown debris	Offshore ECRC	No effect

Source: COP, Appendix F, Table VI-2; Dominion Energy 2023b; MOA (Attachment A).

APE = area of potential effect; ECRC = Export Cable Route Corridor; ID = identification; NOAA = National Oceanic and Atmospheric Administration; TRFH = Triangle Reef Fish Haven; WN = Wreck Number.

The severity of Project effects would depend on the extent to which integral or significant components of an affected marine archaeological resource are disturbed, damaged, or destroyed, resulting in the loss of contributing elements to the historic property’s eligibility for listing in the NRHP. However, since the publication of the Draft EIS, Dominion Energy has committed to avoiding all 31 historic properties by implementing avoidance buffers around the defined spatial extent of each of these historic properties, as indicated in Table O-4. The avoidance buffers for the historic properties were determined using several factors in a process developed by Dominion Energy’s Qualified Marine Archaeologist (QMA) (COP, Appendix F; Dominion Energy 2023b). Avoidance of Targets 1–7, 9, 12, 13, 16–21, and 23–31 was recommended by a minimum distance of 164 feet (50 meters) from the known center point of each resource. Avoidance of Targets 8, 10, 11, 14, 15, and 22 was recommended by a minimum distance of 164 feet (50 meters) from the known visible extent of the resource.

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 31 marine archaeological resources 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 Attachment A for the MOA).

O.3.1.1.2 Ancient Submerged Landform Features

ASLFs may be individually eligible for listing in the NRHP or considered contributing elements to a TCP eligible for listing in the NRHP. ASLFs in the marine APE are considered archaeologically sensitive. Although the marine geophysical remote-sensing studies performed to identify historic properties did not find direct evidence of pre-Contact Native American cultural materials, they do represent a good-faith effort to identify submerged historic properties within the APE potentially affected by the undertaking, as defined at 36 CFR 800.4. If undiscovered archaeological resources are present within the identified ASLFs and they retain sufficient integrity, these resources could be eligible for listing in the NRHP under Criterion D. Furthermore, ASLFs are considered by Native American tribes in the region to be culturally significant resources as the lands where their ancestors lived and as locations where events described in tribal histories occurred prior to inundation. In addition, BOEM recognizes these landforms are similar to features previously determined to be TCPs and that are presumed to be eligible for listing in the NRHP under Criterion A.

Dominion Energy’s marine geophysical archaeological surveys identified a total of six geomorphic features, representing potential ASLFs (Table O-5). Four of these ASLFs (i.e., P-02, P-03, P-04-A, and P-04-B) are located in the horizontal extent of the marine APE and within the Lease Area. No ASLFs were identified within the offshore ECRC. A fifth ASLF (i.e., Target P-01) is located outside of the horizontal extent of the marine APE but is near the Lease Area. A sixth ASLF (i.e., P-05) is in the horizontal extent of the marine APE near the Lease Area but below the vertical extent of the marine APE

therefore outside of the marine APE. Regardless, these two ASLFs (i.e., P-01 and P-05) have been considered for potential effects from the Proposed Action due to proximity.

The extent of marine cultural investigations performed for the Proposed Action does not enable conclusive determinations of eligibility for listing identified resources in the NRHP; as such, all identified ASLFs are considered eligible for the purposes of this assessment and, therefore, historic properties.

Table O-5 ASLFs In or Near the Marine APE

Landform ID	Location	Finding of Effect	Minimum Avoidance Area
P-01	Adjacent to Lease Area (outside of marine APE)	No effect	10.71 ac (4.33 ha)
P-02	Lease Area	No effect	266.7 ac (107.9 ha)
P-03	Lease Area	No effect	9.91 ac (4.01 ha)
P-04-A	Lease Area	No effect	3.94 ac (1.59 ha)
P-04-B	Lease Area	No effect	22.05 ac (8.92 ha)
P-05	Below Lease Area (outside of marine APE)	No effect	5.45 ac (2.2 ha)

Source: COP, Appendix F, Table V-4; Dominion Energy 2023b.
 ac = acre; APE = area of potential effect; ha = hectare; ID = identification.

An archaeological geotechnical analysis of ASLFs assessed a total of 30 borehole samples in the Lease Area in an attempt to verify the high-resolution geophysical (HRG) data and develop a temporal framework across the APE. Dominion Energy collected 31 borehole samples in the Lease Area for geoarchaeological analysis. Of those 30 samples, 5 predated both the Last Glacial Maximum (LGM) and the arrival of humans in the Western Hemisphere. Three samples dated approximately 18,300–17,800 calibrated years before present (cal BP) during the Oldest Dryas climate episode. Thirteen of those samples dated from the Paleoindian period, and one dated from the Archaic period.

The severity of effects would depend on the extent to which integral or significant components of an affected ASLF are disturbed, damaged, or destroyed, resulting in the loss of contributing elements to the historic property’s eligibility for listing in the NRHP. However, since the publication of the Draft EIS, Dominion Energy has committed to avoiding all six identified ASLFs in or near the marine APE, as indicated in Table O-5. In general, the avoidance areas were developed based on a 164-foot (50-meter) buffer around the mapped extent of each landform (see Table O-5). The avoidance area for ASLF P-02 was moderately reduced based on QMA and BOEM analysis to accommodate the construction of a nearby WTG; however, BOEM anticipates this reduced avoidance area would still result in no effect to this ASLF.

Because 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 identified 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 Attachment A for the MOA).

O.3.1.2 Assessment of Effects on Historic Properties in the Terrestrial APE

Cultural resource investigations completed for the Proposed Action have identified historic properties in the terrestrial APE (COP, Appendices G and H-3; Dominion Energy 2023b). Based on the information presented below, BOEM finds historic properties would not be adversely affected in the terrestrial APE.

O.3.1.2.1 Terrestrial Archaeological Resources

Since the publication of the Draft EIS, Dominion Energy has provided BOEM with a TARA report that has refined the number and list of identified terrestrial archaeological resources in the terrestrial APE (COP, Appendix G; Dominion Energy 2023b). Based on updates in the COP PDE and BOEM’s subsequent revision of the terrestrial APE delineation, three terrestrial archaeological resources identified in the Draft EIS as being located in the terrestrial APE for the Project are no longer in the revised APE. These resources are 44VB0319, 44VB0388, and one resource that had not been assigned an identification number. An additional survey was conducted in May 2023 for a potential route shift for the onshore portion of the interconnection cable route. Dominion Energy submitted an addendum to the TARA report summarizing this additional survey in June 2023 (COP, Appendix G, Addendum; Dominion Energy 2023b).

Based on the TARA report and its addendum, BOEM has determined there are 24 terrestrial archaeological resources in or immediately adjacent to the terrestrial APE (Table O-6): 14 sites and 10 isolated finds (IFs). Sufficient data from Dominion Energy’s investigations have enabled BOEM to determine that the 10 IFs are without sufficient integrity or significance for NRHP eligibility and are therefore not historic properties. Since the publication of the Draft EIS, and in consultation with the Virginia SHPO, BOEM has determined that of the 14 terrestrial archaeological sites, three (i.e., 44CS0250, 44VB0162, and 44VB0412) are potentially eligible for listing in the NRHP and are therefore historic properties. One cemetery and one historic aboveground resource were identified in the terrestrial APE, which may or may not contain contributing archaeological elements that could be affected by the undertaking; further discussion of these resources is provided in the *Cemeteries* and *Historic Aboveground Resources* sections below.

Table O-6 Terrestrial Archaeological Resources identified in the Terrestrial APE

Resource ID	Cultural Component	Location	NRHP Status	Finding of Effect
44CS0250	Pre-Contact	Interconnection CRC	Potentially eligible	No adverse effect
44VB0162	Pre- and Post-Contact	Interconnection CRC	Potentially eligible	No adverse effect
44VB0175	Contact and Post-Contact	Chicory Switching Station	Not eligible	N/A
44VB0204	Post-Contact	Onshore Export CRC	Not eligible	N/A
44VB0274	Pre-Contact	Interconnection CRC	Not eligible	N/A
44VB0306	Post-Contact	Interconnection CRC	Not eligible	N/A
44VB0314	Post-Contact	Interconnection CRC	Not eligible	N/A
44VB0361	Post-Contact	Onshore Export CRC	Not eligible	N/A
44VB0389	Pre- and Post-Contact	Onshore Export CRC	Not eligible	N/A
44VB0395	Pre- and Post-Contact	Onshore Export CRC	Not eligible	N/A
44VB0396	Post-Contact	Onshore Export CRC	Not eligible	N/A
44VB0412	Post-Contact	Pungo Airfield Laydown Yard	Potentially eligible	No adverse effect

Resource ID	Cultural Component	Location	NRHP Status	Finding of Effect
44VB0443 (previously "35-A")	Post-Contact	Onshore Export CRC	Not eligible	N/A
44VB0444 (previously "26-A")	Post-Contact	Interconnection CRC	Not eligible	N/A
11-56 (IF)	Post-Contact	Interconnection CRC	Not eligible	N/A
12-09 (IF)	Post-Contact	Interconnection CRC	Not eligible	N/A
26-21 (IF)	Post-Contact	Interconnection CRC	Not eligible	N/A
26-234 (IF)	Post-Contact	Interconnection CRC	Not eligible	N/A
28-08 (IF)	Post-Contact	Interconnection CRC	Not eligible	N/A
28-09 (IF)	Post-Contact	Interconnection CRC	Not eligible	N/A
31-46 (IF)	Post-Contact	Onshore Export CRC	Not eligible	N/A
33-08 (IF)	Post-Contact	Onshore Export CRC	Not eligible	N/A
34-02 (IF)	Post-Contact	Onshore Export CRC	Not eligible	N/A
37-27 (IF)	Post-Contact	Onshore Export CRC	Not eligible	N/A

Sources: COP, Appendices G and H-3; Dominion Energy 2023b.

APE = area of potential effect; CRC = cable route corridor; ID = identification; IF = isolated find.

The severity of Project effects on terrestrial archaeological resources that are historic properties would depend on the extent to which integral or significant components of the affected resource are disturbed, damaged, or destroyed, resulting in the loss of contributing elements to the historic property’s eligibility for listing in the NRHP. In addition, since the publication of the Draft EIS, Dominion Energy has committed to implementing measures (such as fencing) to avoid any potentially intact portions of all three terrestrial archaeological resources that are historic properties, as indicated in Table O-6. In general, Dominion Energy will install temporary fencing to avoid adverse effects on these historic properties. For 44CS0250 and 44VB0162, the known extent of each resource as identified in Dominion Energy’s investigations will be delineated by fencing during all construction activities, and construction personnel will be instructed to stay outside of the fenced area. For 44VB0412, the terrestrial APE will be delineated by fencing during all construction activities, and construction personnel will be instructed to stay within the fenced area.

Because Dominion Energy has committed to avoiding any potentially intact portions of these resources and their associated avoidance buffers, BOEM finds that the undertaking would have no adverse effect on the three terrestrial archaeological resources 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 Attachment A for the MOA).

O.3.1.2.2 Cemeteries

One cemetery—an approximately mid-twentieth century cemetery with one known grave (34-5027-0050)]—was identified in the terrestrial APE near the proposed Harpers Switching Station (COP, Appendix G; Dominion Energy 2023b). Dominion Energy’s investigations included Ground Penetrating Radar and Phase IB shoveling testing surveys at the location of the grave marker to determine the subsurface extent of the cemetery; however, the results of the survey were inconclusive (COP, Appendix G; Dominion Energy 2023b). As such, Dominion Energy has committed to avoiding potential effects on this resource by implementing a fenced avoidance buffer of 10 feet (3 meters), beginning at the existing fencing of the

grave/memorial site identified on NAS Oceana/Aeropines Golf Course. Dominion Energy has also committed to having an archaeological monitor present during all construction activities near this resource location.

The severity of Project effects would depend on the extent to which the cemetery is disturbed, damaged, or destroyed. However, at this time, BOEM anticipates the avoidance and monitoring measures to which Dominion Energy has committed would result in the Project having no effect on this resource. These measures have been included as stipulations in the Final MOA as conditions for approval of issuance of BOEM's permit (see Attachment A for the MOA).

O.3.1.2.3 Historic Aboveground Resources

The Camp Pendleton/State Military Reservation Historic District, a historic aboveground resource in Virginia Beach, Virginia, is listed in the NRHP and identified in the terrestrial APE. The resource would be subject to adverse effects from the undertaking (COP, Appendix H-3; Dominion Energy 2023b). Two structures are contributing elements to the historic district and in the terrestrial APE: Buildings 59 and 410. Building 59 is a mess hall dating to 1939 and one of nine nearly identical buildings. Building 410 was constructed between 1940 and 1942 as a firehouse during expansion of the site. It has a more unique architectural design compared with other structures in the historic district.

The Project effects under the PDE would constitute physical destruction of Buildings 59 and 410 for the installation of the underground transmission lines associated with the cable landing location and onshore export cable route to the Harpers Switching Station. Demolition of these contributing elements to the Camp Pendleton/State Military Reservation Historic District would physically alter components of this historic property; as such, the undertaking is anticipated to have an adverse effect on the Camp Pendleton/State Military Reservation Historic District. For additional discussion of visual effects on this historic property, see Section O.3.1.3, *Assessment of Effects on Historic Properties in the Visual APE*, below.

BOEM will use an MOA to establish commitments for implementing measures to avoid, minimize, or mitigate effects on historic properties prior to construction. Minimization and mitigation treatment options may include detailed site documentation, historic research, and historic preservation studies; or contributions to historical preservation organizations or specific preservation projects. Additional mitigation options could be identified through consultation with BOEM, Virginia SHPO, North Carolina SHPO, and consulting parties.

O.3.1.3 Assessment of Effects on Historic Properties in the Visual APE

Cultural resource investigations completed for the Proposed Action have identified historic properties in the visual APE (COP, Appendices H-1, H-2, and H-3; Dominion Energy 2023b). Based on the information presented below, BOEM finds historic properties would be adversely affected in the visual APE.

As discussed in Section O.1.3.3, *Visual Portion of the APE*, Dominion Energy has eliminated certain Onshore Project components previously proposed in the May 2022 COP within the PDE. These now-eliminated Project components had been included in the delineation of the visual PAPE for Onshore Project components, and therefore, Dominion Energy's cultural resource investigations included historic property identification efforts in areas no longer located within the visual APE for the undertaking as currently proposed. However, BOEM has included resources identified within these eliminated areas for the purposes of facilitating Section 106 consultations but anticipates the undertaking to have no effect on these resources.

Dominion Energy's review of the visual APE for Offshore Project components identified 712 aboveground historic properties, including two NHLs (COP, Appendix H-1; Dominion Energy 2023b). The properties were assessed to identify those with maritime settings and character-defining ocean views. Of the properties, 25 were recommended to be adversely affected by visual effects of the proposed Offshore Project components, including the First Cape Henry Lighthouse NHL (Table O-7). These adversely affected historic properties retain a maritime setting that contributes to the properties' eligibility for listing in the NRHP. Each property continues to offer significant ocean views that support the integrity of its maritime setting. The seaward views include vantage points with the potential for an open view toward the Offshore Project components.

Through Section 106 consultation with the U.S. Navy and NAS Oceana, it was determined that the Dam Neck Annex was misidentified as an NRHP-eligible property. The only eligible property associated with NAS Oceana is the Surface-Launched Guided Missile School Historic District. Through a review of the historic significance of the property and consultation with NAS Oceana, BOEM determined that this property would not be adversely affected by the Project. Therefore, BOEM determined that 24 historic properties within the visual APE for Offshore Project components would be adversely affected.

Where BOEM found adverse visual effects on the historic properties from Offshore Project components, BOEM determined that the undertaking would also cause cumulative visual effects (BOEM 2022b). Cumulative effects are additive effects; where BOEM has determined adverse effects would occur from Project actions on historic properties, BOEM assessed whether those effects would add to the potential adverse effects of other reasonably foreseeable actions and thereby result in cumulative effects. The cumulative effects descriptions are included for each aboveground historic property in the following sections.

Dominion Energy's review of the preliminary visual APE for Onshore Project components identified 322 historic aboveground resources; 13 of the resources have been determined to be historic properties that are listed or eligible for listing in the NRHP (COP, Appendices H-2 and H-3; Dominion Energy 2023b). BOEM has determined the undertaking would have an adverse effect on 1 of the 13 properties: the Camp Pendleton/State Military Reservation Historic District in Virginia Beach, Virginia, which is also within the visual APE for Offshore Project components (see Table O-7). With elimination of certain Onshore Project components from the PDE (i.e., Interconnection Cable Route Options 2, 3, 4, and 5), BOEM finds that the undertaking would have no effect on 5 of the 13 properties that would have otherwise been subject to visual adverse effects if Routes 2, 3, 4, or 5 were to be undertaken. The 5 historic properties are the Albemarle & Chesapeake Canal Historic District in Chesapeake, Virginia; Albemarle & Chesapeake Canal in Chesapeake, Virginia; a worker's house associated with Murray Farms in Chesapeake, Virginia; a residence at 2773 Salem Road in Virginia Beach, Virginia; and the Centreville-Fentress Historic District in Chesapeake, Virginia. These properties will not be affected by the construction of either Interconnection Cable Route Options 1 or 6 that remain in the PDE.

The shift in onshore cable route alignment near the Princess Anne Athletic Complex in the City of Virginia Beach resulted in a northern expansion of the visual APE (Figure O.B-17). Additional background research was conducted, including an additional review of the Virginia Cultural Resources Information System (V-CRIS) and historic topographic maps, to determine if any additional known or potential aboveground historic properties are located in this expanded section of the APE; no such properties were identified in this expanded APE (Dominion Energy 2023a).

Table O-7 Adversely Affected Aboveground Historic Properties in the Visual APE¹

Resource Name or Description	Resource ID	Location	Portion of Visual APE	Distance to Nearest WTG ²	NRHP Status
Atlantic Wildfowl Heritage Cottage/de Witt Cottage	134-0066	Virginia Beach, VA	Offshore Project Components	27.80 miles	Listed (also VLR Listed)
Camp Pendleton/State Military Reservation Historic District	134-0413	Virginia Beach, VA	Onshore and Offshore Project Components	27.70 miles	Listed
Cavalier Hotel and Beach Club	134-0503	Virginia Beach, VA	Offshore Project Components	28.80 miles	Listed (also VLR Listed)
Cavalier Shores Historic District	134-5379	Virginia Beach, VA	Offshore Project Components	28.05 miles	Listed (also VLR Listed)
Chesapeake Bay Bridge-Tunnel	065-0167	Northampton County and Virginia Beach, VA	Offshore Project Components	29.20 miles	Eligible
Chesapeake Light Tower	134-5301	Virginia Beach, VA	Offshore Project Components	13.03 miles	Potentially Eligible
Currituck Beach Lighthouse	CK0106	Corolla, NC	Offshore Project Components	36.86 miles	Listed
Cutty Sark Motel Efficiencies	134-5866	Virginia Beach, VA	Offshore Project Components	28.00 miles	Listed
Econo Lodge/Empress Motel	134-5869	Virginia Beach, VA	Offshore Project Components	27.92 miles	Potentially Eligible
First Cape Henry Lighthouse	134-0007	Fort Story, Virginia Beach, VA	Offshore Project Components	29.20 miles	Listed and NHL
Fort Story Historic District	134-0660	Fort Story, Virginia Beach, VA	Offshore Project Components	29.20 miles	Listed (also VLR Listed)
Hilton Washington Inn/Quality Inn and Suites	134-5863	Virginia Beach, VA	Offshore Project Components	27.70 miles	Potentially Eligible
House (100 54 th Street)	134-5660	Virginia Beach, VA	Offshore Project Components	28.15 miles	Potentially Eligible
House (4910 Ocean Front Avenue)	134-5399	Virginia Beach, VA	Offshore Project Components	28.10 miles	Potentially Eligible
House (5302 Ocean Front Avenue)	134-5665	Virginia Beach, VA	Offshore Project Components	28.17 miles	Potentially Eligible

Resource Name or Description	Resource ID	Location	Portion of Visual APE	Distance to Nearest WTG ²	NRHP Status
House (7900 Ocean Front Avenue)	134-0587	Virginia Beach, VA	Offshore Project Components	28.30 miles	Potentially Eligible
House (8304–8306 Ocean Front Avenue)	134-5089	Virginia Beach, VA	Offshore Project Components	28.37 miles	Eligible
House (8600 Ocean Front Avenue)	134-5493	Virginia Beach, VA	Offshore Project Components	28.52 miles	Potentially Eligible
Oceans II Condominiums/Aeolus Motel	134-5872	Virginia Beach, VA	Offshore Project Components	28.00 miles	Potentially Eligible
Sandbridge Historic District	Unassigned	Virginia Beach, VA	Offshore Project Components	26.90 miles	Potentially Eligible
Seahawk Motel	134-5857	Virginia Beach, VA	Offshore Project Components	27.97 miles	Potentially Eligible
Seatack Lifesaving Station/U.S. Coast Guard Station	134-0047	Virginia Beach, VA	Offshore Project Components	27.80 miles	Listed (also VLR Listed)
Second Cape Henry Lighthouse	134-0079/ 114-5250	Fort Story, Virginia Beach, VA	Offshore Project Components	29.08 miles	Listed
Virginia House	134-5865	Virginia Beach, VA	Offshore Project Components	27.92 miles	Potentially Eligible

Source: COP, Appendices H-1, H-2, and H-3; Dominion Energy 2023b.

¹ BOEM anticipates that all adverse effects have the potential to be alleviated through the adoption of AMM measures. BOEM anticipates that the number of adversely affected historic properties may be refined through ongoing Section 106 consultations.

² For the Proposed Action.

APE = area of potential effect; FOE = finding of effect; ID = identification; NHL = National Historic Landmark; NRHP = National Register of Historic Places; VLR = Virginia Landmarks Register; WTG = wind turbine generator.

O.3.1.3.1 Atlantic Wildfowl Heritage Museum/de Witt Cottage, Virginia Beach, Virginia

The Atlantic Wildfowl Heritage Museum/de Witt Cottage (DHR ID: 134-0066) is located within an urban setting on the waterfront on a 0.36-acre (0.15-hectare) lot in Virginia Beach, Virginia. The Atlantic Wildfowl Heritage Museum is housed within the de Witt Cottage. The property was listed in the NRHP under Criteria A and C as an example of resort development architecture (COP, Appendix H-1; Dominion Energy 2023b). The de Witt Cottage is the sole surviving example of an oceanfront dwelling constructed during the first development period in Virginia Beach from the late nineteenth to early twentieth century. The property was built near the ocean at a location where views would be clear and open and where beach access would be easy for visitors. Because it was designed as a resort for use by prosperous city-dwellers, the property's maritime setting and ocean views are character-defining and contribute to its significance (Newbill 1988).

The property, which is oriented toward the west and Atlantic Avenue, has unobstructed ocean views, particularly from the east elevation. The nearby Virginia Beach Boardwalk—Fishing Pier Key Observation Point (KOP) (KOP Field ID 24d in COP, Appendix I-1; Dominion Energy 2023b) represents views to the nearest Project component, located 27.6 miles (44.4 kilometers) east of the property. From the pier, views toward the Project would be unobstructed. The introduction of modern elements into the setting would draw the attention of viewers due to the movement of the blades and the contrast of the thin white lines along the horizon (COP, Appendix I-1; Dominion Energy 2023b).

With the Project, the property's integrity of setting, feeling, and association would be diminished. The integrity of location, workmanship, design, and materials would not be affected. The unobstructed ocean views and maritime setting are character-defining features of the property that contribute to its historic significance. Historically, the property relied on these features to provide a beachside resort atmosphere and experience to guests; thus, they were integral considerations in the placement, design, and historic use of the property. The introduction of modern elements would interfere with the historically and currently unadulterated ocean viewscape. Therefore, the Project would result in an adverse effect on the Atlantic Wildfowl Heritage Museum/de Witt Cottage.

As described in the *Cumulative Historic Resources Visual Effects Analysis – Coastal Virginia Offshore Wind Commercial Project*, this property is 27.8 miles (44.7 kilometers) from the nearest WTG associated with the Project and 44.3 miles (71.3 kilometers) from the nearest potential WTG location for other offshore wind energy development activities. The total number of theoretically visible WTGs from this property is 221; 205 theoretically visible WTGs (92.8 percent) would be visible from the proposed Project.¹ As such, BOEM determined the Proposed Action would add to the cumulative visual effects on this property when combined with the effects of other past, present, or reasonably foreseeable future actions (BOEM 2022b).

O.3.1.3.2 Camp Pendleton/State Military Reservation Historic District, Virginia Beach, Virginia

The Camp Pendleton/State Military Reservation Historic District (DHR ID: 134-0413) occupies 343 acres (139 hectares) of land along the coast of the Atlantic Ocean in Virginia Beach, Virginia. It was

¹ The CHRVEA was completed and distributed to consulting parties in November 2022. The analysis considered the maximum number of WTGs included in the PDE at that time. Revisions in the PDE have resulted in a revised maximum of 202 WTGs. Due to the anticipated minor changes in the analysis and expected similar nature and scale of the adverse effects, BOEM did not revise the CHRVEA to reflect the reduce maximum. Therefore, the references to the CHVREA analysis throughout this section reflect the previous maximum.

established in 1911 and consists of 130 contributing resources. The district is eligible for the NRHP under Criterion A as a military facility developed in response to the need for a dedicated range and training facility for all National Guard units in Virginia. It is also eligible under Criterion C due to its substantial and intact concentration of temporary World War II buildings. It includes examples of early twentieth century residential and military buildings dating from the 1910s through the 1930s, and it is representative of the evolution of a military post serving state and federal needs during peacetime and wartime (COP, Appendix H-3; Dominion Energy 2023b). The Historic District also includes a contributing Rifle Range edged by earthen berms, with targets on the eastern, beachfront side, and VDMA-VaARNG has determined that the beachfront of the District is a cultural landscape.

The Project would result in the removal of vegetation from the western edge of the district to north of the main entrance and demolition of two contributing structures—Buildings 59 and 410—for the installation of the underground transmission lines associated with the cable landing location and onshore export cable route to the Harpers Switching Station. Building 59 is a 1939 Mess Hall and is one of nine nearly identical buildings. Building 410 was a fire house constructed between 1940 and 1942 during the expansion of the site during World War II and has a more unique architectural design. The Project would also entail tree clearing within a workspace near the ruins of the YMCA, which is recorded as archaeological site 44VB0388 and a potential historic resource. Although tree clearing within the workspace would alter the current viewshed of the YMCA ruins, those woodlands are not integral to the site’s historical significance. Furthermore, after work is completed in the proposed workspace at the Rifle Range, the area would be restored to pre-construction condition (COP, Appendix H-3; Dominion Energy 2023b). See Section O.3.1.2.3, *Historic Aboveground Resources*, for additional details on the physical adverse effects the undertaking would have on the Camp Pendleton/State Military Reservation Historic District.

The boundary of the historic district stretches to the beach, which has a picnic area and open views of the ocean. The district has character-defining ocean views from this beach. The Croatan Beach C KOP (KOP Field ID 30c in COP, Appendix I-1; Dominion Energy 2023b) represents views to the nearest Project component, which is 27.7 miles (44.6 kilometers) east of the property. Although there is vegetation at the ground level near the shoreline of the district, views toward the Project would be unobstructed, particularly from the beach area. The introduction of modern elements into the setting of the district would draw the attention of viewers due to the movement of the blades and the contrast of the thin white lines along the horizon (COP, Appendix I-1; Dominion Energy 2023b).

The Project effects would constitute physical destruction of contributing elements of the historic district as well as the introduction of visual elements that affect the setting. The Project would diminish the design, materials, and workmanship of the district. However, because these buildings represent only a small percentage of the contributing features within the historic district, these Project effects would not render the district ineligible for the NRHP. The Project would also diminish the integrity of location, feeling, and association due to the introduction of modern elements. The introduction of the WTGs to the east would interfere with the historically and currently unadulterated ocean viewscape visible from the beach areas within the district.

As described in the *Cumulative Historic Resources Visual Effects Analysis – Coastal Virginia Offshore Wind Commercial Project*, this property is 27.7 miles (44.6 kilometers) from the nearest WTG associated with the Project and 43.2 miles (69.5 kilometers) from the nearest potential WTG location for other offshore wind energy development activities. The total number of theoretically visible WTGs from this property is 216; 205 theoretically visible WTGs (94.9 percent) would be visible from the proposed Project. As such, BOEM determined the Proposed Action would add to the cumulative visual effects on this property when combined with the effects of other past, present, or reasonably foreseeable future actions (BOEM 2022b).

O.3.1.3.3 Cavalier Hotel and Beach Club, Virginia Beach, Virginia

The Cavalier Hotel (DHR ID: 134-0503) is listed in the NRHP under Criterion C for Architecture as a 1920s hotel exhibiting Jeffersonian-inspired Classical Revival style. The hotel is also listed under Criterion A in the areas of Recreation and Social History for its associations with the development of Virginia Beach into a beach resort destination town; it was also the last pre–World War II hotel built in the city. The seven-story hotel has a maritime setting and overlooks the town and ocean from its elevated location on a hill the rises above Atlantic Avenue/Pacific Avenue. Its unique Y form maximizes the views of the ocean from individual rooms and, according to the NRHP nomination (Pollard 2013), “[e]very possible aspect of the design was chosen to reflect the relationship of the hotel to the ocean including views of the ocean from many public areas.”

From the ground level in front of the hotel, views of the ocean are partially obscured by the tall Marriott to the northeast and Embassy Suites hotels to the southeast. However, the Cavalier Beach Club situated on the east side of Atlantic Avenue/Pacific Avenue offers views from the beach and club directly toward the ocean and Project. Additionally, the hotel itself rests atop a hill and the elevated stories would have views of the ocean and some of the WTGs associated with the Project. The Marriott Virginia Beach Oceanfront Hotel KOP (KOP Field ID 26 in COP, Appendix I-1; Dominion Energy 2023b) represents views from the approximate location of the Cavalier Hotel to the nearest Project component, 28 miles (45 kilometers) to the east. From here, views toward the Project would be unobstructed. The introduction of these modern elements into the setting would draw the attention of viewers due to the movement of the blades and the contrast of the thin white lines along the horizon (COP, Appendix I-1; Dominion Energy 2023b).

The Project would not affect the integrity of location, workmanship, design, and materials of the resource. However, the integrity of setting, feeling, and association of the Cavalier Hotel would be diminished. Unobstructed ocean views and a beachside or maritime setting are character-defining features of the hotel that contribute to its significance because they were integral considerations in the placement and design of the property. The introduction of modern elements would interfere with how visitors experience the historically and currently unadulterated ocean viewscape visible from the beach and from the public and private areas in the hotel. Therefore, the Project would result in an adverse effect on the Cavalier Hotel.

As described in the *Cumulative Historic Resources Visual Effects Analysis – Coastal Virginia Offshore Wind Commercial Project*, this property is 28.2 miles (45.4 kilometers) from the nearest WTG associated with the Project and 45.9 miles (73.9 kilometers) from the nearest potential WTG location for other offshore wind energy development activities. The total number of theoretically visible WTGs from this property is 224; 205 theoretically visible WTGs (91.5 percent) would be visible from the proposed Project. As such, BOEM determined the Proposed Action would add to the cumulative visual effects on this property when combined with the effects of other past, present, or reasonably foreseeable future actions (BOEM 2022b).

O.3.1.3.4 Cavalier Shores Historic District, Virginia Beach, Virginia

The Cavalier Shores Historic District (DHR ID: 134-5379) is a suburban historic district occupying 31.5 acres (12.8 hectares) within a rectilinear street grid at the north end of Virginia Beach, along the oceanfront immediately north of the Cavalier Hotel to which the neighborhood is connected. The historic district was listed in the NRHP in 2019 under Criteria A and C in the areas of Community Planning and Development, Landscape Architecture, and Architecture. The district includes a line of oceanfront properties on the east side of Ocean Front Avenue. These properties were sold at higher prices initially due to their views of the ocean and immediate beach access. According to the NRHP nomination,

“Cavalier Shores began the trend of oceanfront private residence construction that would continue up the north shore of the beach over the ensuing decades” (Taylor 2018).

The district has a maritime setting. Its ocean views are a character-defining feature, particularly for the eastern properties, but views of the ocean from elevated points farther inland are also possible. The King Neptune Statue/Boardwalk KOP (KOP Field ID 22 in COP, Appendix I-1; Dominion Energy 2023b) represents unobstructed views to the nearest Project component, which is 27.9 miles (44.9 kilometers) east of the property. Another representative KOP is the North End Beach—Residential Beach 1 KOP (KOP Field ID 15a and 15b in COP, Appendix I-1; Dominion Energy 2023b), which represents views from a similar residential area to the nearest Project component, located 28.1 miles (45.2 kilometers) east of the KOP. From both of these KOPs, views toward the Project would be unobstructed. The introduction of these modern elements into the setting would draw the attention of viewers due to the movement of the blades and the contrast of the thin white lines along the horizon (COP, Appendix I-1; Dominion Energy 2023b).

With the Project, the district’s integrity of setting, feeling, and association would be diminished. The integrity of location, workmanship, design, and materials would not be affected. The unobstructed ocean views and maritime setting are character-defining features of the district. They contribute to its significance because they were integral considerations in the community and landscape designs of the district. Specifically, for the oceanfront properties in the district, the unobstructed views toward the ocean and access to the beach immediately adjacent to the rear of the properties are significant parts of their design. This view increased their historic value. The introduction of modern elements would interfere with the historically and currently unadulterated ocean viewscape visible from the eastern edge of the district. Therefore, the Project would result in an adverse effect on the Cavalier Shores Historic District.

As described in the *Cumulative Historic Resources Visual Effects Analysis – Coastal Virginia Offshore Wind Commercial Project*, this property is 28.1 miles (45.2 kilometers) from the nearest WTG associated with the Project and 27.2 miles (43.8 kilometers) from the nearest potential WTG location for other offshore wind energy development activities. The total number of theoretically visible WTGs from this property is 149; 147 theoretically visible WTGs (98.7 percent) would be visible from the proposed Project. As such, BOEM determined the Proposed Action would add to the cumulative visual effects on this property when combined with the effects of other past, present, or reasonably foreseeable future actions (BOEM 2022b).

0.3.1.3.5 Chesapeake Bay Bridge-Tunnel, Northampton County and Virginia Beach, Virginia

The Chesapeake Bay Bridge-Tunnel (DHR ID: 065-0167) spans 17.6 miles (28.3 kilometers) across Chesapeake Bay, from Cape Charles, Northampton County to Virginia Beach. The bridge includes 12 miles (19 kilometers) with a low-level trestle, two tunnels, two bridges, causeways, and four human-made islands. The bridge is eligible for listing in the NRHP under Criteria A and C for significance in the areas of Transportation and Engineering (COP, Appendix H-1; Dominion Energy 2023b). By nature of its purpose and function, the Chesapeake Bay Bridge-Tunnel has a maritime setting and ocean views along much of the bridge. The ocean views create a scenic crossing, with the bridge as a tourist attraction. A scenic overlook on the north end of the structure faces toward the bay, but the open ocean surrounds the bridge and is part of its setting.

For the majority of the bridge crossing, ocean views are unobscured. The bridge landfall and tunnel access areas have more restricted views due to the presence of vegetation and structures, and the curve of land of Virginia Beach obstructs eastern ocean views at the southern end of the bridge. The Cape Henry Lighthouse/Fort Story Military Base KOP (KOP Field ID 13 in COP, Appendix I-1; Dominion Energy

2023b) represents views to the nearest Project component, which is 29.1 miles (46.8 kilometers) east of the property. This KOP represents a view from the southern portion of the bridge to the area northwest of the KOP, with more limited views of Offshore Project components due to the presence of land. The taller central sections of the bridge would have more expansive views toward the Project because there would be no intervening land masses. The introduction of modern elements into the setting of the bridge would draw the attention of viewers due to the movement of the blades and the contrast of the thin white lines along the horizon (COP, Appendix I-1; Dominion Energy 2023b).

With the Project, the bridge's integrity of setting, feeling, and association would be diminished. The integrity of location, workmanship, design, and materials would not be affected. Wide ocean views from much of the bridge and a maritime setting are character-defining features of the bridge. The bridge, by design and purpose, requires a maritime setting and takes advantage of the views along the crossing to provide a unique scenic experience for those crossing and visiting. The introduction of modern elements would interfere with the historically and currently unadulterated ocean viewscape visible from the bridge. Therefore, the Project would result in an adverse effect on the Chesapeake Bay Bridge-Tunnel.

As described in the *Cumulative Historic Resources Visual Effects Analysis – Coastal Virginia Offshore Wind Commercial Project*, this property is 29.2 miles (47.0 kilometers) from the nearest WTG associated with the Project and 56.5 miles (90.9 kilometers) from the nearest potential WTG location for other offshore wind energy development activities. The total number of theoretically visible WTGs from this property is 207; 205 theoretically visible WTGs (99.0 percent) would be visible from the proposed Project. As such, BOEM determined the Proposed Action would add to the cumulative visual effects on this property when combined with the effects of other past, present, or reasonably foreseeable future actions (BOEM 2022b).

O.3.1.3.6 Chesapeake Light Tower, Virginia Beach, Virginia

The Chesapeake Light Tower (DHR ID: 134-5301) is considered eligible for listing in the NRHP by the Virginia SHPO under Criterion C as an example of a Texas Tower, a prefabricated light station utilized in open ocean conditions in water greater than 30 feet (9 meters). Because the Light Tower is situated offshore, it has clear views of the ocean in all directions. It is inexorably linked to its ocean setting and ocean views due to its historic function as a navigational aid associated with maritime and offshore transportation practices (COP, Appendix H-1; Dominion Energy 2023b).

Although there are no KOPs in the VIA that represent the views from the Light Tower toward the Project, the location of the property in open water would mean that views toward the Project would be unobstructed from sea-level and elevated viewpoints on the tower. The introduction of modern elements into the ocean setting, only 13 miles (21 kilometers) from the property, would draw the attention of viewers due to size of the WTGs at that distance, the movement of the blades, and the contrast of the WTGs along the horizon (COP, Appendix I-1; Dominion Energy 2023b).

The Project would not affect the integrity of location, workmanship, design, and materials. However, the integrity of setting, feeling, and association of the Chesapeake Light Tower would be diminished. The unobstructed 360-degree views of open ocean water are character-defining features of the property that contribute to its significance because they were integral to the placement, design, and function. The introduction of modern elements would interfere with the historically and currently unadulterated ocean viewscape surrounding the property. Therefore, the Project would result in an adverse effect on the Chesapeake Light Tower.

As described in the *Cumulative Historic Resources Visual Effects Analysis – Coastal Virginia Offshore Wind Commercial Project*, this property is 13 miles (21 kilometers) from the nearest WTG associated

with the Project and 37.2 miles (59.9 kilometers) from the nearest potential WTG location for other offshore wind energy development activities. The total number of theoretically visible WTGs from this property is 274; 205 theoretically visible WTGs (74.8 percent) would be visible from the proposed Project. As such, BOEM determined the Proposed Action would add to the cumulative visual effects on this property when combined with the effects of other past, present, or reasonably foreseeable future actions (BOEM 2022b).

O.3.1.3.7 Currituck Beach Lighthouse, Corolla, North Carolina

The Currituck Beach Lighthouse and Lighthouse Complex (North Carolina SHPO ID: CK0001, CK0106) is listed in the NRHP in the areas of Commerce, Transportation, and Architecture (COP, Appendix H-1; Dominion Energy 2023b). The lighthouse was constructed between the Atlantic Ocean and Currituck Sound and provided guidance for ships navigating the region to prevent shipwrecks. Unobstructed ocean views within a maritime setting were required for the lighthouse's historic function. The lighthouse is reliant on its maritime setting and views of the ocean for its historic significance.

Although ground-level ocean views are obstructed by vegetation, the lighthouse has clear, wide views of the ocean from the top of the 162-foot (49-meter) tower. The Currituck Beach Lighthouse KOP (KOP Field ID 48 in COP, Appendix I-1; Dominion Energy 2023b) represents views to the nearest Project component, which is 36.8 miles (59.2 kilometers) northeast of the property. From this KOP, views toward the Project would be unobstructed from elevated viewpoints. The introduction of modern elements into the setting of the lighthouse would draw the attention of viewers due to the movement of the blades and the contrast of the thin white lines along the horizon (COP, Appendix I-1; Dominion Energy 2023b).

With the Project, the lighthouse's integrity of setting, feeling, and association would be diminished. The integrity of location, workmanship, design, and materials would not be affected. The unobstructed ocean views and maritime setting are character-defining features of the property that contribute to its significance because they were integral considerations in the placement, design, and historic function of the lighthouse. The introduction of modern elements would interfere with the historically and currently unobstructed ocean viewscape. Therefore, the Project would result in an adverse effect on the Currituck Beach Lighthouse.

As described in the *Cumulative Historic Resources Visual Effects Analysis – Coastal Virginia Offshore Wind Commercial Project*, this property is 36.86 miles (59.32 kilometers) from the nearest WTG associated with the Project and 28.34 miles (45.61 kilometers) from the nearest potential WTG location for other offshore wind energy development activities. The total number of theoretically visible WTGs from this property is 264; 192 theoretically visible WTGs (72.7 percent) would be visible from the proposed Project. As such, BOEM determined the Proposed Action would add to the cumulative visual effects on this property when combined with the effects of other past, present, or reasonably foreseeable future actions (BOEM 2022b).

O.3.1.3.8 Cutty Sark Motel Efficiencies, Virginia Beach, Virginia

During the post–World War II period of economic growth and development, the hotel and resort business grew to meet demand from increasing numbers of middle-class tourists. The boom altered the Atlantic shoreline in Virginia Beach as new hotels and motels were constructed during the mid-twentieth century. As documented in the *National Register of Historic Places Multiple Property Listing: Virginia Beach Oceanfront Resort Motels and Hotels* (McClane and Kirchen 2020), many of these new hotels reflected streamlined modern architecture. These were constructed within a period of significance from 1955 to 1970. Virginia Beach has approximately 3.5 miles (5.6 kilometers) of resort ocean frontage; buildings were constructed close to the ocean and beach to take advantage of the views, beach access, and Virginia

Beach Boardwalk. Therefore, the maritime setting was of primary consideration for these types of properties. Unobstructed ocean views were also character-defining features, particularly from the rooms facing east. Many hotels and motels were designed to take advantage of and maximize these views (McClane and Kirchen 2020). The Cutty Sark Motel Efficiencies property (DHR ID: 134-5866) is an example of one such property. It is oriented to the east, toward Atlantic Avenue, with private balconies that offered direct ocean views for visitors. In 1970, the hotel faced an empty lot between it and the beach, meaning it had direct ocean views during the period of significance (Nationwide Environmental Title Research [NETR] 1970). It is listed on the NRHP as an example of a small family-operated motel from this period. It still retains many of its character-defining features, including massing, Modern-inspired architectural details, and private balconies (COP, Appendix H-1; Dominion Energy 2023b).

Today, ocean views from the Cutty Sark are largely obscured by the taller Edgewater Condominiums building across from the motel on the west side of Atlantic Avenue. The condominium building is directly between the Cutty Sark and the ocean. Some ocean views may still be possible from the northwest corner balconies and rooms of the motel. The King Neptune Statue/Boardwalk KOP (KOP Field ID 22 in COP, Appendix I-1; Dominion Energy 2023b) represents unobstructed views to the nearest Project component, which is 27.9 miles (44.9 kilometers) east of the property. From the statue, which is inside Neptune's Park, views toward the Project would be unobstructed. Therefore, the introduction of modern elements into the setting of the boardwalk would draw the attention of viewers due to the movement of the blades and the contrast of the thin white lines along the horizon (COP, Appendix I-1; Dominion Energy 2023b).

Ocean views and a maritime setting are character-defining features of the Cutty Sark Motel Efficiencies that contribute to its significance because they were integral considerations in the placement, design, and historic function of the property. The integrity of location, workmanship, design, and materials for the Cutty Sark would not be affected by the Project. The setting is already somewhat diminished due to the large condominium building that now stands between the motel and ocean; however, quick access to the beach and boardwalk, as well as unobstructed ocean views, is still possible. With the Project, the motel's integrity of setting, feeling, and association would be further diminished due to the introduction of modern elements that would interfere with the historically and currently unobstructed ocean viewscape. Therefore, the Project would result in an adverse effect on the Cutty Sark Motel Efficiencies.

As described in the *Cumulative Historic Resources Visual Effects Analysis – Coastal Virginia Offshore Wind Commercial Project*, this property is 28.0 miles (45.1 kilometers) from the nearest WTG associated with the Project and 45.12 miles (72.61 kilometers) from the nearest potential WTG location for other offshore wind energy development activities. The total number of theoretically visible WTGs from this property is 215; 205 theoretically visible WTGs (95.3 percent) would be visible from the proposed Project. As such, BOEM determined the Proposed Action would add to the cumulative visual effects on this property when combined with the effects of other past, present, or reasonably foreseeable future actions (BOEM 2022b).

O.3.1.3.9 Econo Lodge/Empress Motel, Virginia Beach, Virginia

As described in the Section O.3.1.3.8, the Econo Lodge/Empress Motel (DHR ID: 134-5869) was constructed within the historic context documented and described in the *National Register of Historic Places Multiple Property Listing: Virginia Beach Oceanfront Resort Motels and Hotels* (McClane and Kirchen 2020). It is considered NRHP eligible as an intact example of a resort motel from the mid-twentieth century (McClane and Kirchen 2020). It retains many of its character-defining features, including massing and oceanfront balconies (COP, Appendix H-1; Dominion Energy 2023b). The lodge is oriented to the west, toward Atlantic Avenue, but enjoys unobstructed ocean views from the entire east elevation, which faces the Virginia Beach Boardwalk and ocean beyond.

Today, ocean views from the Econo Lodge/Empress Motel remain unobscured. The lodge has been surrounded by larger, newer hotels and commercial structures on the north, west, and south sides, but the east elevation still faces the ocean. The view from here does not include any modern structures. The King Neptune Statue/Boardwalk KOP (KOP Field ID 22 in COP, Appendix I-1; Dominion Energy 2023b) represents unobstructed views to the nearest Project component, which is 27.9 miles (44.9 kilometers) east of the property. From this KOP, views toward the Project would be unobstructed. The introduction of modern elements into the setting of the boardwalk would draw the attention of viewers due to the movement of the blades and the contrast of the thin white lines along the horizon (COP, Appendix I-1; Dominion Energy 2023b).

Ocean views and a maritime setting are character-defining features of the Econo Lodge/Empress Motel that contribute to its significance. The lodge was strategically placed and designed to take full advantage of these views within a beachside setting. The integrity of location, workmanship, design, and materials for the lodge would not be affected by the Project. However, the lodge's integrity of setting, feeling, and association would be diminished as a result of the Project due to the introduction of modern elements that would interfere with the historically and currently unobstructed ocean viewscape. Therefore, the Project would result in an adverse effect on the Econo Lodge/Empress Motel.

As described in the *Cumulative Historic Resources Visual Effects Analysis – Coastal Virginia Offshore Wind Commercial Project*, this property is 27.9 miles (44.9 kilometers) from the nearest WTG associated with the Project and 45.12 miles (72.61 kilometers) from the nearest potential WTG location for other offshore wind energy development activities. The total number of theoretically visible WTGs from this property is 243; 205 theoretically visible WTGs (84.4 percent) would be visible from the proposed Project. As such, BOEM determined the Proposed Action would add to the cumulative visual effects on this property when combined with the effects of other past, present, or reasonably foreseeable future actions (BOEM 2022b).

O.3.1.3.10 First Cape Henry Lighthouse (NHL), Fort Story, and Virginia Beach, Virginia

The First Cape Henry Lighthouse NHL (DHR ID: 134-0660) was listed as an NHL in 1964, in the NRHP in 1966, and in the Virginia Landmarks Register under Criteria A and C (COP, Appendix H-1; Dominion Energy 2023b). The lighthouse was built on a dune directly along the ocean coastline. Unobstructed ocean views were required for the lighthouse's historic function. It is reliant on its maritime setting and views to the ocean for its NRHP and NHL significance.

Currently, the lighthouse has full unobstructed views of the ocean from the top of the 72-foot (22-meter) tower. Ground-level ocean views are obstructed by vegetation that crowds the base of the lighthouse. The Cape Henry Lighthouse/Fort Story Military Base KOP (KOP Field ID 13 in COP, Appendix I-1; Dominion Energy 2023b) represents views to the nearest Project component, which is 29.1 miles (46.8 kilometers) east of the property. Although there is vegetation at the ground level along the shoreline of the district, views toward the Project would be unobstructed, particularly from elevated viewpoints. The introduction of modern elements into the setting of the NHL would draw the attention of viewers due to the movement of the blades and the contrast of the thin white lines along the horizon (COP, Appendix I-1; Dominion Energy 2023b).

With the Project, the NHL's integrity of setting, feeling, and association would be diminished. The integrity of location, workmanship, design, and materials would not be affected. The unobstructed ocean views and maritime setting are character-defining features of the property that contribute to its significance. They were integral considerations in the placement, design, and historic function of the lighthouse. The introduction of modern elements would interfere with the historically and currently

unadulterated ocean viewscape. Therefore, the Project would result in an adverse effect on the First Cape Henry Lighthouse NHL.

As described in the *Cumulative Historic Resources Visual Effects Analysis – Coastal Virginia Offshore Wind Commercial Project*, this property is 29.12 miles (46.86 kilometers) from the nearest WTG associated with the Project and 49.43 miles (79.55 kilometers) from the nearest potential WTG location for other offshore wind energy development activities. The total number of theoretically visible WTGs from this property is 223; 205 theoretically visible WTGs (91.9 percent) would be visible from the proposed Project. As such, BOEM determined the Proposed Action would add to the cumulative visual effects on this property when combined with the effects of other past, present, or reasonably foreseeable future actions (BOEM 2022b).

O.3.1.3.11 Fort Story Historic District, Fort Story, and Virginia Beach, Virginia

The Fort Story Historic District (DHR ID: 134-0660) is eligible for the NRHP under Criterion A for its association with Military History and Government (Dutton + Associates, LLC 2012). The Fort Story Historic District is part of the Joint Expeditionary Base Little Creek-Fort Story. The fort was constructed along the ocean coastline, with unobstructed ocean views; it is bounded on the east and north by the Atlantic Ocean and Chesapeake Bay. The maritime setting and ocean views are character-defining features of the district that were part of its historic function and significance. An individually eligible historic property, Building 591/Old Fort Story Railroad Depot (DHR ID: 134-0660-0041/134-0082) is located within the Fort Story Historic District boundary, but it does not contribute to the district's NRHP eligibility (Dutton + Associates, LLC 2012).

Currently, there are multiple locations along the coastline within the district that have unobstructed ocean views. The Cape Henry Lighthouse/Fort Story Military Base KOP (KOP Field ID 13 in COP, Appendix I-1; Dominion Energy 2023b) represents views to the nearest Project component, which is 29.1 miles (46.8 kilometers) east of the property. Although there is vegetation at the ground level along portions of the district's shoreline, views toward the Project would be unobstructed, particularly from elevated viewpoints throughout the district. The introduction of modern elements into the setting of the district would draw the attention of viewers due to the movement of the blades and the contrast of the thin white lines along the horizon (COP, Appendix I-1; Dominion Energy 2023b).

With the Project, the district's integrity of setting, feeling, and association would be diminished. The integrity of location, workmanship, design, and materials would not be affected. The unobstructed ocean views and maritime setting were integral considerations in the placement, design, and historic function of Fort Story. The introduction of modern elements would interfere with the historically and currently unadulterated ocean viewscape. Therefore, the Project would result in an adverse effect on the Fort Story Historic District.

As described in the *Cumulative Historic Resources Visual Effects Analysis – Coastal Virginia Offshore Wind Commercial Project*, this property is 29.12 miles (46.86 kilometers) from the nearest WTG associated with the Project and 49.43 miles (79.55 kilometers) from the nearest potential WTG location for other offshore wind energy development activities. The total number of theoretically visible WTGs from this property is 216; 205 theoretically visible WTGs (94.9 percent) would be visible from the proposed Project. As such, BOEM determined the Proposed Action would add to the cumulative visual effects on this property when combined with the effects of other past, present, or reasonably foreseeable future actions (BOEM 2022b).

O.3.1.3.12 Hilton Washington Inn/Quality Inn and Suites, Virginia Beach, Virginia

As described in the Section O.3.1.3.8, the Hilton Washington Inn/Quality Inn and Suites (DHR ID: 134-5863) was constructed within the historic context documented and described in the *National Register of Historic Places Multiple Property Listing: Virginia Beach Oceanfront Resort Motels and Hotels* (McClane and Kirchen 2020). It is considered NRHP eligible in the Multiple Property Listing as an intact example of a resort motel from the mid-twentieth century—specifically, it represents the arrival of national hotel chains in Virginia Beach, circa 1970 (McClane and Kirchen 2020). It retains many of its character-defining features, including massing, architectural details, semi-circular oceanfront rooms, and private balconies (COP, Appendix H-1; Dominion Energy 2023b). The hotel sits on the west side of Atlantic Avenue. Its semi-circular design allowed rooms and balconies on three sides of the building to have direct ocean views, which are unobscured because the interior curve of the hotel faces the beach.

Today, ocean views from the Hilton Washington Inn/Quality Inn and Suites remain unobscured. The Marriott Virginia Beach Oceanfront Hotel KOP (KOP Field ID 26 in COP, Appendix I-1; Dominion Energy 2023b) represents elevated views to the nearest Project component, which is 28 miles (45 kilometers) to the east. The views may be similar to those from the upper floors of the inn. From the Marriott, views toward the Project would be unobstructed. The Grommet Island Park/Boardwalk KOP (KOP Field ID 29 in COP, Appendix I-1; Dominion Energy 2023b) is geographically closer to the inn than the Marriott KOP and represents views to the nearest Project component, which is 27.7 miles (44.6 kilometers) to the east. The introduction of modern elements into the maritime setting of the inn would draw the attention of viewers due to the movement of the blades and the contrast of the thin white lines along the horizon (COP, Appendix I-1; Dominion Energy 2023b).

Ocean views and a maritime setting are character-defining features of the Hilton Washington Inn/Quality Inn and Suites that contribute to its significance. The unique design of the inn enhances eastern ocean views from the private rooms and balconies. The inn was built on a lot where the views would be unobstructed and the beach would be readily accessible. The Project would not affect the integrity of location, workmanship, design, and materials for the inn. However, the integrity of setting, feeling, and association would be diminished due to the introduction of modern elements that would interfere with the historically and currently unobstructed ocean viewscape. Therefore, the Project would result in an adverse effect on the Hilton Washington Inn/Quality Inn and Suites.

As described in the *Cumulative Historic Resources Visual Effects Analysis – Coastal Virginia Offshore Wind Commercial Project*, this property is 27.7 miles (44.6 kilometers) from the nearest WTG associated with the Project and 44.0 miles (70.8 kilometers) from the nearest potential WTG location for other offshore wind energy development activities. The total number of theoretically visible WTGs from this property is 229; 205 theoretically visible WTGs (89.5 percent) would be visible from the proposed Project. As such, BOEM determined the Proposed Action would add to the cumulative visual effects on this property when combined with the effects of other past, present, or reasonably foreseeable future actions (BOEM 2022b).

O.3.1.3.13 House (100 54th Street), Virginia Beach, Virginia

The house at 100 54th Street in Virginia Beach, Virginia (DHR ID: 134-5660) is potentially eligible for the NRHP under Criterion A as an example of oceanfront urban development in Virginia Beach in the mid-twentieth century (COP, Appendix H-1; Dominion Energy 2023b). The property is oriented to the west, toward 54th Street, but has unobstructed ocean views from the rear elevation. The location of the property enables inhabitants to enjoy ocean views and have direct access to the beach; thus, the maritime setting is key to its significance.

Currently, the house has unobstructed views of the ocean from the rear elevation and yard. The North End Beach—Residential Beach 1 KOP (KOP Field ID 15a and 15b in COP, Appendix I-1; Dominion Energy 2023b) represents views from the approximate location of this property to the nearest Project component, which is 28.1 miles (45.2 kilometers) east of the KOP. From this KOP, views toward the Project would be unobstructed. The introduction of these modern elements into the setting would draw the attention of viewers due to the movement of the blades and the contrast of the thin white lines along the horizon (COP, Appendix I-1; Dominion Energy 2023b).

With the Project, the property's integrity of setting, feeling, and association would be diminished. The integrity of location, workmanship, design, and materials would not be affected. The unobstructed ocean views and the beachside or maritime setting are character-defining features of the property. They contribute to its significance because they were integral considerations in the placement and design of the property. The introduction of modern elements would interfere with the historically and currently unadulterated ocean viewscape visible from the house and the beach. Therefore, the Project would result in an adverse effect on the house at 100 54th Street.

As described in the *Cumulative Historic Resources Visual Effects Analysis – Coastal Virginia Offshore Wind Commercial Project*, this property is 28.15 miles (45.30 kilometers) from the nearest WTG associated with the Project and 46.46 miles (74.77 kilometers) from the nearest potential WTG location for other offshore wind energy development activities. The total number of theoretically visible WTGs from this property is 207; 205 theoretically visible WTGs (99.0 percent) would be visible from the proposed Project. As such, BOEM determined the Proposed Action would add to the cumulative visual effects on this property when combined with the effects of other past, present, or reasonably foreseeable future actions (BOEM 2022b).

O.3.1.3.14 House (4910 Ocean Front Avenue), Virginia Beach, Virginia

The house at 4910 Ocean Front Avenue in Virginia Beach, Virginia (DHR ID: 134-5399), is potentially eligible for the NRHP under Criterion A as an example of beachfront urban development in Virginia Beach in the early twentieth century. It is also eligible for the NRHP under Criterion C as an example of the Shingle style of architecture (COP, Appendix H-1; Dominion Energy 2023b). The property is oriented to the west, toward Ocean Front Avenue, but has unobstructed ocean views from the two-story porch on the rear elevation. The location of the property enables inhabitants to enjoy ocean views and have direct access to the beach; thus, the maritime setting is key to its significance.

Currently, the only obstruction between the house and the ocean is a low fence that borders the property. The North End Beach—Residential Beach 1 KOP (KOP Field ID 15a and 15b in COP, Appendix I-1; Dominion Energy 2023b) represents views from the approximate location of this property to the nearest Project component, which is 28.1 miles (45.2 kilometers) east of the KOP. From this KOP, views toward the Project would be unobstructed. The introduction of these modern elements into the setting would draw the attention of viewers due to the movement of the blades and the contrast of the thin white lines along the horizon (COP, Appendix I-1; Dominion Energy 2023b).

With the Project, the property's integrity of setting, feeling, and association would be diminished. The integrity of location, workmanship, design, and materials would not be affected. The unobstructed ocean views and maritime setting are character-defining features of the property. They contribute to its significance because they were integral considerations in the placement and design of the property. The introduction of modern elements would interfere with the historically and currently unadulterated ocean viewscape visible from the house and the beach. Therefore, the Project would result in an adverse effect on the house at 4910 Ocean Front Avenue.

As described in the *Cumulative Historic Resources Visual Effects Analysis – Coastal Virginia Offshore Wind Commercial Project*, this property is 28.1 miles (45.2 kilometers) from the nearest WTG associated with the Project and 46.28 miles (74.48 kilometers) from the nearest potential WTG location for other offshore wind energy development activities. The total number of theoretically visible WTGs from this property is 207; 205 theoretically visible WTGs (99.0 percent) would be visible from the proposed Project. As such, BOEM determined the Proposed Action would add to the cumulative visual effects on this property when combined with the effects of other past, present, or reasonably foreseeable future actions (BOEM 2022b).

O.3.1.3.15 House (5302 Ocean Front Avenue), Virginia Beach, Virginia

The house at 5302 Ocean Front Avenue in Virginia Beach, Virginia (DHR ID: 134-5665), is potentially eligible for the NRHP under Criterion A as an example of early twentieth century oceanfront urban development in Virginia Beach (COP, Appendix H-1; Dominion Energy 2023b). The property is oriented to the west, toward Ocean Front Avenue, but has unobstructed ocean views from the rear elevation. The location of the property enables inhabitants to enjoy ocean views and have direct access to the beach; thus, the maritime setting is key to its significance.

Currently, the house has unobstructed views of the ocean from the rear elevation and yard. The North End Beach—Residential Beach 1 KOP (KOP Field ID 15a and 15b in COP, Appendix I-1; Dominion Energy 2023b) represents views from the approximate location of this property to the nearest Project component, which is 28.1 miles (45.2 kilometers) east of the KOP. From this KOP, views toward the Project would be unobstructed. The introduction of these modern elements into the setting would draw the attention of viewers due to the movement of the blades and the contrast of the thin white lines along the horizon (COP, Appendix I-1; Dominion Energy 2023b).

With the Project, the property’s integrity of setting, feeling, and association would be diminished. The integrity of location, workmanship, design, and materials would not be affected. The unobstructed ocean views and maritime setting are character-defining features of the property. They contribute to its significance because they were integral considerations in the placement and design of the property. The introduction of modern elements would interfere with the historically and currently unadulterated ocean viewscape visible from the house and the beach. Therefore, the Project would result in an adverse effect on the house at 5302 Ocean Front Avenue.

As described in the *Cumulative Historic Resources Visual Effects Analysis – Coastal Virginia Offshore Wind Commercial Project*, this property is 28.17 miles (45.34 kilometers) from the nearest WTG associated with the Project and 46.42 miles (74.71 kilometers) from the nearest potential WTG location for other offshore wind energy development activities. The total number of theoretically visible WTGs from this property is 207; 205 theoretically visible WTGs (99.0 percent) would be visible from the proposed Project. As such, BOEM determined the Proposed Action would add to the cumulative visual effects on this property when combined with the effects of other past, present, or reasonably foreseeable future actions (BOEM 2022b).

O.3.1.3.16 House (7900 Ocean Front Avenue), Virginia Beach, Virginia

The house at 7900 Ocean Front Avenue in Virginia Beach, Virginia (DHR ID: 134-0587), is potentially eligible for the NRHP under Criterion A as an example of early twentieth century oceanfront urban development in Virginia Beach. It is also eligible for the NRHP under Criterion C under Architecture (COP, Appendix H-1; Dominion Energy 2023b). The property is oriented to the west, toward Ocean Front Avenue, at the cul-de-sac created by the perpendicular 79th Street. The property is surrounded by tall trees but has ocean views from the rear elevation. A second-story porch allows wide views toward the

ocean. The location of the property enables inhabitants to enjoy ocean views and have direct access to the beach; thus, the maritime setting is key to its significance.

Currently, the house has views of the ocean from the rear elevation and yard; the views may be partially obstructed by the tall vegetation that borders the eastern edge of the property. The property is located between the North End Beach—Residential Beach 1 KOP (KOP Field ID 15a and 15b in COP, Appendix I-1; Dominion Energy 2023b) and Cape Henry Lighthouse/Fort Story Military Base (KOP Field ID 13 in COP, Appendix I-1; Dominion Energy 2023b). The North End Beach KOP represents views to the nearest Project component, which is 28.1 miles (45.2 kilometers) east of the KOP. The Cape Henry Lighthouse/Fort Story Military Base KOP also represents views to the nearest Project component, which is 29.1 miles (46.8 kilometers) east of the KOP. Although there is vegetation at the ground level along the shoreline of the Cape Henry Lighthouse/Fort Story Military Base KOP, from both KOPs, views toward the Project would be unobstructed, particularly from elevated viewpoints, such as the lighthouses. The introduction of modern elements into the setting of this property would draw the attention of viewers due to the movement of the blades and the contrast of the thin white lines along the horizon (COP, Appendix I-1; Dominion Energy 2023b).

With the Project, the property’s integrity of setting, feeling, and association would be diminished. The integrity of location, workmanship, design, and materials would not be affected. The unobstructed ocean views and maritime setting are character-defining features of the property. They contribute to its significance because they were integral considerations in the placement and design of the property. The introduction of modern elements would interfere with the historically and currently unadulterated ocean viewscape visible from the house. Therefore, the Project would result in an adverse effect on the house at 7900 Ocean Front Avenue.

As described in the *Cumulative Historic Resources Visual Effects Analysis – Coastal Virginia Offshore Wind Commercial Project*, this property is 28.3 miles (45.5 kilometers) from the nearest WTG associated with the Project and 47.6 miles (76.6 kilometers) from the nearest potential WTG location for other offshore wind energy development activities. The total number of theoretically visible WTGs from this property is 207; 205 theoretically visible WTGs (99.0 percent) would be visible from the proposed Project. As such, BOEM determined the Proposed Action would add to the cumulative visual effects on this property when combined with the effects of other past, present, or reasonably foreseeable future actions (BOEM 2022b).

O.3.1.3.17 House (8304–8306 Ocean Front Avenue), Virginia Beach, Virginia

This property consists of three lots at 8304–8306 Ocean Front Avenue in Virginia Beach, Virginia (DHR ID: 134-5089). The property is also referred to as “Sandswept” in the Virginia Beach Register and eligible for the NRHP under Criterion C as an example of mid-twentieth century International style architecture (COP, Appendix H-1; Dominion Energy 2023b). The property is oriented to the west between two cul-de-sacs created by Ocean Front Avenue. The property is surrounded by tall trees but has direct beach access and ocean views from the rear elevations and yard. Elevated porches on the buildings provide views toward the ocean over the sand dune that runs along the east boundary of the property. The location of the property enables inhabitants to enjoy ocean views and have direct access to the beach; thus, the maritime setting is key to its significance.

Currently, the property has views of the ocean from the rear elevation and yard; the views may be partially obstructed by tall vegetation and a low sand dune. The property is located between the North End Beach—Residential Beach 1 KOP (KOP Field ID 15a and 15b in COP, Appendix I-1; Dominion Energy 2023b) and Cape Henry Lighthouse/Fort Story Military Base (KOP Field ID 13 in COP, Appendix I-1; Dominion Energy 2023b). The North End Beach KOP represents views to the nearest

Project component, which is 28.1 miles (45.2 kilometers) east of the KOP. The Cape Henry Lighthouse/Fort Story Military Base KOP also represents views to the nearest Project component, which is 29.1 miles (46.8 kilometers) east of the KOP. Although there is vegetation at the ground level along the shoreline of the Cape Henry Lighthouse/Fort Story Military Base KOP, from both KOPs, views toward the Project would be unobstructed, particularly from elevated viewpoints, such as the lighthouses. The introduction of modern elements into the setting of this property would draw the attention of viewers due to the movement of the blades and the contrast of the thin white lines along the horizon (COP, Appendix I-1; Dominion Energy 2023b).

With the Project, the property's integrity of setting, feeling, and association would be diminished. The integrity of location, workmanship, design, and materials would not be affected. The unobstructed ocean views and maritime setting are character-defining features of the property. They contribute to its significance because they were integral considerations in the placement and design of the property. The introduction of modern elements would interfere with the historically and currently unadulterated ocean viewscape visible from the house. Therefore, the Project would result in an adverse effect on the house at 8304–8306 Ocean Front Avenue.

As described in the *Cumulative Historic Resources Visual Effects Analysis – Coastal Virginia Offshore Wind Commercial Project*, this property is 28.37 miles (45.66 kilometers) from the nearest WTG associated with the Project and 48 miles (77 kilometers) from the nearest potential WTG location for other offshore wind energy development activities. The total number of theoretically visible WTGs from this property is 207; 205 theoretically visible WTGs (99.0 percent) would be visible from the proposed Project. As such, BOEM determined the Proposed Action would add to the cumulative visual effects on this property when combined with the effects of other past, present, or reasonably foreseeable future actions (BOEM 2022b).

O.3.1.3.18 House (8600 Ocean Front Avenue), Virginia Beach, Virginia

The house at 8600 Ocean Front Avenue in Virginia Beach, Virginia (DHR ID: 134-5493), is also referred to as the Faulkner House in the Virginia Beach Register. It is eligible for the NRHP under Criterion A as an example of early twentieth century oceanfront urban development in Virginia Beach (COP, Appendix H-1; Dominion Energy 2023b). The property is located at the eastern end of 86th Street but may be oriented toward Ocean Front Avenue; tall trees obscure the south and west elevations. The trees surround the property on all sides. The property has direct beach access and ocean views from the rear elevations and a beach walkway leading from 86th Street to the beach. Elevated views toward the ocean are possible from the rear elevation of the house. The location of the property enables inhabitants to enjoy ocean views and have direct access to the beach; thus, the maritime setting is key to its significance.

Currently, the property has partially obscured views of the ocean from the rear elevation; these views are very likely less obstructed during winter months. The property is located between the North End Beach—Residential Beach 1 KOP (KOP Field ID 15a and 15b in COP, Appendix I-1; Dominion Energy 2023b) and Cape Henry Lighthouse/Fort Story Military Base (KOP Field ID 13 in COP, Appendix I-1; Dominion Energy 2023b). The North End Beach KOP represents views to the nearest Project component, which is 28.1 miles (45.2 kilometers) east of the KOP. The Cape Henry Lighthouse/Fort Story Military Base KOP also represents views to the nearest Project component, which is 29.1 miles (46.8 kilometers) east of the KOP. Although there is vegetation at the ground level along the shoreline of the Cape Henry Lighthouse/Fort Story Military Base KOP, from both KOPs, views toward the Project would be unobstructed, particularly from elevated viewpoints, such as the lighthouses. The introduction of modern elements into the setting of this property would draw the attention of viewers due to the movement of the blades and the contrast of the thin white lines along the horizon (COP, Appendix I-1; Dominion Energy 2023b).

With the Project, the property's integrity of setting, feeling, and association would be diminished. The integrity of location, workmanship, design, and materials would not be affected. The unobstructed ocean views and maritime setting are character-defining features of the property. They contribute to its significance because they were integral considerations in the placement and design of the property. The introduction of modern elements would interfere with the historically and currently unadulterated ocean viewscape visible from the house. Therefore, the Project would result in an adverse effect on the house at 8600 Ocean Front Avenue.

As described in the *Cumulative Historic Resources Visual Effects Analysis – Coastal Virginia Offshore Wind Commercial Project*, this property is 28.52 miles (45.90 kilometers) from the nearest WTG associated with the Project and 48.15 miles (77.49 kilometers) from the nearest potential WTG location for other offshore wind energy development activities. The total number of theoretically visible WTGs from this property is 206; 204 theoretically visible WTGs (99.0 percent) would be visible from the proposed Project. As such, BOEM determined the Proposed Action would add to the cumulative visual effects on this property when combined with the effects of other past, present, or reasonably foreseeable future actions (BOEM 2022b).

O.3.1.3.19 Oceans II Condominiums/Aeolus Motel, Virginia Beach, Virginia

As described in the Section O.3.1.3.8, the Oceans II Condominiums/Aeolus Motel (DHR ID: 134-5872) was constructed within the historic context documented and described in the *National Register of Historic Places Multiple Property Listing: Virginia Beach Oceanfront Resort Motels and Hotels* (McClane and Kirchen 2020). It is considered NRHP eligible in the Multiple Property Listing as the first Florida-style motel constructed in Virginia Beach in the mid-twentieth century (McClane and Kirchen 2020). It retains many of its character-defining features, including exterior walkways, flat roof, Modern-inspired architectural detailing, and balconies (COP, Appendix H-1; Dominion Energy 2023b). The hotel sits on the west side of Atlantic Avenue. A long row of rooms faces east and toward the ocean; there are no intervening structures to block these views. From the south elevation and pool area, views of the ocean are also available.

Today, ocean views from the Oceans II Condominiums/Aeolus Motel remain unobscured. The Marriott Virginia Beach Oceanfront Hotel KOP (KOP Field ID 26 in COP, Appendix I-1; Dominion Energy 2023b) represents elevated views to the nearest Project component, which is 28 miles (45 kilometers) to the east. From the Marriott, views toward the Project would be unobstructed; views from the Oceans II Condominiums/Aeolus Motel would be similar. The introduction of modern elements into the maritime setting of the property would draw the attention of viewers due to the movement of the blades and the contrast of the thin white lines along the horizon (COP, Appendix I-1; Dominion Energy 2023b).

Ocean views and a maritime setting are character-defining features of the Oceans II Condominiums/Aeolus Motel that contribute to its significance. The property was built on a lot where views would be unobstructed and the beach would be readily accessible, taking full advantage of the ocean views that would be available from the private rooms, balconies, and pool area. The Project would not affect the integrity of location, workmanship, design, and materials for the property. However, the integrity of setting, feeling, and association would be diminished due to the introduction of modern elements that would interfere with the historically and currently unobstructed ocean viewscape. Therefore, the Project would result in an adverse effect on the Oceans II Condominiums/Aeolus Motel.

As described in the *Cumulative Historic Resources Visual Effects Analysis – Coastal Virginia Offshore Wind Commercial Project*, this property is 28 miles (45 kilometers) from the nearest WTG associated with the Project and 45.67 miles (73.49 kilometers) from the nearest potential WTG location for other offshore wind energy development activities. The total number of theoretically visible WTGs from this

property is 215; 205 theoretically visible WTGs (95.3 percent) would be visible from the proposed Project. As such, BOEM determined the Proposed Action would add to the cumulative visual effects on this property when combined with the effects of other past, present, or reasonably foreseeable future actions (BOEM 2022b).

O.3.1.3.20 Sandbridge Historic District, Virginia Beach, Virginia

A formal consideration of the district is planned for 2030. However, the proposed Sandbridge Historic District (DHR ID: Unassigned) is considered potentially eligible for the NRHP for the purposes of this Project. Specifically, it is considered eligible as one of Virginia Beach's last planned communities with beachfront access and limited commercial development during the mid-twentieth century. According to the HRVEA, "Sandbridge is a physically isolated seaside residential community distinguished by its beach front and ocean orientation" (COP, Appendix H-1; Dominion Energy 2023b). It consists of single-family residential lots developed in a dense grid pattern and approximately 4.5 miles (7.2 kilometers) of oceanfront, according to the proposed delineation for this Project (COP, Appendix H-1; Dominion Energy 2023b).

Many of the residential structures associated with the Sandbridge Historic District are oriented toward the beach and ocean. A long stretch of lots on the eastern boundary have direct ocean views and beach access. Ocean views may also be possible from elevated stories on more inland structures. The Back Bay National Wildlife Refuge/Little Island Park (KOP Field ID 44 in COP, Appendix I-1; Dominion Energy 2023b) is near or within the southern portion of the district as currently proposed. This KOP represents unobstructed views to the nearest Project component, which is 26.8 miles (43.1 kilometers) to the east. From this KOP, inland views would be partially obscured by structures and vegetation, but views toward the Project from the beach area would be unobstructed. Therefore, the introduction of modern elements into the setting would draw the attention of viewers due to the movement of the blades and the contrast of the thin white lines along the horizon (COP, Appendix I-1; Dominion Energy 2023b).

Ocean views and a maritime setting are character-defining features of the proposed Sandbridge Historic District that contribute to its significance. The community was intentionally designed and located in an area where unobstructed ocean views could be enjoyed by residents. The Project would not affect the integrity of location, workmanship, design, and materials for the property. However, the integrity of setting, feeling, and association would be diminished due to the introduction of modern elements that would interfere with the historically and currently unobstructed ocean viewscape. Therefore, the Project would result in an adverse effect on the proposed Sandbridge Historic District.

As described in the *Cumulative Historic Resources Visual Effects Analysis – Coastal Virginia Offshore Wind Commercial Project*, this property is 26.9 miles (43.3 kilometers) from the nearest WTG associated with the Project and 36.5 miles (58.7 kilometers) from the nearest potential WTG location for other offshore wind energy development activities. The total number of theoretically visible WTGs from this property is 249; 203 theoretically visible WTGs (81.5 percent) would be visible from the proposed Project. As such, BOEM determined the Proposed Action would add to the cumulative visual effects on this property when combined with the effects of other past, present, or reasonably foreseeable future actions (BOEM 2022b).

O.3.1.3.21 Seahawk Motel, Virginia Beach, Virginia

As described in the Section O.3.1.3.8, the Seahawk Motel (DHR ID: 134-5857) was constructed within the historic context documented and described in the *National Register of Historic Places Multiple Property Listing: Virginia Beach Oceanfront Resort Motels and Hotels* (McClane and Kirchen 2020). It is considered NRHP eligible as a motel constructed in Virginia Beach in the mid-twentieth century

(McClane and Kirchen 2020). It retains many of its character-defining features, including oceanfront balconies, window wall, pool, and terrace. The hotel advertised 100 percent oceanfront rooms, confirming that ocean views were a significant amenity that attracted visitors (COP, Appendix H-1; Dominion Energy 2023b).

The motel is set on the west side of Atlantic Avenue. There are no intervening structures to block the ocean views from the rooms and balconies on the eastern elevation. The Naval Aviation Monument Park KOP (KOP Field ID 23 in COP, Appendix I-1; Dominion Energy 2023b) represents unobstructed views to the nearest Project component, which is 27.9 miles (44.9 kilometers) east of the property. From this KOP, views toward the Project would be unobstructed. Therefore, the introduction of modern elements into the setting here would draw the attention of viewers due to the movement of the blades and the contrast of the thin white lines along the horizon (COP, Appendix I-1; Dominion Energy 2023b).

Ocean views and a maritime setting are character-defining features of the Seahawk Motel that contribute to its significance. The property was built on lots where views would be unobstructed and where the beach would be readily accessible. The property takes full advantage of the ocean views from the rooms and balconies. The Project would not affect the integrity of location, workmanship, design, and materials for the property. However, the integrity of setting, feeling, and association would be diminished due to the introduction of modern elements that would interfere with the historically and currently unobstructed ocean viewscape. Therefore, the Project would result in an adverse effect on the Seahawk Motel.

As described in the *Cumulative Historic Resources Visual Effects Analysis – Coastal Virginia Offshore Wind Commercial Project*, this property is 27.97 miles (45.01 kilometers) from the nearest WTG associated with the Project and 45.0 miles (72.4 kilometers) from the nearest potential WTG location for other offshore wind energy development activities. The total number of theoretically visible WTGs from this property is 225; 205 theoretically visible WTGs (91.1 percent) would be visible from the proposed Project. As such, BOEM determined the Proposed Action would add to the cumulative visual effects on this property when combined with the effects of other past, present, or reasonably foreseeable future actions (BOEM 2022b).

O.3.1.3.22 Seatack Lifesaving Station/U.S. Coast Guard Station, Virginia Beach, Virginia

The Seatack Lifesaving Station/U.S. Coast Guard Station (DHR ID: 134-0047) was listed in the NRHP in 1979 under Criteria A and C in the areas of Maritime History and Architecture. As a lifesaving station and, later, a Coast Guard station, the property required a maritime setting for its construction and operation. The property was reliant on views of the ocean to function. Therefore, it is oriented toward the Atlantic Ocean and has unobstructed ocean views, which are enhanced by the height of the tower (COP, Appendix H-1; Dominion Energy 2023b).

Currently, the property retains its maritime setting, though this has been diminished by the commercial development surrounding it. It also retains ocean views because there are no structures between the property and beach. The Naval Aviation Monument Park KOP (KOP Field ID 23 in COP, Appendix I-1; Dominion Energy 2023b) represents views to the nearest Project component, which is 27.9 miles (44.9 kilometers) east of the property. From the slightly elevated park, views toward the Project would be unobstructed, particularly from elevated viewpoints. The introduction of modern elements into the setting of the lighthouse would draw the attention of viewers due to the movement of the blades and the contrast of the thin white lines along the horizon (COP, Appendix I-1; Dominion Energy 2023b).

With the Project, the station's integrity of setting, feeling, and association would be further diminished. The integrity of location, workmanship, design, and materials would not be affected. The unobstructed

ocean views and maritime setting are character-defining features of the property and were essential to the placement, design, and historic function of the station. The introduction of modern elements would interfere with the historic ocean viewscape. Therefore, the Project would result in an adverse effect on the Seatack Lifesaving Station/U.S. Coast Guard Station.

As described in the *Cumulative Historic Resources Visual Effects Analysis – Coastal Virginia Offshore Wind Commercial Project*, this property is 27.8 miles (44.7 kilometers) from the nearest WTG associated with the Project and 44.9 miles (72.3 kilometers) from the nearest potential WTG location for other offshore wind energy development activities. The total number of theoretically visible WTGs from this property is 220; 205 theoretically visible WTGs (93.2 percent) would be visible from the proposed Project. As such, BOEM determined the Proposed Action would add to the cumulative visual effects on this property when combined with the effects of other past, present, or reasonably foreseeable future actions (BOEM 2022b).

O.3.1.3.23 Second Cape Henry Lighthouse, Fort Story, and Virginia Beach, Virginia

The Second Cape Henry Lighthouse (DHR ID: 134-0079/114-5250) is listed in the NRHP under Criteria A and C in the areas of Maritime History, Transportation, and Architecture (COP, Appendix H-1; Dominion Energy 2023b). The lighthouse was built on a hill near the First Cape Henry Lighthouse, directly along the ocean coastline. Unobstructed ocean views were required for the lighthouse's historic function. The lighthouse is reliant on its maritime setting and views of the ocean for its historic significance.

Currently, the lighthouse has full, unobstructed views of the ocean from the top of the 163-foot (50-meter) tower. Ground-level ocean views are obstructed by vegetation and buildings. The Cape Henry Lighthouse/Fort Story Military Base KOP (KOP Field ID 13 in COP, Appendix I-1; Dominion Energy 2023b) represents views to the nearest Project component, which is 29.1 miles (46.8 kilometers) east of the property. Although there is vegetation at the ground level along the shoreline of the district, views toward the Project would be unobstructed, particularly from elevated viewpoints. The introduction of modern elements into the setting of the lighthouse property would draw the attention of viewers due to the movement of the blades and the contrast of the thin white lines along the horizon (COP, Appendix I-1; Dominion Energy 2023b).

With the Project, the lighthouse's integrity of setting, feeling, and association would be diminished. The integrity of location, workmanship, design, and materials would not be affected. The unobstructed ocean views and maritime setting are character-defining features of the property that contribute to its significance because they were integral considerations in the placement, design, and historic function of the lighthouse. The introduction of modern elements would interfere with the historically and currently unadulterated ocean viewscape. Therefore, the Project would result in an adverse effect on the Second Cape Henry Lighthouse.

As described in the *Cumulative Historic Resources Visual Effects Analysis – Coastal Virginia Offshore Wind Commercial Project*, this property is 29.08 miles (45.80 kilometers) from the nearest WTG associated with the Project and 49.43 miles (79.55 kilometers) from the nearest potential WTG location for other offshore wind energy development activities. The total number of theoretically visible WTGs from this property is 228; 205 theoretically visible WTGs (89.9 percent) would be visible from the proposed Project. As such, BOEM determined the Proposed Action would add to the cumulative visual effects on this property when combined with the effects of other past, present, or reasonably foreseeable future actions (BOEM 2022b).

O.3.1.3.24 Virginia House, Virginia Beach, Virginia

As described in the Section O.3.1.3.8, the Virginia House (DHR ID: 134-5865) was constructed within the historic context documented and described in the *National Register of Historic Places Multiple Property Listing: Virginia Beach Oceanfront Resort Motels and Hotels* (McClane and Kirchen 2020). However, it was not considered NRHP eligible in the Multiple Property Listing because it was not built originally or primarily to accommodate summer tourists (McClane and Kirchen 2020). It is considered potentially eligible for the purposes of this Project as a recreational lodging resource with a historic maritime setting; today the property is used for condominiums (COP, Appendix H-1; Dominion Energy 2023b). Virginia House is set on the west side of Atlantic Avenue. Its unique Y-shaped design mirrors that of the nearby Cavalier Hotel, which is only a few blocks to the north. This design maximized ocean views from the private rooms and balconies.

Ground-level and lower-story views toward the ocean from the Virginia House are obscured by the Holiday Inn Virginia Beach. Elevated views are very likely at least partially obscured by the Holiday Inn and the 3800 Oceanfront property, both of which sit on the east side of Atlantic Avenue between the Virginia House and the ocean. The Marriott Virginia Beach Oceanfront Hotel KOP (KOP Field ID 26 in COP, Appendix I-1; Dominion Energy 2023b) represents views from the approximate location of the Virginia House to the nearest Project component, which is 28 miles (45 kilometers) to the east. From here, views toward the Project would be unobstructed. The introduction of these modern elements into the setting would draw the attention of viewers due to the movement of the blades and the contrast of the thin white lines along the horizon (COP, Appendix I-1; Dominion Energy 2023b).

Ocean views and a maritime setting are character-defining features of the Virginia House that contribute to its significance. They were integral to the design, placement, and historic amenities associated with the property. The property takes full advantage of the ocean views from the rooms and balconies. The Project would not affect the integrity of location, workmanship, design, and materials for the property. However, the integrity of setting, feeling, and association would be diminished due to the introduction of modern elements that would interfere with the historically and currently unobstructed ocean viewscape. Therefore, the Project would result in an adverse effect on the Virginia House.

As described in the *Cumulative Historic Resources Visual Effects Analysis – Coastal Virginia Offshore Wind Commercial Project*, this property is 27.9 miles (44.9 kilometers) from the nearest WTG associated with the Project and 45.12 miles (72.61 kilometers) from the nearest potential WTG location for other offshore wind energy development activities. The total number of theoretically visible WTGs from this property is 249; 205 theoretically visible WTGs (82.3 percent) would be visible from the proposed Project. As such, BOEM determined the Proposed Action would add to the cumulative visual effects on this property when combined with the effects of other past, present, or reasonably foreseeable future actions (BOEM 2022b).

O.3.1.4 Summary of Adversely Affected Historic Properties

O.3.1.4.1 Adverse Effects on Historic Properties in the Marine APE

BOEM has determined the undertaking would have no effect on the 31 marine archaeological resources and 6 ASLFs identified in or near the marine APE due to Dominion Energy's commitments to avoid effects on these historic properties.

O.3.1.4.2 Adverse Effects on Historic Properties in the Terrestrial APE

BOEM has determined the undertaking would have no adverse effect on the three terrestrial archaeological resources that are historic properties and no effect on one cemetery in the terrestrial APE

due to Dominion Energy’s commitments to avoid effects on the potentially intact portion of these resources. Additionally, BOEM has determined the undertaking would have a physical adverse effect on one aboveground historic property (i.e., Camp Pendleton/State Military Reservation Historic District).

O.3.1.4.3 Adverse Effects on Historic Properties in the Visual APE

Based on the information BOEM has available from the studies conducted to identify historic properties in the visual APE of the Project and the assessment of effects upon those properties determined in consultation with the consulting parties, BOEM has found that the Proposed Action would have direct visual adverse effects on 24 aboveground historic properties, including 1 NHL: the First Cape Henry Lighthouse (see Table O-7). The undertaking would affect the character of the properties’ settings that contributes to their historic significance by introducing visual elements that are out of character with the historic setting of the properties. BOEM did, however, determine that, due to the distance and open viewshed, the integrity of the properties would not be so diminished as to disqualify any of them for NRHP eligibility. The adverse effects on the viewshed of the aboveground historic properties would occur for approximately 33 years and would be unavoidable for reasons discussed in Section O.3.1.3, *Assessment of Effects on Historic Properties in the Visual APE*. Both this application of the Criteria of Adverse Effect and the determination that the effects would be direct are based on pertinent NRHP bulletins, subsequent clarification, and guidance from the National Park Service (NPS) and ACHP, along with other documentation, including professionally prepared viewshed assessments and computer-simulated photographs.

Where BOEM found adverse visual effects on historic properties in the visual APE for Offshore Project components (see Table O-7), BOEM also determined that the undertaking would cause cumulative visual effects (BOEM 2022b). Cumulative effects are additive effects. Where BOEM has determined adverse effects would occur from Offshore Project actions on historic properties, BOEM then assessed if those effects would add to the potential adverse effects of other reasonably foreseeable actions and thereby result in cumulative effects.

O.4. National Historic Landmarks and the NHPA Section 106 Process

The implementing regulations for Section 106 of the NHPA at 36 CFR 800.10 provide special requirements for protecting NHLs and complying with the NHPA Section 110(f). NHPA Section 110(f) applies specifically to NHLs. NPS, which administers the NHL program for the Secretary of the Interior, describes NHLs and requirements for NHLs as follows:

National Historic Landmarks (NHL) are designated by the Secretary under the authority of the Historic Sites Act of 1935, which authorizes the Secretary to identify historic and archaeological sites, buildings, and objects which “possess exceptional value as commemorating or illustrating the history of the United States” Section 110(f) of the NHPA requires that Federal agencies exercise a higher standard of care when considering undertakings that may directly and adversely affect NHLs. The law requires that agencies, “to the maximum extent possible, undertake such planning and actions as may be necessary to minimize harm to such landmark.” In those cases when an agency’s undertaking directly and adversely affects an NHL, or when Federal permits, licenses, grants, and other programs and projects under its jurisdiction or carried out by a state or local government pursuant to a Federal delegation or approval so affect an NHL, the agency should consider all prudent and feasible alternatives to avoid an adverse effect on the NHL.

BOEM is implementing the special set of requirements for protecting NHLs and for compliance with NHPA Section 110(f) at 36 CFR 800.10, which, in summary:

- Requires the agency official, to the maximum extent possible, to undertake such planning and actions as may be necessary to minimize harm to any NHL that may be directly and adversely affected by an undertaking;
- Requires the agency official to request the participation of ACHP in any consultation conducted under 36 CFR 800.6 to resolve adverse effects on NHLs; and
- Directs the agency to notify the Secretary of the Interior of any consultation involving an NHL and invite the Secretary of the Interior to participate in consultation where there may be an adverse effect.

BOEM has planned and is taking action to avoid adverse effects on NHLs in accordance with NHPA 110(f) and pursuant to *The Secretary of the Interior's Standards and Guidelines for Federal Agency Historic Preservation Programs Pursuant to the National Historic Preservation Act* (NPS 2021). The HRVEA identified two NHLs in the visual APE for the Project: First Cape Henry Lighthouse and Eyre Hall (COP, Appendix H-1; Dominion Energy 2023b). BOEM has determined that only one of the two NHLs in the visual APE, the First Cape Henry Lighthouse, would be adversely affected by the Project.

Eyre Hall is located approximately 3.5 miles west of the Atlantic Ocean in a heavily wooded landscape. BOEM has determined that there is no visibility to the Project from this location. Additionally, the resource is neither oriented towards the ocean nor does it have views to the ocean, and ocean views are not a character-defining feature of the resource's setting and do not contribute to its significance. Therefore, BOEM has determined that the Project would not result in an adverse effect on the property.

BOEM has notified the NPS (as the delegate of the Secretary of the Interior) and the ACHP of this determination with distribution of this Finding. The ACHP and NPS have been active consulting parties on the Project since BOEM invited them to consult at the initiation of the NHPA Section 106 process on the Project in 2021. BOEM is fulfilling its responsibilities to give a higher level of consideration to minimizing harm to NHLs, as required by NHPA Section 110(f), through implementation of the special requirements outlined at 36 CFR 800.10.

BOEM considered prudent and feasible alternatives to avoid adverse effects on the Cape Henry Lighthouse NHL, applying *The Secretary of the Interior's Standards and Guidelines for Federal Agency Historic Preservation Programs Pursuant to the National Historic Preservation Act* (NPS 2013), which is presented by the NPS Federal Preservation Institute under Standard 4; as such:

Where such alternatives appear to require undue cost or to compromise the undertaking's goals and objectives, the agency must balance those goals and objectives with the intent of section 110(f). In doing so, the agency should consider:

- (1) The magnitude of the undertaking's harm to the historical, archaeological and cultural qualities of the NHL;
- (2) The public interest in the NHL and in the undertaking as proposed; and
- (3) The effect a mitigation action would have on meeting the goals and objectives of the undertaking.

BOEM considered three alternatives to the Proposed Action. Among these, Alternative B would consider the construction of up to 176 WTGs and 3 OSSs. Alternative C would remove up to 5 WTGs, resulting in up to 172 WTGs and 3 OSSs being constructed. Although both alternatives could lessen the visual effect of the wind farm on First Cape Henry Lighthouse due to a reduced number of WTGs, the overall visual

effect of the wind farm would still result in an adverse effect on the NHL. Therefore, the only alternative that BOEM was able to identify that avoids any Project effects was the No Action Alternative.

BOEM is taking action to minimize harm, as required by NHPA Section 110(f) at 36 CFR 800.10, to the First Cape Henry Lighthouse NHL. Descriptions of the actions to minimize or mitigate adverse effects will be discussed in greater detail in the attached MOA. Actions to minimize the visual adverse effects on First Cape Henry Lighthouse include using light grey paint on offshore structures (i.e., WTGs and OSSs) and a navigational lighting system (e.g., ADLS) that minimizes the visibility of the WTGs and OSSs. Implementation of a mitigation measure to resolve the visual adverse effects on First Cape Henry Lighthouse would be compensatory and consistent with the nature, scope, size, and magnitude of visual effects, including cumulative visual effects, caused by the undertaking.

O.5. Actions to Avoid, Minimize, or Mitigate Adverse Effects

BOEM has consulted with federally recognized tribes, SHPOs, the ACHP, and consulting parties to develop measures to avoid, minimize, or mitigate adverse effects for certain historic properties identified in the APE as adversely affected by the Project. Specifically, BOEM's consultation has developed measures to avoid physical effects on known historic properties and minimize visual effects on aboveground historic properties. BOEM has also consulted to develop mitigation measures, which would be triggered in cases where avoidance of adverse effects on known historic properties is not feasible. The Project's post-review discovery plans will include a consultation process to determine appropriate mitigation in cases where there is unanticipated discovery of a previously unknown marine or terrestrial archaeological resource that is not currently found to be subject to adverse effects from the Project.

The NHPA Section 106 consultation process has culminated in an MOA detailing Avoidance, minimization, mitigation, and monitoring measures to resolve adverse effects on historic properties, including cumulative adverse visual effects caused by the Project. These measures are listed in the MOA (Attachment A) as well as Appendix H of this Final EIS.

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ATTACHMENT A MEMORANDUM OF AGREEMENT

Version sent to Section 106 Consulting Parties for review on August 15, 2023.

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DRAFT
MEMORANDUM OF AGREEMENT
AMONG THE BUREAU OF OCEAN ENERGY MANAGEMENT,
THE STATE HISTORIC PRESERVATION OFFICERS OF VIRGINIA AND NORTH
CAROLINA, AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT

WHEREAS, the Bureau of Ocean Energy Management (BOEM) is considering whether to authorize construction and operation of the Coastal Virginia Offshore Wind Commercial Project (CVOW-C; the Project) pursuant to Section 8(p)(1)(C) of the Outer Continental Shelf (OCS) Lands Act (43 United States Code [USC] 1337(p)(1)(C)), as amended by the Energy Policy Act of 2005 (Public Law No. 109-58) and in accordance with Renewable Energy Regulations at 30 Code of Federal Regulations (CFR) (§) 585; and

WHEREAS, BOEM determined that the Project constitutes an undertaking subject to Section 106 of the National Historic Preservation Act (NHPA), as amended (54 USC 306108), and its implementing regulations (36 CFR 800); and

WHEREAS, BOEM is considering whether to approve with conditions the Project Construction and Operations Plan (COP) submitted by Virginia Electric and Power Company, doing business as Dominion Energy Virginia (Dominion Energy; hereafter *Lessee*); and

WHEREAS, BOEM determined the construction, installation, operations and maintenance (O&M), and conceptual decommissioning of the Project, planned for Lease Area OCS-A 0483 and to include up to 202 offshore wind turbine generators (WTGs) and their foundations, up to three offshore substations (OSSs) and their foundations, scour protection for foundations, inter-array cables linking the individual turbines to the OSSs, substation interconnector cables linking the substations to each other, offshore export cables and approximately 14 miles of onshore export cables, one onshore switching station and one substation, has the potential to adversely affect historic properties as defined under 36 CFR 800.16(l); and

WHEREAS, BOEM is preparing an Environmental Impact Statement (EIS) for the Project pursuant to the National Environmental Policy Act (42 USC 4321 et seq.) (NEPA) and elected to use the NEPA substitution process with its Section 106 consultation pursuant to 36 CFR 800.8(c); and

WHEREAS, in accordance with 36 CFR 800.3, BOEM invited the Virginia State Historic Preservation Officer (SHPO) and North Carolina SHPO on June 28, 2021 and Advisory Council on Historic Preservation (ACHP) on July 9, 2021 to consult on the Project and notified Virginia SHPO, North Carolina SHPO, and ACHP of their decision to use NEPA substitution and follow the standards for developing environmental documents to comply with the Section 106 consultation for this Project pursuant to 36 CFR 800.8(c), and Virginia SHPO formally accepted on July 30, 2021; North Carolina SHPO formally accepted on January 30, 2023; and ACHP responded with acknowledgement and guidance regarding NEPA substitution on July 15, 2021, formally accepted on August 6, 2021, and specifically accepted to consult in development of this MOA on February 16, 2023; and

WHEREAS, the Project is within a commercial lease area that was subject to previous NHPA Section 106 review by BOEM regarding the issuance of the commercial lease and approval of site assessment activities. Both Section 106 reviews for the lease issuance and the approval of the site assessment plan were conducted and concluded with No Historic Properties Affected for lease issuance on May 21, 2012, and site assessment approval on October 18, 2017 consistent with the Programmatic Agreements (PAs) regarding the review of OCS renewable energy activities offshore Virginia and North Carolina (*Programmatic Agreement Among The U.S. Department of the Interior, Bureau of Ocean*

Energy Management; the State Historic Preservation Officers of Delaware, Maryland, New Jersey, and Virginia; The Advisory Council on Historic Preservation; The Narragansett Indian Tribe; and the Shinnecock Indian Nation Regarding the “Smart from the Start” Atlantic Wind Energy Initiative: Leasing and Site Assessment Activities within the Wind Energy Areas offshore Delaware, Maryland, New Jersey, and Virginia and Programmatic Agreement Among The U.S. Department of the Interior, Bureau of Ocean Energy Management; North Carolina State Historic Preservation Officer; and The Advisory Council on Historic Preservation Regarding Review of Outer Continental Shelf Renewable Energy Activities Under Section 106 of the National Historic Preservation); and

WHEREAS, consistent with 36 CFR 800.16(d) and BOEM’s *Guidelines for Providing Archaeological and Historic Property Information Pursuant to 30 CFR Part 585* (May 27, 2020), BOEM defined the area of potential effects (APE) for the undertaking as the depth and breadth of the seabed potentially impacted by any bottom-disturbing activities, constituting the marine portion of the APE (marine APE); the depth and breadth of terrestrial areas potentially impacted by any ground-disturbing activities, constituting the terrestrial portion of the APE (terrestrial APE); the viewshed from which offshore or onshore renewable energy structures would be visible, constituting the visual portion of the APE (visual APE); and any temporary or permanent construction or staging areas that may fall into any of the aforementioned offshore or onshore portions of the APE (see Attachment 1, *APE Maps*); and

WHEREAS, BOEM identified the following historic properties in the APE: 31 marine archaeological resources (i.e., Targets 1–31) and four (4) ancient submerged landform features (ASLFs) (i.e., P-02, P-03, P-04-A, and P-04-B) in the marine APE; three (3) terrestrial archaeological resources (i.e., 44CS0250, 44VB0162, and 44VB0412) and one (1) historic aboveground resource (i.e., Camp Pendleton/State Military Reservation Historic District) in the terrestrial APE; 712 historic aboveground resources in the visual APE for offshore Project components; and 322 historic aboveground resources in the visual APE for onshore Project components; and

WHEREAS, BOEM identified two (2) additional ASLFs outside of but immediately adjacent to the marine APE: one (i.e., P-01) outside of but immediately adjacent to the horizontal extent of the marine APE and one (i.e., P-05) in the horizontal extent of the marine APE but below the vertical extent of the marine APE therefore outside of the marine APE; and

WHEREAS, BOEM identified two National Historic Landmarks (NHLs) in the visual APE for offshore Project components (i.e., First Cape Henry Lighthouse and Eyre Hall); and

WHEREAS, BOEM determined that the implementation of the avoidance measures identified in this MOA will avoid adverse effects on certain historic properties in the APE: 31 marine archaeological resources (i.e., Targets 1–31) and four (4) ASLFs (i.e., P-02, P-03, P-04-A, and P-04-B) in the marine APE; three (3) terrestrial archaeological resources (i.e., 44CS0250, 44VB0162, and 44VB0412) in the terrestrial APE; 685 historic aboveground resources in the visual APE for offshore Project components; and 321 historic aboveground resources in the visual APE for onshore Project components; and

WHEREAS, BOEM determined the Project would have no effect on the two (2) ASLFs that are outside of the marine APE (i.e., P-01 and P-05) but will still require the implementation of avoidance measures identified in this MOA to avoid adverse effects on these historic properties; and

WHEREAS, BOEM, with the assistance of the Lessee, determined one (1) cemetery (i.e., 34-5027-0050), a grave/memorial at Naval Air Station [NAS] Oceana) is in the terrestrial APE; however, BOEM anticipates this resource would not be adversely affected by the Project, as measures will be implemented to avoid any possible physical impacts per consultation with Commander, Navy Region Mid-Atlantic (NAS Oceana and the stipulations herein; and

WHEREAS, BOEM, with the assistance of the Lessee, determined one (1) additional terrestrial archaeological resource (i.e., 44VB0388) is outside of but adjacent to the terrestrial APE, and therefore, BOEM anticipates this resource would not be adversely affected by the Project, but measures will be implemented to avoid any possible physical impacts per consultation with the Virginia State Military Reservation and the stipulations herein; and

WHEREAS, within the range of the Project alternatives analyzed in the EIS, BOEM determined one (1) historic aboveground resource in both the terrestrial APE and visual APE in Virginia (i.e., Camp Pendleton/State Military Reservation Historic District) would be physically and visually adversely affected by the Project; and

WHEREAS, within the range of the Project alternatives analyzed in the EIS, BOEM determined the following 22 historic aboveground resources in the visual APE in Virginia would be visually adversely affected by the Project: Atlantic Wildfowl Heritage Cottage/De Witt Cottage in Virginia Beach; Cavalier Hotel and Beach Club in Northampton County and Virginia Beach; Cavalier Shores Historic District in Virginia Beach; Chesapeake Bay Bridge-Tunnel in Northampton County and Virginia Beach; Chesapeake Light Tower in Virginia Beach; Cutty Sark Motel Efficiencies in Virginia Beach; Econo Lodge/Empress Motel in Virginia Beach; First Cape Henry Lighthouse (NHL) in Fort Story, Virginia Beach; Fort Story Historic District (Joint Expeditionary Base Little Creek-Fort Story) in Fort Story, Virginia Beach; Hilton Washington Inn/Quality Inn and Suites in Virginia Beach; House at 100 54th Street in Virginia Beach; House at 4910 Ocean Front Avenue in Virginia Beach; House at 5302 Ocean Front Avenue in Virginia Beach; House at 7900 Ocean Front Avenue in Virginia Beach; House at 8304–8306 Ocean Front Avenue in Virginia Beach; House at 8600 Ocean Front Avenue in Virginia Beach; Oceans II Condominiums/Aeolus Motel in Virginia Beach; Sandbridge Historic District in Virginia Beach; Seahawk Motel in Virginia Beach; Seatack Lifesaving Station/U.S. Coast Guard Station in Virginia Beach; Second Cape Henry Lighthouse in Fort Story, Virginia Beach; Virginia House in Virginia Beach; and

WHEREAS, within the range of the Project alternatives analyzed in the EIS, BOEM determined one (1) historic aboveground resource in the visual APE in North Carolina (i.e., Currituck Beach Lighthouse in Corolla, Currituck County) would be visually adversely affected by the Project; and

WHEREAS, within the range of the Project alternatives analyzed in the EIS, BOEM determined one (1) of two NHLs in the visual APE would be adversely affected by the Project (i.e., First Cape Henry Lighthouse in Fort Story, Virginia Beach, Virginia), and the other one (1) of two NHLs in the visual APE would not be adversely affected by the Project (i.e., Eyre Hall in Northampton County, Virginia); and

WHEREAS, BOEM has planned and is taking action to minimize harm, as required by NHPA Section 110(f) at 36 CFR 800.10 to the one (1) adversely affected NHL (i.e., First Cape Henry Lighthouse) as explained in BOEM’s 2023 *Finding of Adverse Effect for the Coastal Virginia Offshore Wind Commercial Construction and Operations Plan* (hereinafter, *Finding of Effect*, and dated [Date of finalized Finding of Effect document]); and

WHEREAS, Virginia SHPO concurred with BOEM’s finding of adverse effect on [insert date of SHPO concurrence]; and

WHEREAS, North Carolina SHPO concurred with BOEM’s finding of adverse effect on August 7, 2023; and

WHEREAS, throughout this document the term “Tribe” has the same meaning as “Indian Tribe” as defined at 36 CFR 800.16(m); and

WHEREAS, BOEM invited the following federally recognized Tribes to consult on this Project: the Absentee-Shawnee Tribe of Indians of Oklahoma; Cherokee Nation; Chickahominy Indian Tribe; Chickahominy Indian Tribe Eastern Division; Delaware Tribe of Indians; Eastern Band of Cherokee Indians; Eastern Shawnee Tribe of Oklahoma; Monacan Indian Nation; Nansemond Indian Nation; Pamunkey Indian Tribe; Rappahannock Tribe; Shawnee Tribe; The Delaware Nation; The Narragansett Indian Tribe; The Shinnecock Indian Nation; Tuscarora Nation; United Keetoowah Band of Cherokee Indians in Oklahoma; Upper Mattaponi Indian Tribe; and

WHEREAS, the Chickahominy Indian Tribe, Chickahominy Indian Tribe Eastern Division, Monacan Indian Nation, Nansemond Indian Nation, Pamunkey Indian Tribe, Rappahannock Tribe, The Delaware Nation, and Upper Mattaponi Indian Tribe accepted BOEM's invitation to consult, and BOEM invited these Tribes to sign this MOA as concurring parties; and **WHEREAS**, the Cherokee Nation declined to participate in consultation; and

WHEREAS, the Absentee-Shawnee Tribe of Indians of Oklahoma, Delaware Tribe of Indians, Eastern Band of Cherokee Indians, Eastern Shawnee Tribe of Oklahoma, Shawnee Tribe, The Narragansett Indian Tribe, The Shinnecock Indian Nation, Tuscarora Nation, and United Keetoowah Band of Cherokee Indians in Oklahoma did not respond to BOEM's invitation to consult; and

WHEREAS, BOEM acknowledges that Tribes possess special expertise in assessing the NRHP eligibility of properties with tribal religious and cultural significance to the Tribe(s) pursuant to 36 CFR § 800.4(c)(1); and

WHEREAS, in accordance with 36 CFR 800.3, BOEM invited other federal agencies, state and local governments, and consulting parties with a demonstrated interest in the undertaking to participate in this consultation; the list of those invited and accepting participation to direct invitations are listed in the *Lists of Invited and Interested Consulting Parties* (Attachment 2); and

WHEREAS, BOEM has consulted with the Lessee in its capacity as the applicant seeking federal approval of the COP, and, because the Lessee has responsibilities under the MOA, BOEM has invited the applicant to be an invited signatory to this MOA; and

WHEREAS, construction of the Project requires a Department of the Army (DA) permit from the United States Army Corps of Engineers (USACE) for activities that would result in the discharge of dredged or fill material into jurisdictional wetlands and/or other waters of the United States pursuant to Section 404 of the Clean Water Act, activities occurring in or affecting navigable waters of the United States pursuant to Section 10 of the Rivers and Harbors Act, for the Dam Neck Ocean Disposal Site crossing of Cells 2 and 5 by the Offshore Export Cables and crossing of the Intracoastal Waterway by three overhead 230 kV transmission lines pursuant to Section 14 of the Rivers and Harbors Act of 1899 (commonly referred to as Section 408); and

WHEREAS, BOEM invited USACE to consult since USACE has the authority to issue permits and permissions for this Project under Section 404 of the Clean Water Act (33 USC 1344), Section 10 of the Rivers and Harbors Act (33 USC 403), Section 14 of the Rivers and Harbors Act (33 USC 408); and Section 103 of the Marine Protection, Research, and Sanctuaries Act; and

WHEREAS, USACE designated BOEM as the Lead Federal Agency pursuant to 36 CFR 800.2(a)(2) to act on its behalf for purposes of compliance with Section 106 for this Project (in a letter dated July 29, 2021), and BOEM invited USACE to sign this MOA as a concurring party; and

WHEREAS, the NAS Oceana designated BOEM as the Lead Federal Agency pursuant to 36 CFR 800.2(a)(2) to act on its behalf for purposes of compliance with Section 106 for this Project (in a letter dated July 6, 2023) for activities that would occur for the construction of the Harper's Switching Station

on property owned by NAS Oceana, and BOEM invited NAS Oceana to sign this MOA as a concurring party; and

WHEREAS, BOEM notified and invited the Secretary of the Interior (SOI; Secretary) (represented by the United States National Park Service [NPS]) to consult regarding this Project pursuant to the Section 106 regulations, including consideration of the potential effects on NHLs as required under NHPA Section 110(f) (54 USC 306107) and 36 CFR 800.10, NPS accepted BOEM's invitation to consult, and BOEM invited NPS to sign this MOA as a concurring party; and

WHEREAS, BOEM has consulted with the signatories, invited signatories, and consulting parties participating in the development of this MOA regarding the definition of the undertaking, delineation of the APEs, identification and evaluation of historic properties, and assessment of potential effects on the historic properties, and measures to avoid, minimize, and mitigate adverse effects on historic properties; and

WHEREAS, pursuant to 36 CFR 800.6, BOEM invited , the Lessee, the City of Virginia Beach, Preservation Virginia, and Outer Banks Conservationists to sign as invited signatories; and

WHEREAS, pursuant to 36 CFR 800.6, BOEM invited the consulting parties as listed in *Lists of Invited and Interested Consulting Parties* (Attachment 2) to sign as concurring parties; however, the refusal of any consulting party to sign this MOA or otherwise concur does not invalidate or affect the effective date of this MOA, and consulting parties who choose not to sign this MOA will continue to receive information if requested and have an opportunity to participate in consultation as specified in this MOA; and

WHEREAS, the signatories (required signatories and invited signatories) agree, consistent with 36 CFR 800.6(b)(2), that adverse effects will be resolved in the manner set forth in this MOA; and

WHEREAS, BOEM sought and considered the views of the public regarding Section 106 for this Project through the NEPA process by holding virtual public scoping meetings when initiating the NEPA and NHPA Section 106 review on July 12, 14, and 20, 2021, and virtual public hearings related to the Draft EIS on January 25 and 31 and February 2, 2023; and

WHEREAS, BOEM conducted five Section 106 consultation meetings [September 9, 2022, December 15, 2022, April 13, 2023, June 12, 2023, and August 28, 2023] and invited all the participating consulting parties listed in Attachment 2 to these meetings; and

WHEREAS, BOEM made the first Draft MOA available to the Virginia SHPO, North Carolina SHPO, ACHP, Tribes, and consulting parties for review and comment in January 2023 and made an updated version of the Draft MOA available to these parties for review and comment in June 2023.

NOW, THEREFORE, BOEM, Virginia SHPO, North Carolina SHPO, and ACHP agree that the undertaking shall be implemented in accordance with the following stipulations in order to take into account the effect of the undertaking on historic properties.

STIPULATIONS

BOEM, with the assistance of the Lessee, shall ensure that the following measures are carried out as conditions of its approval of the undertaking:

I. MEASURES TO AVOID ADVERSE EFFECTS ON IDENTIFIED HISTORIC PROPERTIES

- A. BOEM will ensure the following measures for avoiding adverse effects on historic properties located in the Project APE are required as conditions of approval of the Project COP:

1. Marine APE

- i. BOEM will include the following measures for avoiding adverse effects on historic properties in and immediately adjacent to the marine APE as described in the Lessee's avoidance plan for marine cultural resources (Attachment 3):
 - a. The Lessee will comply with horizontal protective buffers recommended by the Qualified Marine Archaeologist (QMA) for all 31 identified marine archaeological resources such that protective buffers are provided for:
 - 1) Six (6) marine archaeological resources (i.e., Targets 8, 10, 11, 14, 15, and 22) measure a distance of no less than 164 feet (50 meters) from the known visible extent of each resource; and
 - 2) Twenty-four (24) marine archaeological resources (i.e., Targets 1–7, 9, 12, 13, 16–21, 23–31) measure a distance of no less than 164 feet (50 meters) from the known center point of each resource; and
 - 3) One (1) marine archaeological resource (i.e., Target 16) measures a distance of no less than 459 feet (140 meters) from the known center point of the resource.
 - b. The Lessee will comply with horizontal protective buffers recommended by the QMA for all six (6) identified ASLFs such that protective buffers are provided for:
 - 1) P-02, located in the marine APE, measures a distance of no less than 141 feet (43 meters) from the known extent of the resource, for a total avoidance area of 266.7 acres (107.9 hectares); and
 - 2) P-03, located in the marine APE, measures a distance of no less than 164 feet (50 meters) from the known extent of the resource, for a total avoidance area of 9.91 acres (4.01 hectares); and
 - 3) P-04-A, located in the marine APE, measures a distance of no less than 164 feet (50 meters) from the known extent of the resource, for a total avoidance area of 3.94 acres (1.59 hectares); and
 - 4) P-04-B, located in the marine APE, measures a distance of no less than 164 feet (50 meters) from the known extent of the resource, for a total avoidance area of 22.05 acres (8.92 hectares); and
 - 5) P-01, located outside of the marine APE, measures a distance of no less than 164 feet (50 meters) from the known extent of the resource, for a total avoidance area of 10.71 acres (4.33 hectares); and
 - 6) P-05, located outside of the marine APE, measures a distance of no less than 164 feet (50 meters) from the known extent of the resource, for a total avoidance area of 5.45 acres (2.2 hectares).

2. Terrestrial APE

- i. BOEM will include the following measures for avoiding adverse effects on historic properties as described in the Lessee's avoidance plan for cultural resources located in the terrestrial APE (Attachment 4):

- a. The Lessee will install temporary fencing for avoiding adverse effects on the three (3) terrestrial archaeological resources and the one (1) grave/memorial in the terrestrial APE such that:
 - 1) For 44CS0250 and 44VB0162, the known extent of each resource as identified in the Lessee's investigations will be delineated by fencing during all construction activities, and construction personnel will be instructed to stay outside of the fenced area; and
 - 2) For 44VB0412, the terrestrial APE will be delineated by fencing during all construction activities, and construction personnel will be instructed to stay within the fenced area; and
 - 3) For the grave/memorial on NAS Oceana (34-5027-0050), a buffer of 10 feet (3 meters) from the existing fencing of the resource will be delineated by fencing during all construction activities, and construction personnel will be instructed to stay outside of the fenced area.
 - b. The Lessee will install temporary fencing for avoiding adverse effects on one (1) terrestrial archaeological resource outside of but adjacent to the terrestrial APE such that:
 - 1) For 44VB0388, the known extent of the resource will be delineated by fencing during all construction activities, and construction personnel will be instructed to stay outside of the fenced area.
 - c. The Lessee will depict all avoidance areas and temporary fencing on construction plans as "Protected Areas – Not to be Disturbed."
3. Visual APE
- i. To maintain avoidance of adverse effects on historic properties in the visual APE where BOEM determined no adverse effects or where no effects would occur, BOEM will require the Lessee to ensure Project structures are within the design envelope, sizes, scale, locations, lighting prescriptions, and distances that were used by BOEM to inform the definition of the APE for the Project and for determining effects in the Finding of Effect (see the CVOW-C COP [2023]).

II. MEASURES TO MINIMIZE ADVERSE EFFECTS ON IDENTIFIED HISTORIC PROPERTIES

- A. BOEM has undertaken planning and actions to minimize adverse effects on historic properties located in the Project APE and will ensure the following measures are required as conditions of approval of the Project COP:
1. Terrestrial APE
 - i. BOEM will include the following measures for minimizing adverse effects on historic properties as described in the Lessee's minimization plan for cultural resources located in the terrestrial APE (Attachment 4):
 - a. The Lessee will conduct archaeological monitoring of construction activities such that an archaeological monitor will be present at the locations of the following historic properties and cultural resources during construction activities that involve

subsurface disturbance: 44CS0250; Camp Pendleton/State Military Reservation Historic District; and the grave/memorial on NAS Oceana (34-5027-0050).

- b. The Lessee will consult with the Nansemond Indian Nation prior to implementation of the monitoring plans in Attachment 4.

2. Visual APE

- i. BOEM has undertaken planning and actions to minimize visual adverse effects to aboveground historic properties in the visual APE including minimizing harm to the one adversely affected NHL: the First Cape Henry Lighthouse. The minimization measures below will minimize visual adverse effects to all adversely affected historic properties in the visual APE and will minimize the undertaking's cumulative visual adverse effects, that would add to the potential visual adverse effects of other reasonably foreseeable offshore wind energy developments. BOEM will include these minimization measures for adverse effects within the visual APE as conditions of approval of the CVOW-C COP:
 - a. The Lessee will use uniform WTG design, speed, height, and rotor diameter to reduce visual contrast and decrease visual clutter.
 - b. The Lessee will reserve the option to reduce the number of constructed WTGs from a maximum proposed number of 202 positions.
 - c. The Lessee will apply a paint color to the WTGs no lighter than RAL 9010 pure white and no darker than RAL 7035 light gray to help reduce potential visibility of the turbines against the horizon during daylight hours.
 - d. The Lessee will implement an aircraft detection lighting system (ADLS) to automatically activate lights when aircraft approach and then return to darkness. The WTGs and OSS will be lit and marked in accordance with Federal Aviation Administration and U.S. Coast Guard lighting standards and consistent with BOEM's *Guidelines for Lighting and Marking of Structures Supporting Renewable Energy Development* (April 28, 2021) to reduce light intrusion.

III. MEASURES TO MITIGATE ADVERSE EFFECTS ON IDENTIFIED HISTORIC PROPERTIES

- A. BOEM and BSEE will ensure the Lessee will resolve adverse effects on the one (1) adversely affected historic property located in both the terrestrial and visual APEs and 23 adversely affected aboveground historic properties in the visual APE through the following measures:
 1. Funding and Implementation of Historic Property Treatment Plans (HPTPs). BOEM and BSEE will ensure the following measures described in HPTPs to resolve adverse effects on the 24 adversely affected aboveground historic properties are required as conditions of approval of the Project COP and are funded and implemented by the Lessee according to a timeline determined through consultation.
 2. Attachment 10 contains budgets for each mitigation measure in Stipulation III.A that includes funding for mitigation efforts, reflecting good faith estimates, based on the experience of qualified consultants with similar activities and comparable historic properties. The Lessee is

not required to spend more than \$X,XXX,XXX for the activities listed in Stipulation III.A.2.i-vi.

- i. Atlantic Wildfowl Heritage Cottage/De Witt Cottage; Cavalier Hotel and Beach Club; Chesapeake Bay Bridge-Tunnel; Chesapeake Light Tower; Cutty Sark Motel Efficiencies; Econo Lodge/Empress Motel; Hilton Washington Inn/Quality Inn and Suites; House (100 54th Street); House (4910 Ocean Front Avenue); House (5302 Ocean Front Avenue); House (7900 Ocean Front Avenue); House (8304–8306 Ocean Front Avenue); House (8600 Ocean Front Avenue); Oceans II Condominiums/Aeolus Motel; Seahawk Motel; Seatack Lifesaving Station/U.S. Coast Guard Station; and Virginia House. The following mitigation measures would be implemented to resolve adverse effects on these historic properties as described in the *Offshore Historic Properties Treatment Plan – Offshore Project Components in Virginia Beach, VA and Currituck, NC* (Attachment 5):
 - a. The Lessee will provide financial support to the City of Virginia Beach for the preparation of NRHP nominations for the Pocahontas Fowling Club and the Princess Anne County Gunning and Hunt Clubs Multiple Property Document (MPD). These funds will support scholarship on these historic resources and further the understanding of the properties by the public.
 - b. The Lessee will provide financial support to the City of Virginia Beach to develop preservation planning documents and educational programs. These documents and programs may include a Sea Level Rise Mitigation Plan, and educational programs and interpretation of the Virginia Beach Surf and Rescue Museum located in the Seatack Lifesaving Station/U.S. Coast Guard Station and the Atlantic Wildfowl Heritage Museum/De Witt Cottage.
 - c. These measures will commence within one year of the execution of the MOA and will be completed within five years after the MOA is executed.
- ii. Camp Pendleton/State Military Reservation Historic District. The following mitigation measures would be implemented to resolve physical and visual adverse effects on this historic property as described in *Historic Properties Treatment Plan Camp Pendleton State Military Reservation Historic District* (Attachment 7):
 - a. Historic American Buildings Survey (HABS) documentation, for the Camp Pendleton/State Military Reservation Historic District Buildings 410 and 59, which are contributing elements to the District and are planned to be demolished. The Lessee will document Building 410 to HABS Level I standards and Building 59 to HABS Level III standards to record the historic properties' significance for the Prints and Photographs Division of the Library of Congress, whose holdings illustrate achievements in architecture, engineering, and landscape design in the United States and its territories. This will include: collecting and reviewing materials related to the construction and history of the property; photographing the buildings using large-format photography; compiling draft HABS documentation for review and comment by the NPS and interested Consulting Parties; developing final HABS documentation, incorporating comments from the NPS and any Consulting Parties; delivery of HABS documentation to NPS; and upon acceptance of HABS documentation by NPS, distributing HABS documentation packages to the NPS for

transmittal to the Library of Congress and any other agreed-upon repositories, as appropriate.

- b. Documentation of the Camp Pendleton/State Military Reservation Historic District landscapes and contributing resources with digital photography, following NRHP guidelines, including pre- and post-construction digital photo documentation of the district where it is traversed by the Project.
 - c. This measure will commence within one year of the execution of the MOA and will be completed within five years after the MOA is executed.
- iii. Cavalier Shores Historic District and Sandbridge Historic District. The following mitigation measure would be implemented to resolve adverse effects on these historic properties as described in the *Offshore Historic Properties Treatment Plan – Offshore Project Components in Virginia Beach, VA and Currituck, NC* (Attachment 5):
- a. The Lessee will provide financial support to the City of Virginia Beach for the survey and documentation of Doyletown and Queen City. These funds will support scholarship on the historic resources and further the understanding of the properties by the public. This measure serves to educate the public on a residential historic district and mitigate the adverse effects.
 - b. This measure will commence within one year of the execution of the MOA and will be completed within five years after the MOA is executed.
- iv. Currituck Beach Lighthouse. The following mitigation measure would be implemented to resolve adverse effects on this historic property as described in the *Offshore Historic Properties Treatment Plan – Offshore Project Components in Virginia Beach, VA and Currituck, NC* (Attachment 5):
- a. The Lessee will provide financial support to Outer Banks Conservationists, the organization that maintains the Currituck Beach Lighthouse, to fund priority preservation projects including, but not limited to, exterior masonry repairs, interior masonry and ironwork, a conditions assessment of the original First Order Fresnel lens, and other annual lighthouse restoration maintenance. .
 - b. This measure will commence within one year of the execution of the MOA and will be completed within five years after the MOA is executed.
- v. Fort Story Historic District. The following mitigation measure would be implemented to resolve adverse effects on this historic property as described in the *Offshore Historic Properties Treatment Plan – Fort Story Historic District* (Attachment 6):
- a. In coordination with BOEM and the Joint Expeditionary Base Little Creek-Fort Story, the Lessee will hire contractors to design and install up to five interpretive panels at the Fort Story Historic District.
 - b. This measure will commence within one year of the execution of the MOA and will be completed within five years after the MOA is executed.
- vi. First Cape Henry Lighthouse (NHL) and Second Cape Henry Lighthouse. The following mitigation measure would be implemented to resolve adverse effects under Section 106

on these historic properties as well as under Section 110(f) on the NHL as described in the *Offshore Historic Properties Treatment Plan – Offshore Project Components in Virginia Beach, VA and Currituck, NC* (Attachment 5):

- a. The Lessee will provide financial support to Preservation Virginia the development of a renovation and expansion plan for the Cape Henry Lighthouse Visitor Services Center and Lessee to support the interpretation of the First and Second Cape Henry Lighthouses for the public good.
- b. This measure will commence within one year of the execution of the MOA and will be completed within five years after the MOA is executed.

IV. PROJECT MODIFICATIONS

- A. If the Lessee proposes any modification(s) to the Project that expands the Project beyond the Project Design Envelope included in the COP and/or occurs outside of the defined APEs, or if the proposed modifications would change BOEM's final determinations and findings for this Project, the Lessee shall notify and provide BOEM with information concerning the proposed modifications. BOEM will determine if these modifications require alteration of the conclusions reached in the Finding of Effect and, thus, will require additional consultation with the signatories, invited signatories, and consulting parties. If BOEM determines additional consultation is required, the Lessee will provide the signatories, invited signatories, and consulting parties with the information concerning the proposed changes, and these parties will have 30 calendar days from receipt of this information to comment on the proposed changes. BOEM shall take into account any comments from signatories, invited signatories, and consulting parties prior to agreeing to any proposed changes. Using the procedure below, BOEM will, as necessary, consult with the signatories, invited signatories, and consulting parties to identify and evaluate historic properties in any newly affected areas, assess the effects of the modification, and resolve any adverse effects. Any project modification allowed pursuant to Stipulation IV would not require an amendment to the MOA.
 1. If the Project is modified and BOEM identifies no additional historic properties or determines that no additional historic properties will be adversely affected due to the modification, the Lessee will notify and consult with the signatories, invited signatories, and consulting parties following the consultation process set forth in this Stipulation IV.A.1.
 - i. The Lessee will notify all the signatories, invited signatories, and consulting parties about this proposed change and BOEM's determination by providing a written summary of the project modification including any maps, a summary of any additional surveys and/or research conducted to identify historic properties and assess effects, and copies of the survey reports.
 - ii. BOEM and the Lessee will allow the signatories, invited signatories, and consulting parties 30 calendar days to review and comment on the proposed change, BOEM's determination, and the documents.
 - iii. After the 30-calendar day review period has concluded and if no comments require additional consultation, the Lessee will notify the signatories and consulting parties that BOEM has approved the project modification and, if any comments were received, provide a summary of the comments and BOEM's responses.

- iv. BOEM, with the assistance of the Lessee, will conduct any consultation meetings if requested by the signatories or consulting parties.
 2. If BOEM determines new adverse effects on historic properties will occur due to a Project modification, BOEM, with the assistance of the Lessee, will notify and consult with the signatories, invited signatories, and consulting parties regarding BOEM's finding and the proposed measures to resolve the adverse effect(s) including the development of a new HPTP(s) following the consultation process set forth in this Stipulation IV.A.2.
 - i. The Lessee will notify all signatories, invited signatories, and consulting parties about this proposed modification, BOEM's determination, and the proposed resolution measures for the adverse effect(s).
 - ii. The signatories, invited signatories, and consulting parties will have 30 calendar days to review and comment on the adverse effect finding and the proposed resolution of adverse effects, including a draft HPTP(s).
 - iii. BOEM, with the assistance of the Lessee, will conduct additional consultation meetings, if necessary, during consultation on the adverse effect finding and during drafting and finalization of the HPTP(s).
 - iv. BOEM, with the assistance of the Lessee, will respond to the comments and make necessary edits to the documents.
 - v. The Lessee will send the revised draft final documents to the other signatories, invited signatories, and consulting parties for review and comment during a 30-calendar-day review and comment period. With this same submittal of draft final documents, the Lessee will provide a summary of all the comments received on the documents and BOEM's responses.
 - vi. BOEM, with the assistance of the Lessee, will respond to the comments on the draft final documents and make necessary edits to the documents.
 - vii. The Lessee will notify all the signatories, invited signatories, and consulting parties that BOEM has approved the project modification and will provide the final document(s) including the final HPTP(s) and a summary of comments and BOEM's responses to comments, if any comments are received on the draft final documents, after BOEM has received agreement from the affected SHPO(s) on the finding of new adverse effect(s), BOEM has accepted the final HPTP(s), and BOEM has approved the Project modification.
- B. If any of the signatories, invited signatories, or consulting parties object to determinations, findings, or resolutions made pursuant to these measures (Stipulations IV.A.1 and 2), BOEM will resolve any such objections pursuant to the dispute resolution process set forth in the Dispute Resolution Stipulation (Stipulation XIV).

V. REVIEW PROCESS FOR DOCUMENTS

- A. The following process will be used for any document, report, or plan produced in accordance with the stipulations of this MOA:
 1. Draft Document:

- i. The Lessee will provide the document to BOEM and Bureau of Safety and Environmental Enforcement (BSEE) for technical review and approval.
 - a. BOEM and BSEE have 15 calendar days to complete their technical review.
 - b. If BOEM and BSEE do not provide approval, they will submit comments back to the Lessee, who will have 15 calendar days to address the comments.
 - ii. BOEM and BSEE, with the assistance of the Lessee, will provide the draft document to consulting parties, except the ACHP, for review and comment.
 - a. Consulting parties will have 30 calendar days to review and comment.
 - b. BOEM and BSEE, with the assistance of the Lessee, shall coordinate a meeting with consulting parties to facilitate comments on the document if requested by a consulting party.
 - c. BOEM and BSEE will consolidate comments received and provide them to the Lessee within 15 calendar days of receiving comments from consulting parties.
 - d. BOEM and BSEE, with the assistance of the Lessee, will respond to the comments and make necessary edits to the documents.
2. Draft Final Document:
- i. The Lessee will provide BOEM and BSEE with the draft final document for technical review and approval.
 - a. BOEM and BSEE have 15 calendar days to complete their technical review.
 - b. If BOEM and BSEE do not provide approval, they will submit comments back to the Lessee, who will have 15 calendar days to address the comments.
 - ii. BOEM and BSEE, with the assistance of the Lessee, will provide the draft final document to consulting parties, except the ACHP, for review and comment. With this same submittal of draft final documents, BOEM and BSEE, with the assistance of the Lessee, will provide a summary of all the comments received on the documents and BOEM's responses.
 - a. Consulting parties will have 30 calendar days to review and comment.
 - b. BOEM and BSEE, with the assistance of the Lessee, will coordinate a meeting with consulting parties to facilitate comments on the document if requested by a consulting party.
 - c. BOEM and BSEE will consolidate comments received and provide them to the Lessee within 15 calendar days of receiving comments from consulting parties.

- d. BOEM and BSEE, with the assistance of the Lessee, will respond to the comments and make necessary edits to the documents.
3. Final Document:
- i. The Lessee will provide BOEM and BSEE with the final document for approval.
 - a. BOEM and BSEE have 15 calendar days to complete their technical review.
 - b. If BOEM and BSEE do not provide approval, they will submit comments back to the Lessee, who will have 15 calendar days to address the comments.
 - c. BOEM and BSEE, with the assistance of the Lessee, will provide the final document to consulting parties, except the ACHP, within 30 calendar days of approving the final document. With this same submittal of final documents, the Lessee will provide a summary of all the comments received on the documents and BOEM and BSEE's responses.

VI. SUBMISSION OF DOCUMENTS

- A. All submittals to federally recognized tribes, Virginia SHPO, North Carolina SHPO, ACHP, and other consulting parties will be submitted electronically unless a specific request is made for the submittal to be provided in paper format.

VII. CURATION

- A. Collections from federal lands or the OCS:
 1. Any archaeological materials removed from federal lands or the OCS as a result of the actions required by this MOA shall be curated in accordance with 36 CFR 79, "Curation of Federally Owned and Administered Archaeological Collections," ACHP's "Recommended Approach for Consultation on Recovery of Significant Information from Archaeological Sites" published in the Federal Register (64 Fed. Reg. 27085-27087 (May 18, 1999)), or other provisions agreed to by the consulting parties and following applicable State guidelines. No excavation should be initiated before acceptance and approval of a curation plan.
 2. Any archaeological materials removed from property owned by NAS Oceana will be placed at Fort Gregg-Adams Regional Artifact Curation Facility in accordance with the *Memorandum of Agreement Between United States Army Garrison Fort Lee Regional Archaeological Curation Facility, Directorate Of Public Works, United States Army and Commander, Navy Region Mid-Atlantic* (2022).
 3. For any archaeological materials removed from federal lands or the OCS that are affiliated with or culturally significant to federally recognized Tribes, the potentially affiliated Tribe(s) will be consulted on the location and manner of curation.
- B. Collections from state, local government, and private lands:
 1. Archaeological materials from state or local government lands in the APE and the records and documentation associated with these materials shall be curated within the state of their origin at a repository preferred by the SHPO, or an approved and certified repository, in accordance with the standards and guidelines required by the appropriate SHPO. Lands as

- described here may include the seafloor in state waters. No excavation should be initiated before acceptance and approval of a curation plan.
- i. If there are any recovered collections that are affiliated with or culturally significant to federally recognized Tribes, the potentially affiliated Tribe(s) will be consulted on the location and manner of curation.
 2. Collections from private lands that would remain private property: In cases where archaeological surveys and testing are conducted on private land, any recovered collections remain the property of the landowner. In such instances, BOEM and the Lessee, in coordination with the SHPOs, and affected Tribe(s), will encourage landowners to donate the collection(s) to an appropriate public or Tribal entity. To the extent a private landowner requests that the materials be removed from the site, the Lessee will seek to have the materials donated to the repository identified under Stipulation VIIB.1 through a written donation agreement developed in consultation with the consulting parties. BOEM, assisted by the Lessee, will seek to have all materials from each state curated together in the same curation facility within the state of origin. In cases where the property owner wishes to transfer ownership of the collection(s) to a public or Tribal entity, BOEM and the Lessee will ensure that recovered archaeological materials and related documentation are curated in a suitable repository as agreed to by BOEM, SHPOs, and affected Tribe(s), and following applicable State guidelines. To the extent feasible, the materials and records resulting from the actions required by this MOA for private lands shall be curated in accordance with 36 CFR 79. No excavation should be initiated before acceptance and approval of a curation plan.
 3. For any archaeological materials removed from private lands, if there are any recovered collections that are affiliated with or culturally significant to federally recognized Tribes, and if the collections are given to a repository as contemplated by this stipulation, the potentially affiliated Tribe(s) will be consulted on the location and manner of curation.
- C. When applicable, BOEM will follow the principles within the ACHP's Policy Statement Regarding Burial Sites, Human Remains, and Funerary Objects, dated March 1, 2023.

VIII. PROFESSIONAL STANDARDS AND QUALIFICATIONS

- A. Secretary of the Interior's Standards for Archaeology and Historic Preservation. The Lessee will ensure that all work carried out pursuant to this MOA will meet the SOI Standards for Archaeology and Historic Preservation, 48 FR 44716 (September 29, 1983), taking into account the suggested approaches to new construction in the SOI's Standards for Rehabilitation.
- B. SOI Professional Qualifications Standards. The Lessee will ensure that all work carried out pursuant to this MOA is performed by or under the direct supervision of historic preservation professionals who meet the SOI's Professional Qualifications Standards (48 FR 44738-44739). A "qualified professional" is a person who meets the relevant standards outlined in such SOI's Standards. BOEM, or its designer, will ensure that consultants retained for services pursuant to the MOA meet these standards. Additionally, historic preservation professionals cannot have been censured by any SHPO, THPO, or other professional organization.
- C. Investigations of Marine Archaeological Resources and ASLFs. The Lessee will ensure that any additional investigations of marine archaeological resources and ASLFs will be conducted and reports and other materials produced by one or more QMAs and geological specialists who meet the SOI's Professional Qualifications Standards and who have experience both in conducting

HRG surveys and processing and interpreting the resulting data for archaeological potential, as well as collecting, subsampling, and analyzing cores.

- D. Tribal Consultation Experience. BOEM and BSEE, with the assistance of the Lessee, will ensure that all work carried out pursuant to this MOA that requires consultation with Tribes is performed by professionals who have demonstrated professional experience consulting with federally recognized Tribes.
- E. BOEM Acknowledgement of the Special Expertise of Tribal Nations. BOEM recognizes that all tribal participants and knowledge need not conform to the SOI's standards, acknowledging that Tribal Nations possess special expertise in assessing the eligibility of historic properties that may possess religious and cultural significance to Tribal Nations, pursuant to 36 CFR 800.4(c)(1).

IX. DURATION

- A. This MOA will expire at (1) the decommissioning of the Project in the Lease Area, as defined in the Lessee's lease with BOEM (Lease Number OCS-A 0483), or (2) 33 years from the date of COP approval, whichever occurs first. Prior to such time, BOEM may consult with the other signatories and invited signatories to reconsider the terms of the MOA and amend it in accordance with Amendments Stipulation (Stipulation XV).

X. ARCHAEOLOGICAL MONITORING

- A. Implementation of Archaeological Monitoring Plans. The Lessee will implement the archaeological monitoring plan for terrestrial archaeological resources (Attachment 4) for the areas identified for archaeological monitoring.
- B. In the event of a post-review discovery during archaeological monitoring, the process identified under the Post-Review Discoveries Stipulation (Stipulation XI) will apply.

XI. POST-REVIEW DISCOVERIES

- A. Implementation of Post-Review Discovery Plans. If historic properties are discovered that may be historically significant or unanticipated effects on historic properties are found, BOEM and BSEE, with the assistance of the Lessee, shall implement the post-review discovery plan (PRDPs) for marine archaeology (Attachment 8) and terrestrial archaeology (Attachment 9).
 - 1. The signatories acknowledge and agree that it is possible that additional historic properties may be discovered prior to or during implementation of the Project, despite the completion of a good faith effort to identify historic properties throughout the APEs.
- B. All Post-Review Discoveries. In the event of a post-review discovery of a historic property or unanticipated effects on a historic property prior to or during construction, installation, O&M, or decommissioning of the Project, the Lessee will implement the following actions which are consistent with the post-review discovery plans for marine archaeology (Attachment 8) and terrestrial archaeology (Attachment 9):
 - 1. Immediately halt all ground- or seafloor-disturbing activities within the area of discovery.
 - 2. Notify BOEM and BSEE in writing via report within 72 hours of the discovery.
 - i. In the case that the discovery is within an USACE permit area, BOEM and BSEE will notify USACE of the discovery.

- ii. In the case that HMS Kingston Ceylonite is identified, BOEM and BSEE will notify both the Naval History and Heritage Command (Underwater Archaeology Branch) and the U.S. State Department of the discovery.
 - iii. In the case that a discovery occurs on property owned by the U.S. Navy at NAS Oceana, BOEM and BSEE will notify the Commander, Navy Region Mid-Atlantic of the discovery.
3. Keep the location of the discovery confidential and take no action that may adversely affect the discovered property until BOEM, BSEE, or their designee has made an evaluation and instructs the Lessee on how to proceed.
4. Conduct any additional investigations as directed by BOEM, BSEE, or their designee to determine, in consultation with the appropriate SHPO and applicable federally recognized Tribes, if the resource is eligible for listing in the NRHP (30 CFR 585.802(b)). BOEM and BSEE will direct the Lessee to complete additional investigations, as BOEM and BSEE deem appropriate, if:
 - i. The site has been impacted by Project activities; or
 - ii. Effects on the site from Project activities cannot be avoided.
5. If investigations indicate that the resource is eligible for listing in the NRHP, BOEM and BSEE, with the assistance of the Lessee, will work with the other relevant signatories, invited signatories, and consulting parties to this MOA who have a demonstrated interest in the affected historic property and on the further avoidance, minimization, or mitigation of adverse effects.
6. If there is any evidence that the discovery is from an indigenous society or appears to be a burial site, the Lessee will contact, concurrently with BOEM and BSEE, the Tribes as identified in the notification lists included in the post-review discovery plans within 72 hours of the discovery with details of what is known about the discovery, and consult with the Tribes pursuant to the post-review discovery plan.
7. If BOEM or BSEE incur costs in addressing the discovery, under Section 110(g) of the NHPA, BOEM or BSEE may charge the Lessee reasonable costs for carrying out historic preservation responsibilities, pursuant to its delegated authority under the OCS Lands Act (30 CFR 585.802 (c-d)).

XII. EMERGENCY SITUATIONS

- A. In the event of an emergency or disaster that is declared by the President or the Governors of Virginia or North Carolina, which represents an imminent threat to public health or safety, or creates a hazardous condition due to impacts from this Project's infrastructure damaged during the emergency and affecting historic properties in the APEs, BOEM with the assistance of the Lessee will notify the consulting Tribes, SHPOs, and the ACHP of the condition which has initiated the situation and the measures taken to respond to the emergency or hazardous condition. BOEM will make this notification as soon as reasonably possible, but no later than 48 hours from when it becomes aware of the emergency or disaster. Should the consulting Tribes, SHPOs, or the ACHP desire to provide technical assistance to BOEM, they shall submit comments within seven calendar days from notification if the nature of the emergency or hazardous condition allows for such coordination.

XIII. MONITORING AND REPORTING

- A. At the beginning of each calendar year by January 31, following the execution of this MOA until it expires or is terminated, the Lessee will prepare and, following BOEM and BSEE's review and agreement to share this summary report, provide all signatories, invited signatories, and consulting parties to this MOA a summary report detailing work undertaken pursuant to the MOA. Such report shall include a description of how the stipulations relating to avoidance and minimization measures (Stipulations I and II) were implemented; any scheduling changes proposed; any problems encountered; and any disputes and objections received with respect to BOEM and BSEE's efforts to carry out the terms of this MOA. The Lessee can satisfy its reporting requirement under this stipulation by providing the relevant portions of the annual compliance certification required under 30 CFR 585.633. If requested by the signatories, BOEM and BSEE will convene an annual meeting with the other signatories, invited signatory, and consulting parties to discuss the annual report, the implementation of this MOA, and other requested topics.

XIV. DISPUTE RESOLUTION

- A. Should any signatory, invited signatory, or consulting party to this MOA object at any time to any actions proposed or the manner in which the terms of this MOA are implemented, they must notify BOEM in writing of their objection. BOEM shall consult with such party to resolve the objection. If BOEM determines that such objection cannot be resolved, BOEM will:
1. Forward all documentation relevant to the dispute, including BOEM's proposed resolution, to the ACHP. The ACHP shall provide BOEM with its advice on the resolution of the objection within 30 calendar days of receiving adequate documentation. Prior to reaching a final decision on the dispute, BOEM shall prepare a written response that takes into account any timely advice or comments regarding the dispute from the ACHP, signatories, invited signatories, and/or consulting parties, and provide each of them with a copy of this written response. BOEM will then make a final decision and proceed accordingly.
 2. Make a final decision on the dispute and proceed accordingly if ACHP does not provide its advice regarding the dispute within the 30-calendar-day time period. Prior to reaching such a final decision, BOEM will prepare a written response that takes into account any timely comments regarding the dispute from the signatories, invited signatories, or consulting parties to the MOA, and provide each of them and the ACHP with a copy of such written response.
- B. BOEM's and the lessee's responsibility to carry out all other actions subject to the terms of this MOA that are not the subject of the dispute remain unchanged.
- C. At any time during the implementation of the measures stipulated in this MOA, should a member of the public object in writing to the signatories regarding the manner in which the measures stipulated in this MOA are being implemented, that signatory will notify BOEM. BOEM shall review the objection and may notify the other signatories as appropriate and respond to the objector.

XV. AMENDMENTS

- A. This MOA may be amended when such an amendment is agreed to in writing by all signatories and invited signatories. The amendment will be effective on the date a copy of the amendment signed by all of the signatories and invited signatories is filed with the ACHP.

- B. Revisions to any attachment may be proposed by any signatory or invited signatory by submitting a draft of the proposed revisions to all signatories and invited signatories with a notification to the consulting parties. The signatories and invited signatories will consult for no more than 30 calendar days (or another time period agreed upon by all signatories and invited signatories) to consider the proposed revisions to the attachment. If the signatories and invited signatories unanimously agree to revise the attachment, BOEM will provide a copy of the revised attachment to the other signatories, invited signatories, and consulting parties. Revisions to any attachment to this MOA will not require an amendment to the MOA.

XVI. TERMINATION

If any signatory or invited signatory to this MOA determines that its terms will not or cannot be carried out, that party shall immediately consult with the other signatories, invited signatories, and consulting parties to attempt to develop an amendment per the Amendments Stipulation (Stipulation XXV). If within 30 calendar days (or another time period agreed to by all signatories) an amendment cannot be reached, any signatory or invited signatory may terminate the MOA upon written notification to the other signatories.

Once the MOA is terminated, and prior to work continuing on the undertaking, BOEM must either (a) execute a new MOA pursuant to 36 CFR 800.6; or (b) request, take into account, and respond to ACHP comments under 36 CFR 800.7. BOEM shall notify the signatories and invited signatories as to the course of action it will pursue.

XVII. COORDINATION WITH OTHER FEDERAL AGENCIES

- A. In the event that another federal agency not initially a party to or subject to this MOA receives an application for funding/license/permit for the undertaking as described in this MOA, that agency may fulfill its Section 106 responsibilities by stating in writing it concurs with the terms of this MOA and notifying the signatories and invited signatories that it intends to do so. Such federal agency may become a signatory, invited signatory, or a concurring party (collectively referred to as signing party) to the MOA as a means of complying with its responsibilities under Section 106 and based on its level of involvement in the undertaking. To become a signing party to the MOA, the agency official must provide written notice to the signatories and invited signatories that the agency agrees to the terms of the MOA, specifying the extent of the agency's intent to participate in the MOA. The participation of the agency is subject to approval by the signatories and invited signatories who must respond to the written notice within 30 calendar days or the approval will be considered implicit. Any necessary amendments to the MOA as a result will be considered in accordance with the Amendments Stipulation (Stipulation XXV).
- B. Should the signatories and invited signatories approve the federal agency's request to be a signing party to this MOA, an amendment under the Amendments Stipulation (Stipulation XXV) will not be necessary if the federal agency's participation does not change the undertaking in a manner that would require any modifications to the stipulations set forth in this MOA. BOEM will document these conditions and involvement of the federal agency in a written notification to the signatories, invited signatories, and consulting parties, and include a copy of the federal agency's executed signature page, which will codify the addition of the federal agency as a signing party in lieu of an amendment.

XVIII. ANTI-DEFICIENCY ACT

Pursuant to 31 USC 1341(a)(1), nothing in this MOA will be construed as binding the United States to expend in any one fiscal year any sum in excess of appropriations made by Congress for this

Memorandum of Agreement Among the Bureau of Ocean Energy Management, the State Historic Preservation Officers of Virginia and North Carolina, and the Advisory Council on Historic Preservation Regarding the Coastal Virginia Offshore Wind Commercial Project

purpose, or to involve the United States in any contract or obligation for the further expenditure of money in excess of such appropriations.

Execution of this MOA by BOEM, Virginia SHPO, North Carolina SHPO, and ACHP, and implementation of its terms evidences that BOEM has taken into account the effects of this undertaking on historic properties and afforded ACHP an opportunity to comment.

[SIGNATURES COMMENCE ON FOLLOWING PAGE]

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**MEMORANDUM OF AGREEMENT
AMONG THE BUREAU OF OCEAN ENERGY MANAGEMENT,
THE STATE HISTORIC PRESERVATION OFFICERS OF VIRGINIA AND NORTH
CAROLINA, AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT**

Signatory:

Bureau of Ocean Energy Management (BOEM)

Elizabeth Klein
Director
Bureau of Ocean Energy Management

Date: _____

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Signatory:

Virginia State Historic Preservation Officer (SHPO)

Julie V. Langan
Director and
State Historic Preservation Officer
Virginia Department of Historic Resources

Date: _____

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Signatory:

North Carolina State Historic Preservation Officer (SHPO)

Ramona Bartos
Administrator and
Deputy State Historic Preservation Officer
North Carolina State Historic Preservation Officer

Date: _____

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REGARDING THE COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT**

Signatory:

Advisory Council on Historic Preservation (ACHP)

Reid J. Nelson
Executive Director
Advisory Council on Historic Preservation

Date: _____

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REGARDING THE COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT**

Invited Signatory:

Virginia Electric And Power Company (Dominion Energy Virginia)

Joshua Bennett
Vice President Offshore Wind
Virginia Electric and Power Company (Dominion Energy Virginia)

Date: _____

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REGARDING THE COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT**

Invited Signatory:

City of Virginia Beach, Virginia

Patrick A. Duhaney
City Manager
City of Virginia Beach, Virginia

Date: _____

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REGARDING THE COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT**

Invited Signatory:

Outer Banks Conservationists

Ladd Bayliss
Executive Director
Outer Banks Conservationists

Date: _____

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Invited Signatory:

Preservation Virginia

Elizabeth Kostelny
Chief Executive Officer
Preservation Virginia

Date: _____

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REGARDING THE COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT**

Concurring Party:

Chickahominy Indian Tribe

Stephen Adkins
Chief and Tribal Administrator
Chickahominy Indian Tribe

Date: _____

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REGARDING THE COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT**

Concurring Party:

Chickahominy Indian Tribe Eastern Division

Gerald A. Stewart
Chief
Chickahominy Indian Tribe Eastern Division

Date: _____

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Concurring Party:

Delaware Tribe of Indians

Brad KillsCrow
Chief
Delaware Tribe of Indians

Date: _____

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CAROLINA, AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT**

Concurring Party:

Monacan Indian Nation

Kenneth Branham
Chief
Monacan Indian Nation

Date: _____

DRAFT

Memorandum of Agreement Among the Bureau of Ocean Energy Management, the State Historic Preservation Officers of Virginia and North Carolina, and the Advisory Council on Historic Preservation Regarding the Coastal Virginia Offshore Wind Commercial Project

**MEMORANDUM OF AGREEMENT
AMONG THE BUREAU OF OCEAN ENERGY MANAGEMENT,
THE STATE HISTORIC PRESERVATION OFFICERS OF VIRGINIA AND NORTH
CAROLINA, AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT**

Concurring Party:

Nansemond Indian Nation

Keith Anderson
Chief
Nansemond Indian Nation

Date: _____

DRAFT

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CAROLINA, AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT**

Concurring Party:

Pamunkey Indian Tribe

Robert Gray
Chief
Pamunkey Indian Tribe

Date: _____

DRAFT

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Concurring Party:

Rappahannock Tribe

Anne Richardson
Chief
Rappahannock Tribe

Date: _____

DRAFT

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REGARDING THE COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT**

Concurring Party:

The Delaware Nation

Deborah Dotson
President of the Executive Committee
The Delaware Nation

Date: _____

DRAFT

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Concurring Party:

Upper Mattaponi Indian Tribe

Frank Adams
Chief
Upper Mattaponi Indian Tribe

Date: _____

DRAFT

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REGARDING THE COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT**

Concurring Party:

Navy Region Mid-Atlantic (NAS Oceana)

Rear Adm. Wesley R. McCall
Commander
Navy Region Mid-Atlantic

Date: _____

DRAFT

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REGARDING THE COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT**

Concurring Party:

United States Army Corps of Engineers

Andy Beaudet
Acting Chief, Regulatory Branch
United States Army Corps of Engineers, Norfolk District

Date: _____

DRAFT

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REGARDING THE COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT**

Concurring Party:

United States National Park Service

[Name]
[Title]
United States National Park Service

Date: _____

DRAFT

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REGARDING THE COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT**

Concurring Party:

[Organization]

[Name]

[Title]

[Organization]

Date: _____

DRAFT

**MEMORANDUM OF AGREEMENT
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ATTACHMENT 10 – MITIGATION FUNDING AMOUNTS

ATTACHMENT 1 – APE MAPS

DRAFT

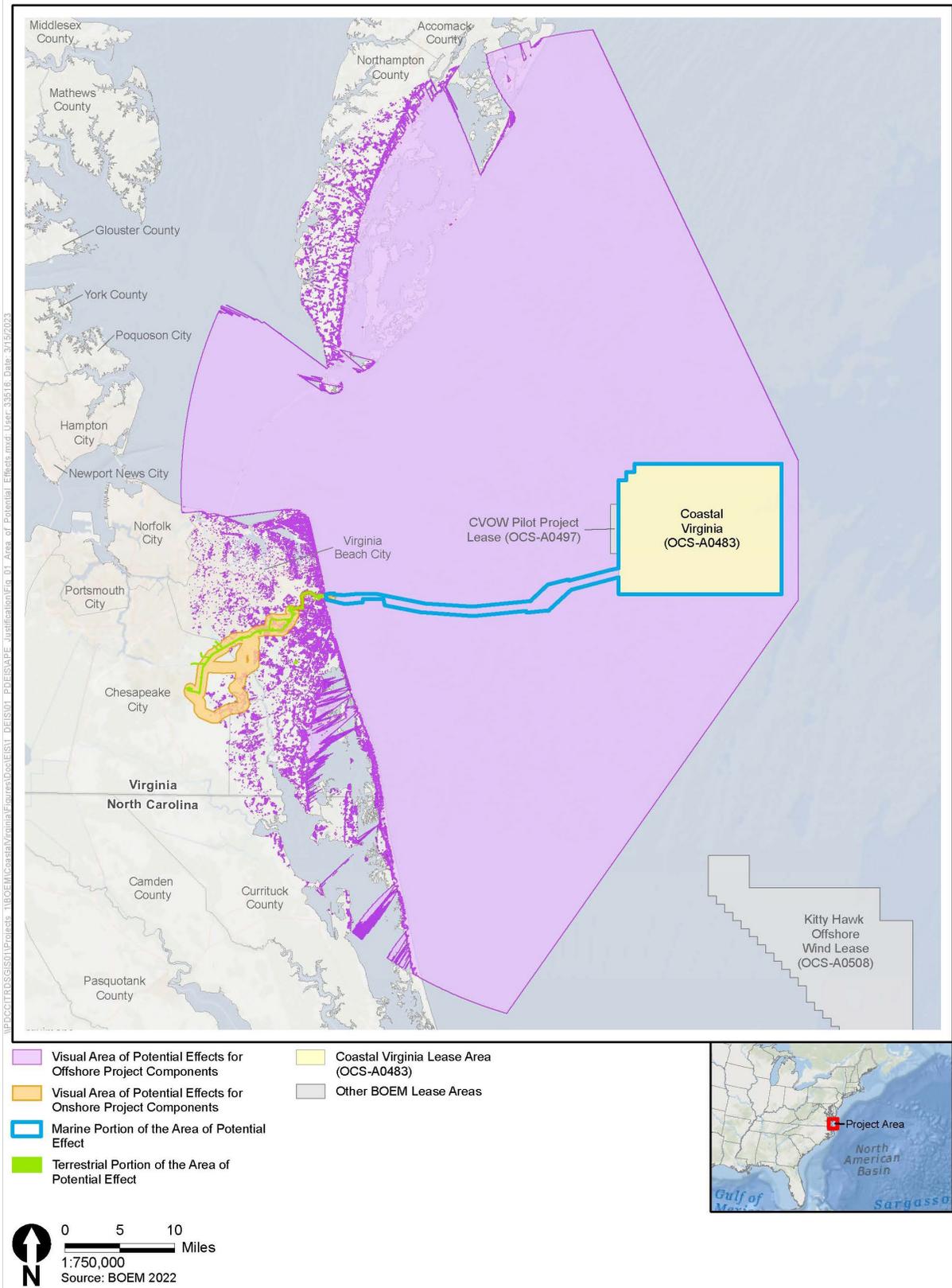
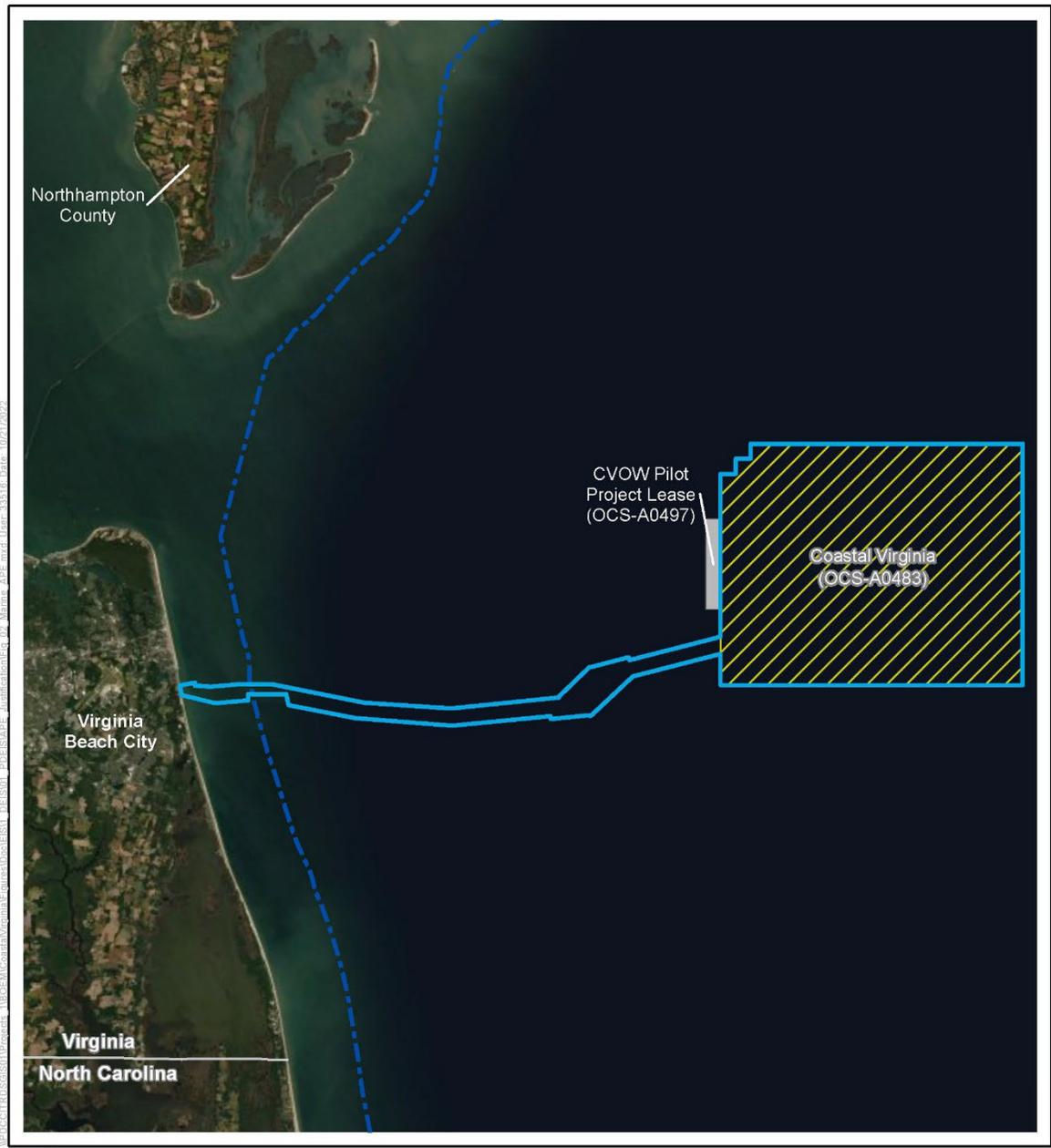


Figure 1 Project APE



-  Marine Portion of the Area of Potential Effect
-  Coastal Virginia (OCS-A0483)
-  Other BOEM Lease Areas
-  State Seaward Boundary

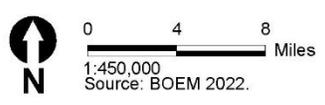
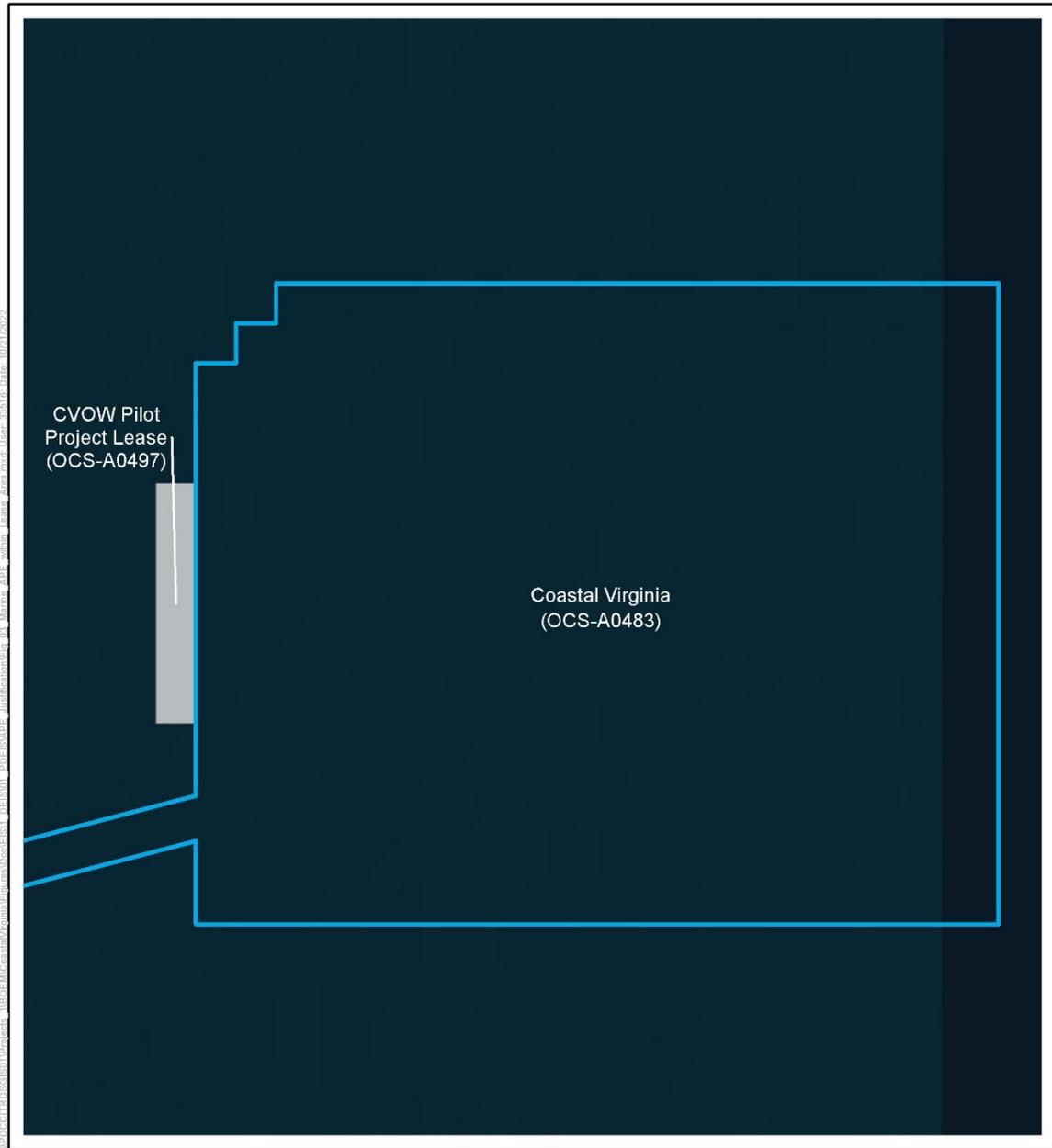


Figure 2 Marine APE



\P\DC\TR\B\GIS\018\Projects_1\BOEM\CoastalVirginia\Areas\De\ESL_DEIS\01_BOES\Map_Justification\Fig_03_Marine_APE_within_Lease_Area.mxd; User: 33516; Date: 10/21/2022

- Marine Portion of the Area of Potential Effect
- Other BOEM Lease Areas

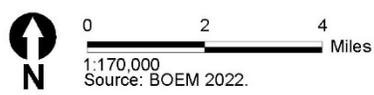
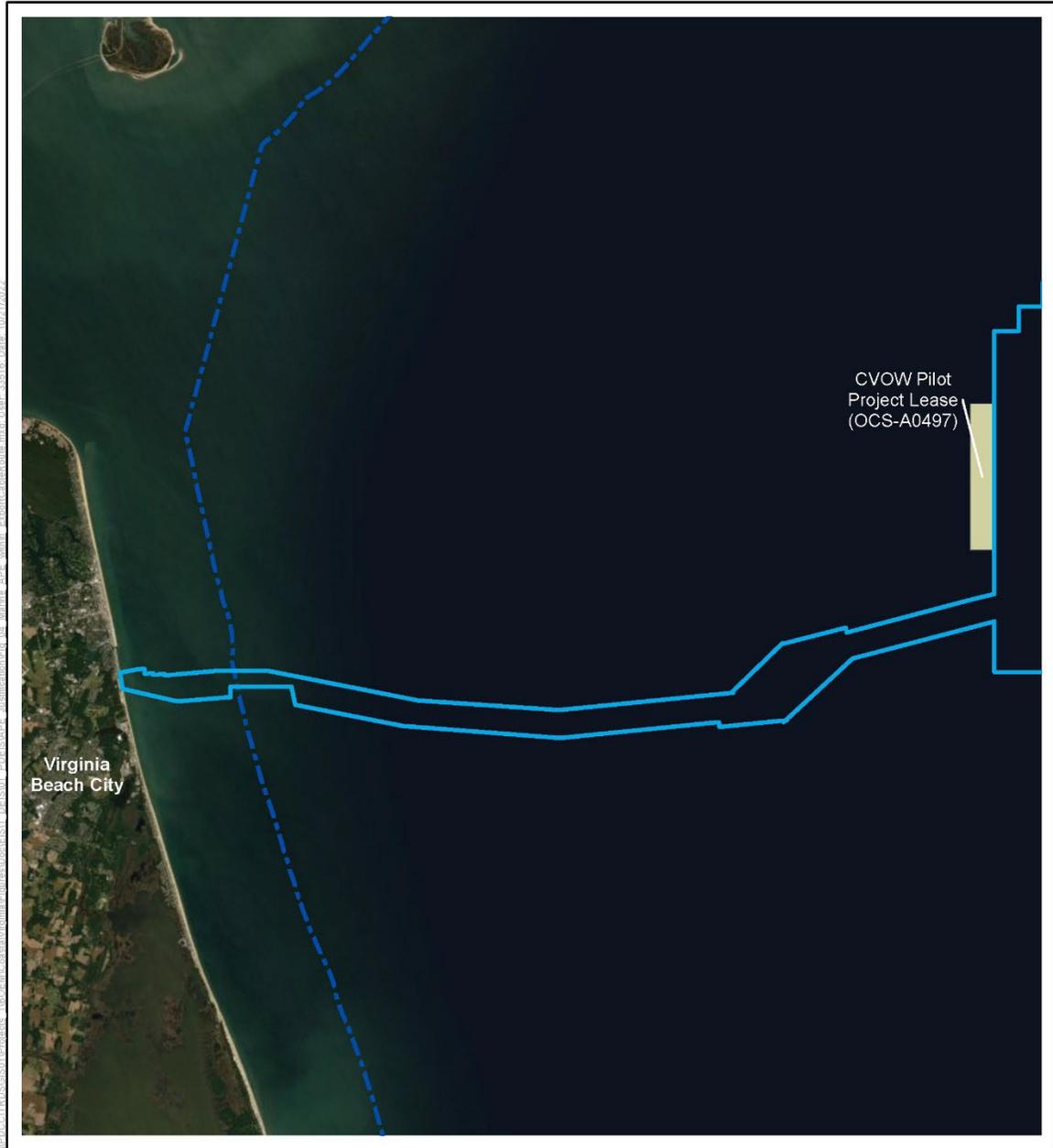


Figure 3 **Detail of Marine APE Within the Lease Area**



-  Marine Portion of the Area of Potential Effect
-  Other BOEM Lease Areas
-  State Seaward Boundary

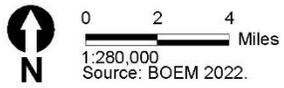
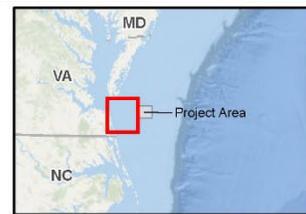
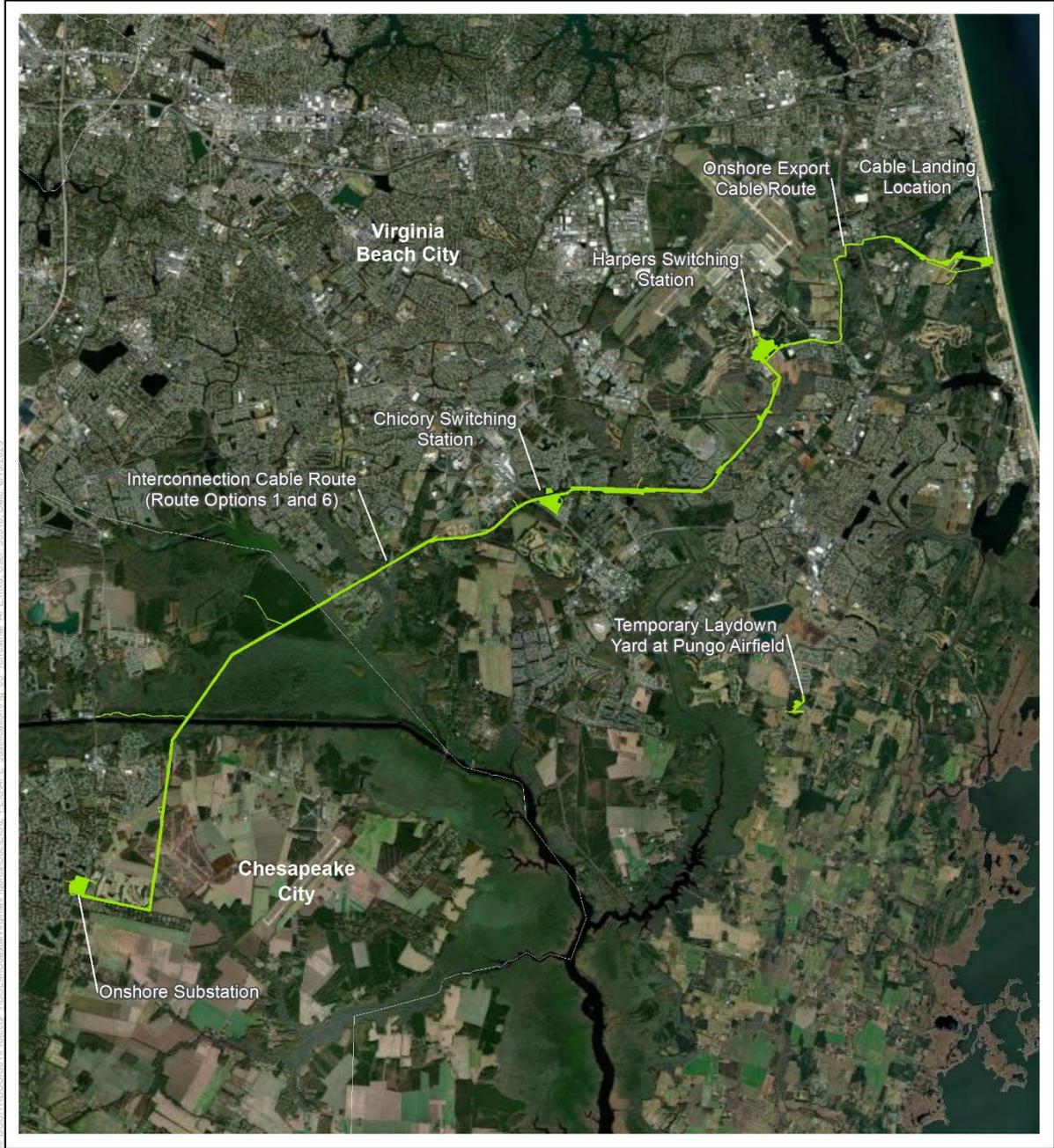


Figure 4 **Detail of Marine APE Within Export Cable Route Corridor**



 Terrestrial Portion of the Area of Potential Effect

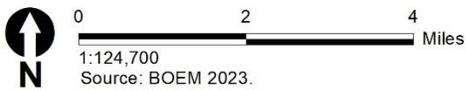


Figure 5 Terrestrial APE



 Terrestrial Portion of the Area of Potential Effect

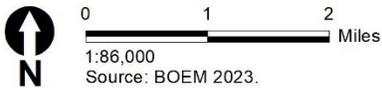
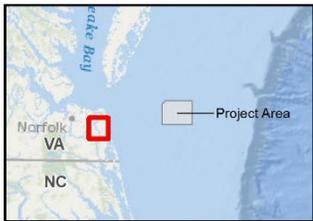


Figure 6 Detail of Easternmost Portion of the Terrestrial APE



 Terrestrial Portion of the Area of Potential Effect

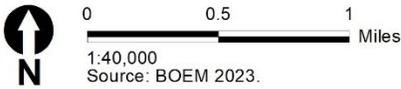


Figure 7 Detail of Westernmost Portion of the Terrestrial APE



I:\POC\ITD\GIS\01\Projects_1\BOEM\CostalVirginia\Figures\Doc\ES12_FEIS\APE_Justification\Fig_16_Cultural_Terrestrial_APE_CableRouteShift.mxd User: 33516 Date: 6/14/2023

- Terrestrial Portion of the Area of Potential Effect—New Shifted Route
- Terrestrial Portion of the Area of Potential Effect—Before Route Shift

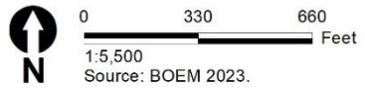
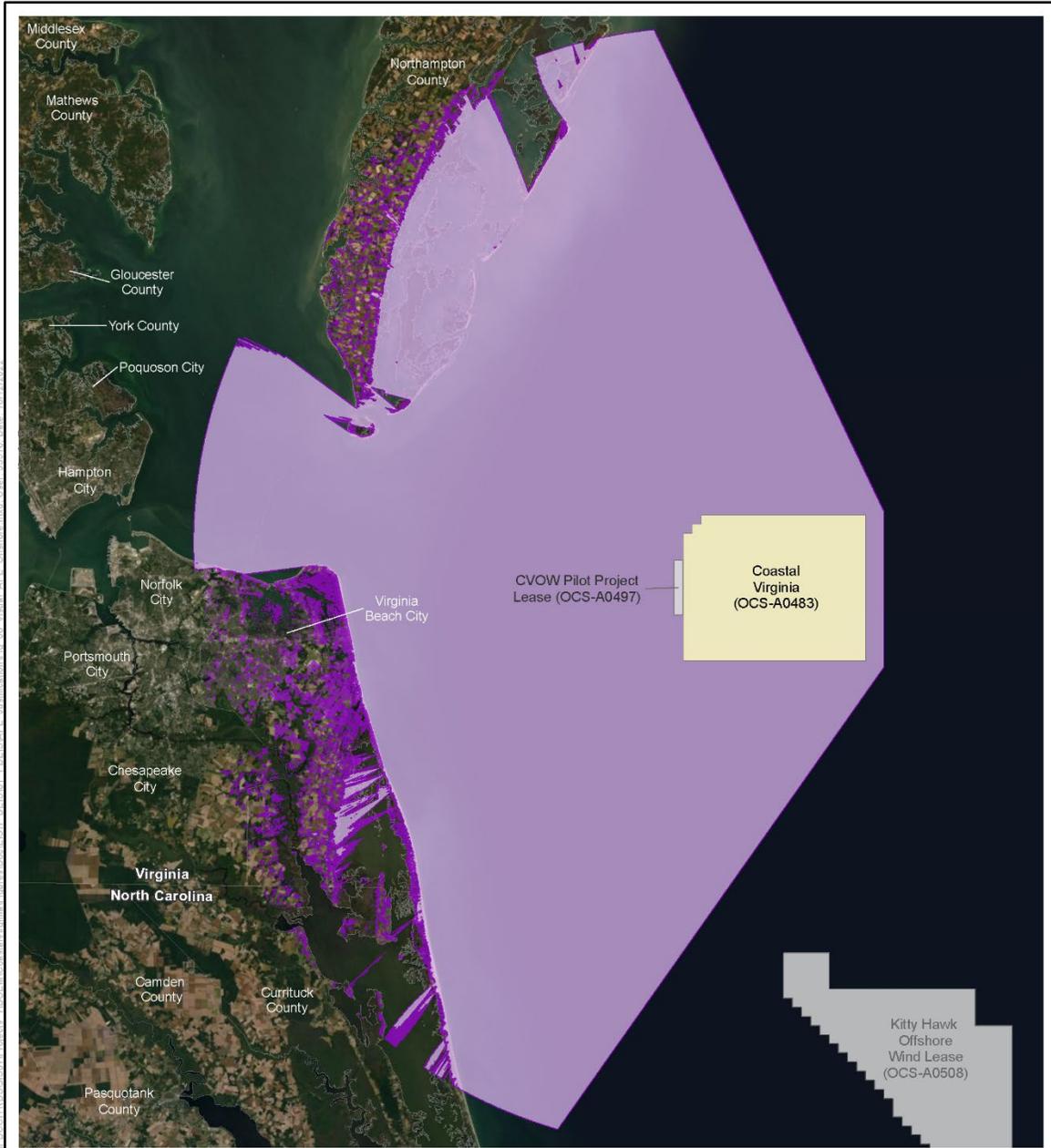


Figure 8 **Detail of Terrestrial APE at Interconnection Cable Route Shift in Virginia Beach, Virginia**



- Visual Area of Potential Effects for Offshore Project Components
- Coastal Virginia Lease Area (OCS-A0483)
- Other BOEM Lease Areas

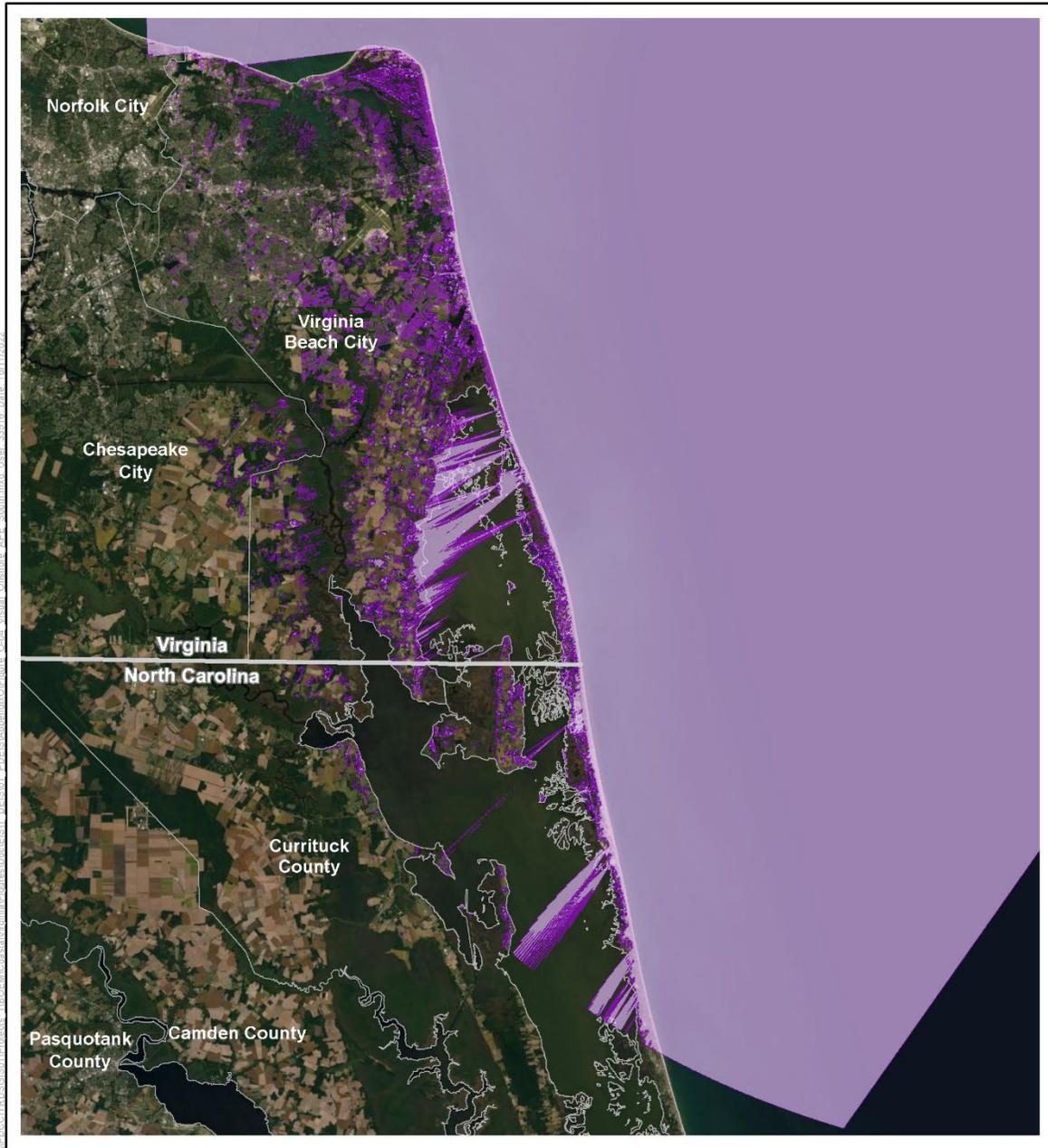


0 5 10 Miles
 1:750,000
 Source: BOEM 2022

Figure 9 Visual APE for Offshore Project Components



Figure 10 Detail of Northernmost Portion of Visual APE for Offshore Project Components



Visual Area of Potential Effects for Offshore Project Components

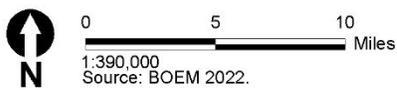
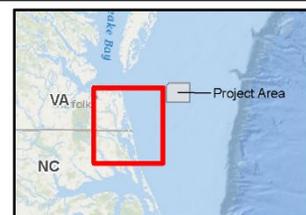


Figure 11 Detail of Southernmost Portion of Visual APE for Offshore Project Components



Visual Area of Potential Effects for Offshore Project Components

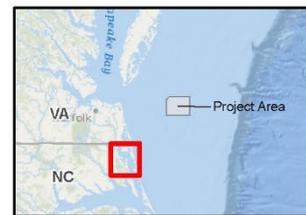


Figure 13 Detail of Visual APE for Offshore Project Components in North Carolina



Visual Portion of the Area of Potential effect for Onshore Project Components

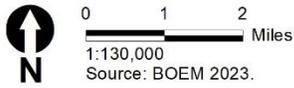


Figure 14 Visual APE for Onshore Project Components



Visual Portion of the Area of Potential Effect for Onshore Project Components

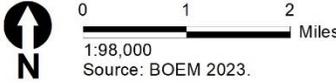


Figure 15 **Detail of Northernmost Portion of Visual APE for Onshore Project Components**



Figure 17 Revised Visual APE reflecting the route shift near the Princess Anne Athletic Complex in the City of Virginia Beach, Virginia

ATTACHMENT 2 – LISTS OF INVITED AND INTERESTED CONSULTING PARTIES

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Table 1. Consulting Parties Invited to Consult in the NHPA Section 106 Consultation

Organization Type	Invited Organization Name
SHPOs and State Agencies	North Carolina Department of Natural and Cultural Resources, Division of Historical Resources
	Virginia Department of Historic Resources
	Virginia Army National Guard
	False Cape State Park
	First Landing State Park
	Kiptopeke State Park
Federal Agencies	Assateague Island National Seashore
	Captain John Smith Chesapeake National Historic Trail
	Colonial National Historic Park
	Fort Monroe National Monument
	NASA Wallops Flight Facility
	Naval Facilities Engineering Systems Command, Atlantic
	U.S. Advisory Council on Historic Preservation (ACHP)
	U.S. Army Corps of Engineers
	U.S. Coast Guard
	U.S. Fish and Wildlife Service
	U.S. Fleet Forces Command
	U.S. National Park Service
	U.S. Naval Air Station Oceana
	U.S. Navy Region Mid-Atlantic
	Volgenau Virginia Coast Reserve
Federally Recognized Tribes	Absentee-Shawnee Tribe of Indians of Oklahoma
	Cherokee Nation
	Chickahominy Indian Tribe
	Chickahominy Indian Tribe- Eastern Division
	Delaware Tribe of Indians
	Eastern Band of Cherokee Indians
	Eastern Shawnee Tribe of Oklahoma
	Monacan Indian Nation
	Nansemond Indian Nation
	Pamunkey Indian Tribe
	Rappahannock Tribe
	Shawnee Tribe
	The Delaware Nation
	The Narragansett Indian Tribe
	The Shinnecock Indian Nation
	Tuscarora Nation
	United Keetoowah Band of Cherokee Indians in Oklahoma
	Upper Mattaponi Indian Tribe
Non-Federally Recognized Tribe	Cheroenhaka Nottoway Indian Tribe
	Haliwa-Saponi Indian Tribe
	Lumbee Tribe of North Carolina
	Meherrin Indian Tribe
	Nottoway Indian Tribe of Virginia
	Occaneechi Band of the Saponi Nation
	Patawomeck Indian Tribe of Virginia
	The Coharie Tribe
	The Mattaponi Nation
	The Sappony

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Organization Type	Invited Organization Name
	Waccamaw Siouan Tribe
Local Government	Accomack County
	City of Chesapeake
	City of Norfolk
	City of Virginia Beach
	Currituck County
	Currituck County Historic Preservation Commission
	Currituck County Historical Society
	Downtown Norfolk Council
	Northampton County
	Northampton County Department of Planning, Permitting & Enforcement
	Town of Accomac
	Town of Cape Charles
	Town of Cheriton
	Town of Chincoteague
	Town of Eastville
	Town of Exmore
	Town of Onancock
	Town of Onley
	Town of Parksley
	Town of Saxis
Town of Wachapreague	
Nongovernmental Organizations or Groups	100 Black Men of Virginia Peninsula
	African American Heritage Trail
	American Battlefield Trust
	Atlantic Wildfowl Heritage Museum
	Cape Charles Historical Society
	Cavalier Associates LLC
	Cavalier Hotel and Beach Club
	Chesapeake Bay Bridge and Tunnel District
	Council of Virginia Archaeologists
	Eastern Shore of Virginia Barrier Islands Center
	Eastern Shore of Virginia Historical Society
	Fort Monroe Authority
	Hampton Roads Community Action Program
	Howell Virginia Beach Family LLC, Property Owner of 7900 Ocean Front Avenue, Virginia Beach, Virginia
	Jamak LLC
	Joint Expeditionary Base Little Creek-Fort Story; U.S. Navy
	Museum of Chincoteague Island
	NAACP Currituck County Branch
	Nansemond River Preservation Alliance
	Norfolk Historical Society
	Norfolk County Historical Society of Chesapeake, VA
	North Carolina Maritime History Council
	Northampton Historic Preservation Society
	Ocean 27th LLC
	Piedmont Environmental Council
	Preservation North Carolina
	Preservation Virginia
	Princess Anne County / Virginia Beach Historical Society

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Organization Type	Invited Organization Name
	Property Owner of 100 54th Street, Virginia Beach, Virginia
	Property Owner of 4910 Ocean Front Avenue, Virginia Beach, Virginia
	Property Owner of Oceans II Condominiums/Aeolus Motel
	Purcell Cottage LLC, Property Owner of 5302 Ocean Front Avenue, Virginia Beach, Virginia
	Ruffin 86 LLC, Property Owner of 8600 Ocean Front Avenue, Virginia Beach, Virginia
	Sandbridge Beach Civic League
	Sandswept LLC, Property Owner of 8304-8306 Ocean Front Avenue, Virginia Beach, Virginia
	Scenic Virginia
	Seahawk Resort Enterprises Inc.
	The Historic Cavalier Shores Civic League
	Urban League of Hampton Roads Virginia African American Cultural Center
	VAB 435 Oceanfront LLC
	Virginia House Beach Corporation

Table 2. Consulting Parties Who Accepted BOEM’s Invitation to Consult

Organization Type	Participating Organization Name
SHPOs and State Agencies	North Carolina State Historic Preservation Office
	Virginia Department of Historic Resources
Federal Agencies	Advisory Council on Historic Preservation
	Bureau of Safety and Environmental Enforcement
	Colonial National Historic Park
	NASA Wallops Flight Facility
	Naval History and Heritage Command (Underwater Archaeology Branch)
	U.S. Army Corps of Engineers
	U.S. Coast Guard
	U.S. Fish and Wildlife Service
	U.S. Fleet Forces Command
	U.S. National Park Service
	U.S. Navy Region Mid-Atlantic
	Virginia Army National Guard
Federally Recognized Tribe	Chickahominy Indian Tribe (represented by Cultural Heritage Partners)
	Chickahominy Indian Tribe Eastern Division (represented by Cultural Heritage Partners)
	Delaware Tribe of Indians
	Monacan Indian Nation (represented by Cultural Heritage Partners)
	Nansemond Indian Nation (represented by Cultural Heritage Partners)
	Pamunkey Indian Tribe
	Rappahannock Tribe (represented by Cultural Heritage Partners)
	The Delaware Nation
Upper Mattaponi Indian Tribe (represented by Cultural Heritage Partners)	
State Recognized Tribes	Lumbee Tribe of North Carolina
	Nottoway Indian Tribe of Virginia

Memorandum of Agreement Among the Bureau of Ocean Energy Management, the State Historic Preservation Officers of Virginia and North Carolina, and the Advisory Council on Historic Preservation Regarding the Coastal Virginia Offshore Wind Commercial Project

Organization Type	Participating Organization Name
	Patawomeck Indian Tribe of Virginia
	The Coharie Tribe
Local Government	Accomack County
	City of Norfolk
	City of Virginia Beach
	Town of Chincoteague
	Town of Eastville
Non-Governmental Organizations or Groups	Atlantic Wildfowl Heritage Museum
	Cavalier Associates, LLC
	Chesapeake Bay Bridge and Tunnel District
	Council of Virginia Archaeologists
	Eastern Shore of Virginia Historical Society
	Nansemond River Preservation Alliance
	Outer Banks Conservationists
	Preservation Virginia
	Ruffin 86, LLC
	Sandbridge Beach Civic League
	Sandswept, LLC
	The Historic Cavalier Shores Civic League
	Virginia African American Cultural Center
Lessee	Dominion Energy

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ATTACHMENT 3 – AVOIDANCE PLAN FOR MARINE ARCHAEOLOGICAL RESOURCES

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APPENDIX IX

SECTION 106 CULTURAL RESOURCES

**DRAFT AVOIDANCE PLAN – MARINE ARCHAEOLOGICAL
RESOURCES**

DD.1 INTRODUCTION

DD.1.1 Project Overview

This Avoidance Plan is prepared in support of the Coastal Virginia Offshore Wind (CVOW) Commercial Project (Project). This work was performed for the Virginia Electric and Power Company, doing business as Dominion Energy Virginia (Dominion Energy). The Project is located in the Commercial Lease of Submerged Lands for Renewable Energy Development on the Outer Continental Shelf (OCS) Offshore Virginia (Lease No. OCS-A 0483, Lease Area), which was awarded to Dominion Energy through the Bureau of Ocean Energy Management (BOEM) competitive renewable energy lease auction of the Wind Energy Area offshore of Virginia in 2013. The Lease Area covers approximately 112,799 acres (ac) (45,658 hectares [ha]) and is approximately 27 statute miles (mi) (23 nautical miles, 43 kilometers [km]) off the Virginia Beach coastline. The CVOW Offshore Export Cable Route Corridor will connect the Lease Area to a Cable Landing Location at the State Military Reservation in Virginia Beach, Virginia.

DD.1.2 Regulatory Context

The purpose of this Avoidance Plan is to support Dominion Energy in its compliance to Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and its implementing regulations (36 CFR 800) entitled “Protection of Historic Properties”; the Archaeological and Historic Preservation Act of 1974; the Abandoned Shipwreck Act of 1987; Title 36 of the CFR, Parts 60-66 and 800, as appropriate; standards set forth in the Secretary of the Interior’s Guidelines for Archaeology and Historic Preservation; and the Native American Graves Protection and Repatriation Act. The Virginia Department of Historic Resources will serve as the State Historic Preservation Office in consultation with Section 106 of the NHPA of 1966, as amended (54 U.S.C. 300101 et seq.: Historic Preservation), for the portions of the Project located within Virginia state waters (DHR 2017).

The Outer Continental Shelf Lands Act (OCSLA), 1953 (as amended), grants BOEM (CFR Title 30, Chapter V, Subpart B-Offshore) lead enforcement of laws and regulations governing offshore leasing in federal waters. The Energy Policy Act of 2005, an OCSLA amendment, grants BOEM lead management authority for marine renewable energy projects in federal waters. Current BOEM guidelines (May 2020) provide applicants basic guidance on the design of geophysical surveys and geotechnical investigations to acquire archaeological information. The guidelines are specific to renewable energy activities on the OCS and may not comply with all conditions of an applicant’s lease. These guidelines replace the 2015 BOEM guidelines and incorporate updated information including the requirements of a magnetometer/transverse gradiometer configuration instead of a single marine magnetometer (BOEM 2020).

DD.2 MARINE ARCHAEOLOGICAL RESOURCES AVOIDANCE MEASURES

DD.2.1 Summary of Identified Resources

Dominion Energy conducted high resolution geophysical (HRG) and geotechnical survey campaigns to inform the Project from 2020 to 2021. HRG and geotechnical survey campaigns were completed across the Offshore Project Area, which is inclusive of the Lease Area and Offshore Export Cable Route Corridor. Results of those surveys were used to inform cultural resources analyses and interpretations for the Project. The HRG survey campaigns in the Offshore Project Area identified 31 potential cultural resources: 18 in the Lease Area and 13 in the Offshore Export Cable Route Corridor. These potential cultural resources were recommended for avoidance of any potential or inadvertent effects. Within the Lease Area, six buried paleolandscape features were identified from the seismic data sets. These features were delineated based on spatial extent and recommendations for avoidance incorporated larger areas beyond their mapped spatial extents. No paleolandscape features were identified within the Offshore Export Cable Route Corridor.

DD.2.1.1 Ancient Submerged Landforms

The HRG surveys identified six potentially preserved Ancient Submerged Landforms (ASLFs; P-01 – P-05). All six of these ASLFs are located near or within the Lease Area (federal waters) Area of Potential Effect (APE), and have been marked for avoidance to prevent impacts from Wind Turbine Generator (WTG) and Inter-Array Cable construction and bottom disturbing activities. All of the features marked for avoidance represent either channel banks or flood plains that appeared to have the potential for preservation and were sub-aerially exposed during a period of potential human habitation. The ASLFs were delineated and recommendations for avoidance based on spatial extent incorporated larger areas beyond their mapped spatial extents.

Only one feature, P-02, is located within the vertical component of a WTG (WTG 12-3) APE and could be affected by WTG construction activities. After discussions with BOEM on November 29, 2022, feature P-02 was given a reduced avoidance area. The avoidance area was only reduced in areas where it would overlap with a WTG work area; it was reduced by approximately 0.11 ac (0.04 ha) to 266.7 ac (107.9 ha) (C. Horrell, personal communication, November 30, 2022). The HRG data that was collected was at a high enough level and with close enough spacing that there was high confidence that the feature will not be impacted by work taking place around the WTG. This reduction of the avoidance area was done in order to allow work to be done around the WTG. Another feature (P-05) is located within the horizontal APE of the Inter-Array Cable, but is below the project depth, and should not be impacted. No other features were identified which would be within the APE of a WTG or Inter-Array Cable (Table 1). P-01 is located outside the APE but included to accommodate changes to design and construction parameters. P-02 bisects the Inter-Array Cable at WTG 12-3 and WTG 11-3A. P-05 bisects the Inter-Array Cable between WTG 2-15 and WTG 2-16. P-03, P-04-A and P-04-B are not within an Inter-Array Cable or WTG APE, but may be within a potential anchorage.

The features, except for P-05, were located along the northern portions of the Lease Area, with the majority in the northwest. P-03 is located east of the Fish Haven, between WTG 11-5 and WTG 10-11 without

crossing the planned Inter-Array Cable. P-04A and P-04B are located south of the Fish Haven between WTG 10-6, WTG 10-7, WTG-9-6, and WTG 9-7 without crossing the planned Inter-Array Cable.

The avoidance criteria have been configured to protect the features extents based on the interpretation of HRG survey data and geotechnical data (as available).

BOEM was consulted to discuss proposed avoidance plans, especially regarding P-02, which was given a reduced avoidance area. Furthermore, protocols will be developed between the Qualified Marine Archaeologist (QMA) and construction team for monitoring of activities with the potential to impact ASLFs.

Table VI-1. ASLF features identified within the Lease Area APE.

ASLF ID	Minimum Depth Below Seabed (ft/m) ¹	Within Project Component APE	Area of Recommended Minimum Avoidance (ac/ha) ²
P-01	-33.66 ¹ ft/10.25 m	No	10.71 ac /4.33 ha
P-02	-4.81 ft/-1.47 m	WTG 12-3	266.7 ac/107.9 ha ³
P-03	-8.69 ft/-2.64 m	No	9.91 ac/4.01 ha
P-04-A	-3.41 ft/-3.04 m	No	3.94 ac/1.59 ha
P-04-B	-4.60 ft/-1.4 m	No	22.05 ac/8.92 ha
P-05	-23.49 ft/-7.28 m	No	5.45 ac/2.2 ha

¹Depth for P-01 is provided as below MLLW, based on the seismic profile.

²Avoidance Area is created by adding a 50 m (164.04 ft) buffer off the mapped extents of the ASLF

³After consultation with BOEM the 50 m (164.04 ft) buffer off the mapped extents of the ASLF were reduced to approximately 43 m (141.08 ft) in one area where it overlapped with the WTG work area

DD.2.1.2 Potential Historic Shipwrecks

The HRG surveys identified a total of 16 archaeological targets (Targets 1-9, 11-13, 15-18) that may be associated with potential historic shipwrecks located within the Lease Area APE (Table 2). Two additional targets (Targets 3 and 14) were identified outside of the Lease Area APE boundary but recommended for avoidance to prevent any potential and inadvertent impacts from future site activities. Ten of the 16 targets (Targets 21-30), which may be associated with historic shipwrecks, are located within federal waters of the Offshore Export Cable Route Corridor APE. One target, Target 31, which may be associated with an historic shipwreck, is located within Virginia state waters of the Offshore Export Cable Route Corridor APE. Two targets (Targets 19 and 20) were identified outside the Offshore Export Cable Route Corridor APE; however, the recommended avoidance areas extend into the APE but, will not be affected by Project activities, as Dominion Energy has committed to avoidance.

Table 2. Potential cultural resources identified within the Lease Area and the Offshore Export Cable Route Corridor.

Target ID	Charted ID ¹	Location	Area of Recommended Minimum Avoidance
Target 1	-	WEA	164 ft (50 m) radius from center point
Target 2	-	WEA	164 ft (50 m) radius from center point
Target 3	-	WEA	164 ft (50 m) radius from center point
Target 4	-	WEA	164 ft (50 m) radius from center point
Target 5	-	WEA	164 ft (50 m) radius from center point
Target 6	-	WEA	164 ft (50 m) radius from center point
Target 7	-	WEA	164 ft (50 m) radius from center point
Target 8	-	WEA	164 ft (50 m) radius from visible extent (3.96 ac [1.60 ha])
Target 9	-	WEA	164 ft (50 m) radius from center point
Target 10	<i>Cuyahoga</i>	WEA	164 ft (50 m) radius from visible extent (3.38 ac [1.37 ha])
Target 11	-	WEA	164 ft (50 m) radius from visible extent (2.99 ac [1.21 ha])
Target 12	-	WEA	164 ft (50 m) radius from center point
Target 13	-	WEA	164 ft (50 m) radius from center point
Target 14 ²	<i>Francis E. Powell</i>	WEA	164 ft (50 m) radius from visible extent (4.18 ac [1.69 ha])
Target 15	-	WEA	164 ft (50 m) radius from visible extent (4.18 ac [1.69 ha])
Target 16	-	WEA	459 ft (140 m) radius from center point
Target 17	-	WEA	164 ft (50 m) radius from center point
Target 18	-	WEA	164 ft (50 m) radius from center point
Target 19 ²		ECRC	164 ft (50 m) radius from center point
Target 20	-	ECRC	164 ft (50 m) radius from center point
Target 21	-	ECRC	164 ft (50 m) radius from center point
Target 22	-	ECRC	164 ft (50 m) radius from visible extent (3.80 ac [1.54 ha])
Target 23	-	ECRC	164 ft (50 m) radius from center point
Target 24	-	ECRC	164 ft (50 m) radius from center point
Target 25	-	ECRC	164 ft (50 m) radius from center point
Target 26	-	ECRC	164 ft (50 m) radius from center point
Target 27	-	ECRC	164 ft (50 m) radius from center point
Target 28	-	ECRC	164 ft (50 m) radius from center point
Target 29	-	ECRC	164 ft (50 m) radius from center point
Target 30	-	ECRC	164 ft (50 m) radius from center point

Target ID	Charted ID ¹	Location	Area of Recommended Minimum Avoidance
Target 31	-	ECRC	164 ft (50 m) radius from center point

¹ National Oceanographic and Atmospheric Administration, *Wrecks and Obstructions Database*. Electronic database, <https://nauticalcharts.noaa.gov/data/wrecks-and-obstructions.html>

²Outside APE

DD.2.1.3 Known Historic Shipwrecks

Through the interpretation of HRG survey data, the QMA identified two archaeological targets, Target 10 and Target 14, which are charted historic shipwrecks (Table 2). Target 10, the USCGC *Cuyahoga*, was a Morris-class vessel, which displaced 236 tons and had a primary armament of one 3 inch (76 mm) dual-purpose gun. The vessel was launched in January 1927 and placed in commission two months later at Camden, New Jersey. *Cuyahoga* chased rum runners until 1933, when it assumed duties with the U.S. Navy as a tender for the Presidential Yacht USS *Potomac*. *Cuyahoga* returned to the Coast Guard in May 1941, and it was stationed in Norfolk in January 1942. *Cuyahoga* was equipped further with two depth charge racks and then attached to the Commander Eastern Sea Frontier and Commander Caribbean Sea Frontier during World War II; it spent much of the war as an escort for vessels in the Caribbean. Shortly after the war, *Cuyahoga* was transferred to the Coast Guard Yard at Curtis Bay, Maryland and served with the Field Testing and Development Unit. In 1957, the vessel moved to New London, Connecticut to train officer candidates, and next moved in 1959 to Yorktown, Virginia to continue training. In October 1978, *Cuyahoga* collided with the Argentine coal freighter *Santa Cruz II* and sank in about 57 ft (17.4 m) of water about 3.5 mi (5.6 km) northwest of the mouth of the Potomac River. The vessel was raised by floating cranes and transported on barges to Portsmouth for inspection. *Cuyahoga* subsequently was sunk as an artificial reef (United States Coast Guard 2021). Target 10 is currently considered an historic property and, therefore, should be treated as a National Register of Historic Places (NRHP)-eligible resource.

Target 14, a 7,096-gross ton tanker, *Francis E. Powell*, was torpedoed and sunk on 27 January 1942 by German U-boat U-130 while enroute from Port Author, Texas to Providence, Rhode Island. The wreck of *Francis E. Powell* is one of at least four ship casualties attributable either to German mines or to German U-boat activity in areas offshore of Virginia Beach during World War II. Target 14, the *Francis E. Powell*, is considered an historic property and, therefore, should be treated as a NRHP-eligible resource; however, under the current construction design parameters, Target 14 is located outside the Offshore Export Cable Route Corridor APE and will be avoided.

Dominion Energy will avoid adverse effects to the potential known and historic shipwrecks identified within the marine APE. The Project proposes implementing adherence to the recommended avoidance areas established at each potential and known historic shipwreck based on the HRG survey data. Dissemination of the avoidance areas as shapefiles or other suitable formats to engineering and construction personnel before activities commence.

DD.3 CONSULTING PARTY ENGAGEMENT FOR AVOIDANCE PLANNING

Consulting Parties will be provided an opportunity for review and comment on the Avoidance Plan concurrent with BOEM's anticipated NHPA Section 106 review schedule for the Project. Dominion Energy will provide the draft Avoidance Plan to BOEM for review by participating parties as part of BOEM's NHPA Section 106 review to provide meaningful input on the proposed avoidance measures to address potential adverse effects to historic resources. Dominion Energy anticipates that further coordination to refine the Avoidance Plan may include meetings, conference calls, draft reviews, and document exchanges, or similar means of communication of information.

DRAFT

DD.4 POST-REVIEW DISCOVERY PLAN

Although the Project has completed intensive background research and remote sensing surveys, there is always the potential to encounter cultural resources, such as shipwrecks, during construction or bottom disturbing activities. In order to minimize the potential for the accidental discovery of cultural resources, systematic review of remote sensing data was conducted for the Project. To ensure full and complete compliance with all Federal and State regulations concerning the protection of cultural resources, an Unanticipated Discoveries Plan (UDP) was prepared for the Project. All inspectors have the responsibility to monitor construction sites for potential cultural resources throughout construction. R. Christopher Goodwin & Associates, Inc, acting as the approved QMA consultant, will inspect the discovery and provide an immediate verbal report. The UDP will include a stop-work order and coordination with the Project, the QMA, BOEM, and relevant stakeholders on the manner to proceed in the event of an unanticipated discovery during construction. The draft UDP for marine archaeological resources is provided in Attachment A.

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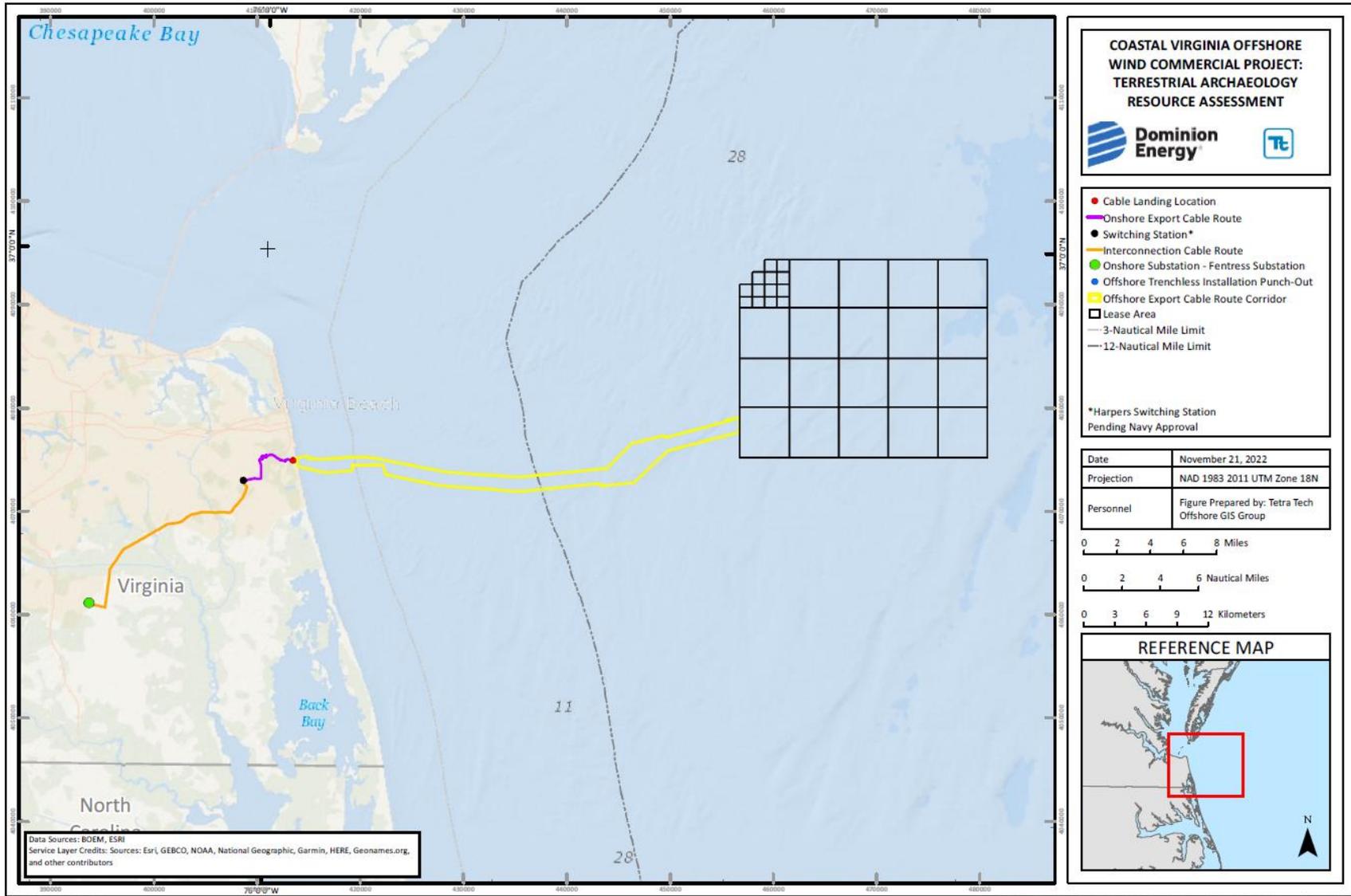


Figure 1. Project Overview

**ATTACHMENT 4 – AVOIDANCE, MINIMIZATION, AND MONITORING PLAN FOR
CULTURAL RESOURCES IN THE TERRESTRIAL APE**

DRAFT

CONSTRUCTION AND OPERATIONS PLAN

Coastal Virginia Offshore Wind Commercial Project

Attachment G-9 Section 106 Cultural Resources Draft Avoidance, Minimization, and Monitoring Plan – Terrestrial Archaeological Resources

Prepared for:



600 East Canal Street
Richmond, VA 23219

Prepared by:



Tetra Tech, Inc.
4101 Cox Road, Suite 120
Glen Allen, VA 23060

www.tetrattech.com

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ACRONYMS AND ABBREVIATIONS

BOEM	Bureau of Ocean Energy Management
CVOW	Coastal Virginia Offshore Wind
Dominion Energy	Virginia Electric and Power Company, d/b/a Dominion Energy Virginia
ft	feet
GPR	Ground penetrating radar
HDD	horizontal directional drilling
Lease Area	the OCS-A 0483 Lease, located approximately 27 mi (23.75 nautical miles, 43.99 kilometers) off the coast of Virginia and includes approximately 112,799 acres (45,658 hectares) of submerged lands
m	meter
NAS	Naval Air Station
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NPS	National Park Service
NRHP	National Register of Historic Places
PAPE	Preliminary Area of Potential Effects
PDE	Project Design Envelope
Project	Coastal Virginia Offshore Wind Commercial Project
SOI	Secretary of the Interior
SMR	State Military Reservation
ST	Shovel Test
TARA	Terrestrial Archaeological Resources Assessment
UDP	Unanticipated Discoveries Plan
VDHR	Virginia Department of Historic Resources

G.1 INTRODUCTION

G.1.1 Project Overview

This Avoidance, Minimization, and Monitoring Plan is prepared in support of the Coastal Virginia Offshore Wind (CVOW) Commercial Project (Project). This work was performed for the Virginia Electric and Power Company, doing business as Dominion Energy Virginia (Dominion Energy). The Project is located in the Commercial Lease of Submerged Lands for Renewable Energy Development on the Outer Continental Shelf (OCS) Offshore Virginia (Lease No. OCS-A-0483, Lease Area), which was awarded to Dominion Energy (Lessee) through the Bureau of Ocean Energy Management (BOEM) competitive renewable energy lease auction of the Wind Energy Area (WEA) offshore of Virginia in 2013. The Lease Area covers approximately 112,799 acres (ac; 45,658 hectares [ha]) and is approximately 27 statute miles (mi) (23 nautical miles [nm], 43 kilometers [km]) off the Virginia Beach coastline. The CVOW Offshore Export Cable Route Corridor will connect the Lease Area to a Cable Landing Location at the State Military Reservation (SMR) in Virginia Beach, VA. From the Cable Landing Location, the Onshore Export Cable will connect to the Harpers Switching Station north of Harpers Road. The Interconnection Cable will travel from the Harpers Switching Station to the Onshore Substation. The Onshore Substation will be located at the existing Fentress Substation, which will be updated and expanded to accommodate the power generated by the Project (Figure G-9-1).

G.1.2 Regulatory Context

The purpose of this Avoidance, Minimization, and Monitoring Plan is to support Dominion Energy and aid the Bureau of Offshore Energy Management (BOEM) with compliance under Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and its implementing regulations, 36 CFR Part 800 – Protection of Historic Properties, with the requirements of the National Environmental Policy Act (NEPA). Coordination of the Section 106 process and NEPA is authorized under 36 CFR Part 800.8 Coordination with the National Environmental Policy Act. The integration of Section 106 and NEPA was adopted by BOEM as the Federal agency’s preferred approach in December 2020.

This Avoidance, Minimization, and Monitoring Plan will aid BOEM and the Virginia Department of Historic Resources (VDHR) in making decisions about the avoidance, minimization, and monitoring of impacts to terrestrial archaeological resources located within the PAPE. This Avoidance, Minimization, and Monitoring Plan is required under BOEM’s *Guidelines for Providing Archaeological and Historic Property Information Pursuant to 30 CFR Part 585* (2020) and is intended to support the integration of Section 106 and NEPA.

If archaeological sites potentially eligible for listing on the National Register of Historic Places (NRHP) are identified, Dominion Energy has worked to avoid them to the extent possible. However, if avoidance is not a practicable option, then appropriate minimization and monitoring measures will be put in place. This Avoidance, Minimization, and Monitoring Plan will identify any potentially sensitive archaeological resources within the PAPE and describe avoidance, minimization, and monitoring measures recommended by Tetra Tech. Appropriate avoidance, minimization and mitigation measures for impacts to historic

resources will be specified in a separate plan (See CVOW Commercial Project Construction and Operations Plan, Appendix H: Historic Resources Visual Effects Analysis).

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G.2 TERRESTRIAL ARCHAEOLOGICAL RESOURCES AVOIDANCE, MINIMIZATION, AND MONITORING MEASURES

G.2.1 Summary of Identified Resources

Twelve previously identified sites and two newly identified sites are located within the current PAPE (Table 1). The 12 previously identified sites within the PAPE consist of two pre-contact sites, seven post-contact sites, and three sites with both pre-contact and post-contact materials. Two sites are potentially eligible for listing on the NRHP: site 44VB0162, a multicomponent pre-contact site that contains early post-contact material, and site 44VB0412, a World War II-era airstrip. Site 44CS0250, a legacy site dated to the Middle Archaic period, has no eligibility status. The remaining nine sites are ineligible for listing on the NRHP.

Table DD.2.1-1. Archaeological Sites within the PAPE

ID	Site Type	Time Period	NRHP Eligibility Status	Anticipated Effect
Onshore Export Cable				
44VB0204	Trash scatter	Antebellum Period (1830–1860), Civil War (1861–1865), Reconstruction and Growth (1866–1916)	Not Eligible	NHPA*
44VB0361	Farmstead	Reconstruction and Growth (1866–1916), World War I to World War II (1914–1945), The New Dominion (1946–1991)	Not Eligible	NHPA*
44VB0389	Lithic scatter, Military base/facility	Pre-Contact, World War I to World War II (1917–1945), The New Dominion (1946–1991)	Not Eligible	NHPA*
44VB0395	Lithic scatter, Military base/facility	Pre-Contact, Antebellum Period (1830–1860), Civil War (1861–1865), Reconstruction and Growth (1866–1916), World War I to World War II (1914–1945), The New Dominion (1946–1991)	Not Eligible	NHPA*
44VB0396	Military base/facility	World War I to World War II (1914–1945), The New Dominion (1946–1991)	Not Eligible	NHPA*
44VB0443	Site, Artifact Scatter	Reconstruction and Growth (1866–1916), World War I to World War II (1914–1945), The New Dominion (1946–1991)	Not Eligible	NHPA*
31-46	Isolate	Post-contact, undetermined	Not Eligible	NHPA*
33-08	Isolate	Post-contact, undetermined	Not Eligible	NHPA*
34-02	Isolate	Post-contact, undetermined	Not Eligible	NHPA*
37-27	Isolate	Post-contact, undetermined Modern (potential association with site 44VB0361)	Not Eligible	NHPA*
Interconnection Cable				
44VB0162	Camp, temporary, Cemetery	Early Archaic Period (8500–6501 B.C.E), Middle Archaic Period (6500–3001 B.C.E), Late Archaic Period (3000–1201 B.C.E), Early Woodland (1200 B.C.E–299 C.E), Middle Woodland (300–999 C.E), Late Woodland (1000–1606), Early National Period (1790–1829)	Potentially Eligible	No Adverse Effect with Recommended Avoidance

ID	Site Type	Time Period	NRHP Eligibility Status	Anticipated Effect
44VB0175	Artifact scatter	Contact Period (1607–1750), Colony to Nation (1751–1789), Early National Period (1790–1829), Antebellum Period (1830–1860), Civil War (1861–1865), Reconstruction and Growth (1866–1916)	Not Eligible	NHPA*
44CS0250	Camp	Middle Archaic (6500–3001 B.C.), Late Archaic (3000–1201 B.C.)	Potentially Eligible	No Adverse Effect with Recommended Avoidance
44VB0274	Artifact scatter, Farmstead	Paleo-Indian (15000–8501 B.C.E), Early Archaic Period (8500–6501 B.C.E), Middle Archaic Period (6500–3001 B.C.E), Late Archaic Period (3000–1201 B.C.E), Early Woodland (1200 B.C.E–299 C.E), Middle Woodland (300–999 C.E), Late Woodland (1000–1606)	Not Eligible	NHPA*
44VB0306	Canal	Early National Period (1790–1829), Antebellum Period (1830–1860), Civil War (1861–1865), Reconstruction and Growth (1866–1916), World War I to World War II (1914–1945), The New Dominion (1946–1991), Post-Cold War (1992–Present)	Not Eligible	NHPA*
44VB0314	Dwelling, single	Antebellum Period (1830–1860), Civil War (1861–1865), Reconstruction and Growth (1866–1916)	Not Eligible	NHPA*
44VB0444	Site, Artifact Scatter	Reconstruction and Growth (1866–1916), World War I to World War II (1914–1945), The New Dominion (1946–1991)	Not Eligible	NHPA*
11-56	Isolate	Post-contact, undetermined	Not Eligible	NHPA*
12-09	Isolate	Post-contact, undetermined	Not Eligible	NHPA*
26-21	Isolate	Post-contact, undetermined	Not Eligible	NHPA*
26-234	Isolate	Post-contact, undetermined	Not Eligible	NHPA*
28-08	Isolate	Post-contact, undetermined	Not Eligible	NHPA*
28-09	Isolate	Post-contact, undetermined	Not Eligible	NHPA*
Laydown Yard				
44VB0412	Military base/facility	World War I to World War II (1917 - 1945)	Potentially Eligible	No Adverse Effect with Recommended Avoidance

* NHPA = No Historic Properties Affected

Sites 44VB0396, 44VB0395, and 44VB0389 are located within State Military Reservation (SMR) Camp Pendleton and have been recommended not eligible to the NRHP. An extensive previous archaeological survey has been conducted at the SMR (Monroe et al. 2017) and, as a result, reevaluation of these sites was not required as part of the Phase IB survey associated with the Project. Additionally, while site 44VB0388 is not currently within the PAPE, in consultation with SMR a buffer of at least 10 feet will be established around the resource to avoid any possible impacts.

A Phase IB archaeological survey was carried out from July 2021 to August 2022 which reevaluated these 12 sites. With the exception of site 44VB0162, the reevaluation concurred with all NRHP evaluations.

Approximately fifty-two percent of site 44VB0162 lies within the PAPE. Consequently, only slightly more than half of the site was tested during the Phase IB survey. A definitive assessment of eligibility to the NRHP cannot be made as only a portion of the site was tested as part of the current survey. However, the evidence of deflated soils and extensive subsurface disturbance within the PAPE suggests little possibility of intact subsurface deposits or cultural features. The artifacts recovered were all from either the surface or deflated soils and, consequently, are likely from tertiary contexts due to repeated cultivation and extensive logging. Because of this extensive disturbance, along with the scant and fragmentary nature of the assemblage, the investigated portion of site 44VB0162 within the PAPE lacks data potential and integrity of materials (relevant for Criterion D of the NRHP), and integrity to convey association with locally or regionally significant individuals or events (Criteria A and B of the NRHP). While any further survey by others outside of the Project PAPE may alter this view, the results from within the PAPE indicate that site 44VB0162 has low research potential.

The two new sites identified within the PAPE are 44VB0443 and 44VB0444 (Table 1). Both sites are trash scatters in agricultural fields dating from the later nineteenth to the twentieth century. Tetra Tech has recommended that sites 44VB0443 and 44VB0444 are not eligible to the NRHP.

Virginia DHR ID	Site Type	Time Period	Recommendation
44VB0443	Site, Artifact Scatter	Reconstruction and Growth (1866–1916), World War I to World War II (1917–1945), The New Dominion (1946–1991)	Not Eligible
44VB0444	Site, Artifact Scatter	Reconstruction and Growth (1866–1916), World War I to World War II (1917–1945), The New Dominion (1946–1991)	Not Eligible

In addition to these archaeological sites, the grave, or memorial, of an unknown infant was also identified in Aeropines Golf Course on Naval Air Station (NAS) Oceana. The grave/memorial site consists of a concrete slab, approximately 4 ft (1.2 m) long, with an embedded metal plaque of the type supplied by funeral homes, often as temporary markers. The area is surrounded by a low fence which appears to be a recent addition. There are no dates, but the grave/memorial appears to date generally to the mid-twentieth century based on similar dated examples observed in other cemeteries in Virginia, particularly the plaque supplied by the funeral home. A Ground Penetrating Radar (GPR) survey conducted around the grave was inconclusive. The GPR findings did not display typical responses of a buried vault, body, or casket type anomaly, other anomalies that could represent excavations, graves, or other disturbances in soil stratigraphy were documented. Historic graves would generally be expected to appear as parallel rows of anomalies aligned east to west. The anomalies identified by the GPR are scattered and at varying angles, a pattern which is not indicative of burials. The identified anomalies are also located to the south of the grave/memorial on the edge of the golf course, an area which has undergone significant landscaping. The use of this location as an agricultural field and then the construction of the golf course would have resulted in significant subsurface disturbance such as drainage/irrigation ditches, plow scars, and tree removal. These activities could have likely contributed to the type of anomalies identified by GPR.

Following the GPR survey, and in coordination with cultural resources managers at NAS Oceana and the Navy, Tetra Tech undertook Phase IB shovel testing of the area surrounding the grave/memorial. Six shovel tests (STs) were placed in the immediate vicinity of the grave/memorial. None of these STs contained cultural material and there was no indication of grave shafts or voids. The soils in the STs were deflated with a single stratum of gray (10YR 6/1) to light brownish gray (10YR 6/2) silty clay which is consistent with the subsoil identified in other areas of the golf course. The presence of a single stratum of subsoil is indicative of previous grading and is consistent with the area's use as an agricultural field and subsequent landscaping associated with the golf course.

Due to the lack of information about the grave, an assessment of its eligibility to the NRHP is necessarily tentative. Lack of information about the individual interred and the circumstances of the interment means that an assessment of eligibility under Criteria A or B cannot be made at this time. However, eligibility under these criteria seems unlikely given the occupant is described as an unknown infant. Given that the grave marker itself consists of a common mass-produced metal plaque and a concrete slab, it would not be eligible to the NRHP under Criterion C. Eligibility under Criterion D is currently unknown, though it is unlikely that it would be eligible under this criterion either.

G.2.2 Recommended Avoidance and Minimization Measures

Dominion Energy commits to the following avoidance and minimization measures during Project construction:

- All Project personnel involved in construction activities must be familiar with the Unanticipated Discoveries Plan (UDP) and the processes for notification of appropriate individuals if archaeological material is encountered (see Memorandum of Agreement (MOA) Attachment 9).
- An archaeological monitor will be on call and ready to assess unanticipated discoveries during all construction activities along the length of the APE including horizontal direct drilling operations and construction within existing roadways (Figure G-9-2). If the archaeological monitor is at a different location when potential cultural material is encountered, they will be notified immediately, proceed to the location of the unanticipated discovery, and make an on-site assessment of the potential cultural material as soon as possible. Work at the specific location of the unanticipated discovery will be halted until after the archaeological evaluation has been completed. At designated locations the archaeological monitor will be on site during all construction activities (see below).
- An archaeological monitor will be present at SMR Camp Pendleton during all construction activities that involve subsurface disturbance.
- Due to the possibility of extant archaeological deposits in the vicinity of site 44CS0250, Tetra Tech recommends the presence of an archaeological monitor at this location during construction activities that involve subsurface disturbance.
- In consultation with the Navy, and in accordance with Code of Virginia §18.2-126, violation of sepulture; defilement of dead human body, Tetra Tech recommends a buffer of 10 ft (3 m) beginning at the existing fencing of the grave/memorial site identified on NAS Oceana/Aeropines Golf Course. This area will be surrounded by fencing during all construction activities. Tetra Tech

also recommends having an archaeological monitor present during construction activities at this site. Any archaeological removal of human remains would require a permit from Virginia DHR, pursuant to Code of Virginia §10.1-2305, “Permit required for the archaeological excavation of human remains.”

- Where feasible, any portions of identified archaeological sites outside of the present APE will be delineated with temporary fencing during all construction activities (sites 44CS0250, 44VB0162, and 44VB0388). Otherwise, only the APE will be delineated by fencing. Construction personnel will be instructed to stay within the fenced area and avoid work outside of the APE (site 44VB0412).
- The identity of the avoided, or partially avoided resources as archaeological sites will not be disclosed to the public or to construction/installation staff but will be known to the archaeological monitor.

G.2.2.1 Monitoring Plan

G.2.2.1.1 Purpose

This Monitoring Plan addresses areas within the Project’s APE where there is potential to find soil layers, deposits, or interfaces with sufficient integrity, contents, and characteristics to contain cultural resources and provide potentially significant information about the activities of past people of either the precontact or periods that may be affected by Project construction activities. Cultural resources in this context are defined as archaeological sites, objects, and features. Human remains and associated grave goods may also be encountered during ground-disturbing construction activities. This Monitoring Plan serves to identify, recover, protect/and or document archaeological information and materials that might be found during construction activities in accordance with Virginia (commonwealth) and federal laws and guidelines.

G.2.2.1.2 Training

Training of construction personnel will be conducted by a professional archaeologist who meets the Secretary of Interior’s Professional Qualification Standards (36 CFR Part 61) for archaeology. Training will occur as part of the pre-construction on-site training program for all construction personnel. Training will include:

- A description of the nature and type of archaeological resources that may be encountered within the Project’s APE, including precontact and historic artifacts, deposits, and features;
- A description of the procedures described in the UDP for reporting unanticipated archaeological discoveries and human remains encountered during Project construction activities; and
- An emphasis on the need to treat all potential human remains with dignity and respect.

G.2.2.1.3 Documentation

Copies of this Plan will be incorporated into all relevant construction documents and will be available in hard copy format onsite during construction. The Project Manager will maintain a log with the name and signature of personnel who have received the archaeological training developed for this Project including

the protocols described in the UDP. The Project Manager will be responsible for compliance with the provisions of this plan including coordination with the archaeological monitor(s) and appropriate Stakeholders as may be required.

G.2.2.1.4 Archaeological and Tribal Monitors

Any archaeological investigations, including archaeological monitoring, on state and federal land must be permitted by VDHR or the appropriate federal agency (Navy only for NAS Oceana) and will meet the Secretary of the Interior's (SOI's) qualifications (NPS 2022), including:

- A graduate degree (minimum Masters) in archeology, anthropology, or closely related field;
- At least one year of full-time professional experience or equivalent specialized training in archeological research, administration, or management;
- At least four months of supervised field and analytic experience in general North American archeology; and
- A demonstrated ability to carry research to completion.

At least one archaeological monitor will be on call and ready to assess unanticipated discoveries during all construction activities within the APE, though more may be added as needed. At designated locations an archaeological monitor will be on site during all construction activities.

Tribal monitors may participate in the archaeological monitoring at their discretion. It is the responsibility of the archaeological monitor to coordinate the logistics for tribal monitors.

G.2.2.1.5 Locations where Monitoring is Required

While archaeological monitors will be on call during all construction activities within the APE, there are three specific locations where they will be required to be present to observe construction activities as agreed upon as part of the Section 106 consultation:

- SMR Camp Pendleton (Figure G-9-3)
- The vicinity of site 44CS0250 (Figure G-9-4)
- The grave/memorial on NAS Oceana (Figure G-9-5)

Tribes may request additional areas for monitoring at their discretion. The archaeological monitors should be informed a minimum of twenty-four hours prior to work occurring in these specific areas.

G.2.2.1.6 Temporary Avoidance Measures

Portions of three sites outside of the present APE will be physically delineated during all construction activities. The primary method for delineating the sites will be temporary fencing. In specific locations where it is not possible to install fencing due to ground conditions or other obstructions (drainage ditches, existing access roads, etc.) flagging and/or signage will be used in conjunction with fencing. As part of the pre-construction on-site training program construction personnel will be instructed not to enter these areas. Fencing, flagging, and signage will be installed and removed by the archaeological monitors in coordination with construction personnel. These sites to be physically delineated are:

- 44CS0250 (Figure G-9-4)
- 44VB0162 (Figure G-9-6)
- 44VB0388 (Figure G-9-7)

The northern portion of site 44VB0162 contains extensive existing access roads that are within the APE as well as a large retention pond and spoil pile from the development of the Princess Anne Athletic Complex. These portions of site 44VB0162, which are already heavily disturbed, will not be fenced, though flagging and/or signage may be used.

Fencing will be placed around the paved areas of the Pungo Laydown Yard by construction personnel in coordination with the archaeological monitor. The Pungo Laydown Yard is located within the boundaries of site 44VB0412, and only existing paved areas will be used for construction activities. The size of the VDHR delineated boundaries of site 44VB0412, which is approximately 0.6 mile (0.96 kilometer) in diameter, precludes fencing the portion of the site outside the APE. Construction personnel will be instructed to avoid the portion of site 44VB0412 that is outside the APE, which will be marked by the fencing (Figure G-9-8).

The identity of the avoided, or partially avoided, resources as archaeological sites will not be disclosed to the public or to construction/installation staff but will be known to the archaeological monitor. The maintenance of the fencing is the responsibility of the archaeological monitors in coordination with the Project Manager or those delegated by them. The archaeological monitor should be notified a minimum of one week prior to work occurring in these areas so that the protection measures can be installed in a timely manner.

G.2.2.1.7 Process for Determining if Monitoring a Construction Activity Is Necessary

If construction personnel are unsure if a monitor is required for work in at certain locations or for certain activities, they should consult with the Project Manager or those delegated by them who will coordinate with the archaeological monitors. Any newly proposed work areas need to go through the review process.

G.2.2.1.8 Reporting

For each day of on-site monitoring, the archaeology monitor will produce a daily monitoring report that will be comprised of notes summarizing observations made on each day. The archaeology monitor will also include photos of the working locations and conditions and characteristic soils/profiles (as appropriate) and provide any sketch maps, plans, profiles, etc. along with the daily monitoring report. These reports will be sent to the project management team daily.

Daily Monitoring Field Report will include:

- Date
- Weather
- Monitor's Name
- Identify monitoring location
 - Indicate the activity and location of what was monitored as specifically as possible.

- Note if any historical features are anticipated in this area
- General observations on excavated soils
 - Describe the soils, sediments, or other excavated matrix and indicate which layers or horizons appear to be undisturbed native soils, natural sediment accumulations, or artificial fills:
 - For each layer or group of related layers, consider and describe the following:
 - Are the sediments the products of natural processes or human activities?
 - Are the soils an undisturbed soil with apparently natural horizonation?
 - Have the soils been excavated and replaced?
 - Are the layers predominantly demolition debris? construction debris?
 - Are the layers a primary or secondary historical midden?
 - Describe the specific evidence that leads to the interpretation.
 - Characterize the soil as to color(s), pattern of lensing/stratification/soil horizonation, gross texture, including abundance of coarse materials like pebbles or cobbles; abundance, types, and character of principal kinds of artifacts, manuports, and debris.
 - If you observe different areas of soil within a monitoring observation area, write a separate brief discussion of each. Be sure to specify location.
 - Comment on any underground utilities or other buried infrastructure observed (e.g., presence/absence of active or abandoned electrical lines, pipelines, and drains).
 - Historical relevance or significance of the field observations, if any.
 - Approximate depth of excavations and/or thickness of deposits, strata layers, and soil horizons.
- Comment on any features (e.g., dark stains that may result from former organic material that resulted from human activity like a burial, storage pit, garbage pit) that were observed or examined during the day's monitoring.
 - Describe each feature briefly, including measurements, location, and orientation.
 - Associated soils and artifacts.
 - Inferred age or period of the feature and indicate the basis for the age estimate, such as associated diagnostic artifacts recovered from the deposit.
 - Note whether archaeological examination of finds, features, or deposits, required a substantial (>~15 minutes) interruption of work?
 - Support notes with annotations on construction plans (if available), sketch maps or drawings, and photographs as appropriate.

Field photographs should include:

- For each area on each day of monitoring, record work in progress with a photograph taken from a vantage point that shows the work area and identifiable surroundings to provide location and context.
- Take a photo of a representative profile or area of soil from each area monitored.
- Keep a photo log to distinguish photographs that may look similar to all others once back in the office. Include Subject, Date, View of Direction, Identification of monitoring location.
- Photograph any soil anomalies, features, and typical/unusual pieces of underground infrastructure.

The archaeological monitor will produce a bi-weekly report which, in coordination with BOEM, will be sent via email to Section 106 consulting parties who request it (e.g., BOEM, SHPOs, Tribes, and any interested state or federal agencies). These bi-weekly reports will include a description of observed construction activities, photos of these activities, and a summary of upcoming work. The archaeological monitor will also produce a final report on the monitoring activities which will be provided to the Section 106 consulting parties within a reasonable amount of time following the conclusion of construction.

G.2.2.1.9 Post Review Discoveries

Detailed protocols for dealing with unanticipated discoveries, including precontact, historic, and human remains, are included in the UDP, which is Attachment 9 of the Section 106 MOA.

G.2.2.1.10 Notifications and Contact List

A detailed list of individuals and offices to contact in the event of an unanticipated discovery including BOEM cultural and environmental staff, project management, archaeological monitor(s), Tribes, VDHR, construction contacts, law enforcement, and medical examiner/coroner's office is included in the table below and included in the UDP, which is Attachment 9 of the Section 106 MOA.

<p>Dominion Energy On-Site Project Manager (Name) (Title) (Address) (Address) (Phone) (email)</p>	<p>Contractor On-Site Manager/Foreman (Name) (Title) (Address) (Address) (Phone) (email)</p>
<p>Dominion Contact (Name) (Title) (Address) (Address) (Phone) (email)</p>	<p>Alternate Dominion Contact (Name) (Title) (Address) (Address) (Phone) (email)</p>
<p>Tetra Tech Contact Nathalie Schils Project Manager 10 Post Office Square, Suite 1100 Boston, Massachusetts 02109 (617) 443-7579 Nathalie.schils@tetratech.com</p>	<p>Alternate Tetra Tech Contact Adam Maskevich Cultural Resources Lead, Archaeologist 6 Century Drive, Suite 300 Parsippany, New Jersey 07054 (908) 451-9838 adam.maskevich@tetratech.com</p>
<p>VDHR Contact Roger W. Kirchen Director, Review & Compliance Division2801 Kensington Avenue Richmond, Virginia 23221 Phone: (804) 482-6091 roger.kirchen@dhr.virginia.gov</p>	<p>Alternate VDHR Contact (Name) (Title) (Address) (Address) (Phone) (Email)</p>
<p>BOEM Project Contact Bonnie Houghton NEPA Coordinator 45600 Woodland Road Sterling, Virginia 20166 (703) 438-5108 bonnie.houghton@boem.gov</p>	<p>BOEM Archaeology Contact Laura Kate (LK) Schnitzer Archaeologist, Office of Renewable Energy Programs 45600 Woodland Road, VAM-OREP Sterling, Virginia 20166 (Phone) laura.schnitzer@boem.gov</p>
<p>BSEE Contact W. Shawn Arnold Federal Preservation Officer, Archaeologist 1201 Elmwood Park Blvd New Orleans, LA 70123-2394 504-736-2416 William.Arnold@bsee.gov</p>	<p>BSEE Contact Barry Bleichner Archaeologist 1201 Elmwood Park Blvd New Orleans, LA 70123-2394 504-736-2947 Barry.Bleichner@bsee.gov</p>
<p>Virginia Beach Police Department 2509 Princess Anne Road Virginia Beach, Virginia 23456 (757) 385-4141</p>	<p>Chesapeake City Police Department 304 Albemarle Drive Chesapeake, Virginia 23322 (757) 382-6161</p>

<p>Naval Air Station Oceana Police Department (U.S. Navy Property) Oceana Naval Air Station 1750 Tomcat Boulevard Virginia Beach, Virginia 23460 (757) 433-3713</p>	<p>U.S. Navy Contact John Lauterbach Planning Liaison 1750 Tomcat Boulevard Virginia Beach, Virginia 23460 (757) 647-6777 john.lauterbach1@navy.mil</p>
<p>Naval Criminal Investigative Service (Name) (Title) (Address) (Address) (Phone) (email)</p>	<p>U.S. Cultural Resource Management Catherine Lantzas-Olson NAS Oceana Cultural Resources Manager (Address) (Address) (Phone) catherine.lantzas-ol@navy.mil</p>
<p>State Military Reservation Camp Pendleton Susan Smead Cultural Resources Program Manager VDMA/NGVA-FMO-ENV Bldg. 1340 (Curation Facility), Fort Pickett Blackstone, Virginia 23824-63 (434) 298-6411 susan.e.smead.nfg@mail.mil</p>	<p>U.S. Army Corps of Engineers Contact (Name) (Title) (Address) (Address) (Phone) (email)</p>
<p>City of Chesapeake, Virginia Historic Preservation Commission Jessica Cosmas Parks, Recreation and Tourism Historical Services Manager 1224 Progressive Drive Chesapeake, Virginia 23320 (757) 382-6411 jcosmas@cityofchesapeake.net</p>	<p>City of Virginia Beach, Virginia Historic Preservation Commission Mark Reed Historic Preservation Planner 2875 Sabre Street Virginia Beach, Virginia 23452 (757) 385-8573 mreed@vbgov.com</p>
<p>Virginia Medical Examiner Tidewater District 830 Southampton Avenue, Suite 100 Norfolk, Virginia 23510 (757) 683-8366 OCME_TIDE@vdh.virginia.gov</p>	<p>Virginia Department of Military Affairs- Virginia Army National Guard (Name) (Title) (Address) (Address) (Phone) (email)</p>

G.3 CONSULTING PARTY ENGAGEMENT FOR AVOIDANCE, MINIMIZATION, AND MONITORING PLANNING

Consulting Parties will be provided an opportunity for review and comment on the Avoidance, Minimization, and Monitoring Plan concurrent with BOEM's anticipated NHPA Section 106 review schedule for the Project. Dominion Energy will provide the draft Avoidance, Minimization, and Monitoring Plan to BOEM for review by participating parties as part of BOEM's NHPA Section 106 review to provide meaningful input on the Plan. Dominion Energy anticipates that document exchanges, or similar means of communication of information. The final Avoidance, Minimization, and Monitoring Plan may be included in any Section 106 MOA and as conditions of any BOEM COP approval.

In consultation with BOEM, a list of Tribes who wish to participate in the consultation process for the UDP will be developed. Tribes will be invited to express their interest in participating in the UDP consultation process at meetings organized by BOEM. When a list of interested Tribes has been developed the contact information either for Tribal Historic Preservation Offices (THPOs) or tribal contact persons will be verified. Tribes who have expressed interest will be consulted in the event of the discovery of unanticipated cultural material of indigenous creation and on avoidance and data recovery proposals. Both THPOs and designated Tribal Representatives will be consulted regarding whether a find is associated with an NRHP eligible resource in coordination with BOEM.

G.4 REFERENCES

- BOEM (Bureau of Ocean Energy Management). 2018. *Draft Guidance Regarding the Use of a Project Design Envelope in a Construction and Operations Plan*. Available online at: <https://www.boem.gov/sites/default/files/renewable-energy-program/Draft-Design-Envelope-Guidance.pdf>. Accessed January 14, 2021.
- BOEM. 2020. *Guidelines for Providing Archaeological and Historic Property Information Pursuant to 30 CFR Part 585*. Available online at: <https://www.boem.gov/sites/default/files/documents/about-boem/Archaeology%20and%20Historic%20Property%20Guidelines.pdf>. Accessed June 7, 2021.
- Monroe, E. J., D. W. Lewes, and E. L. Chapman. 2017. Completion and Synthesis of Archaeological Survey, State Military Reservation Camp Pendleton, City of Virginia Beach, Virginia. William and Mary Center for Archaeological Research, The College of William and Mary.
- National Park Service (NPS). 2022. Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation. Available online at: [Professional Qualifications Standards \(U.S. National Park Service\) \(nps.gov\)](https://www.nps.gov/standards). Accessed November 11, 2022.

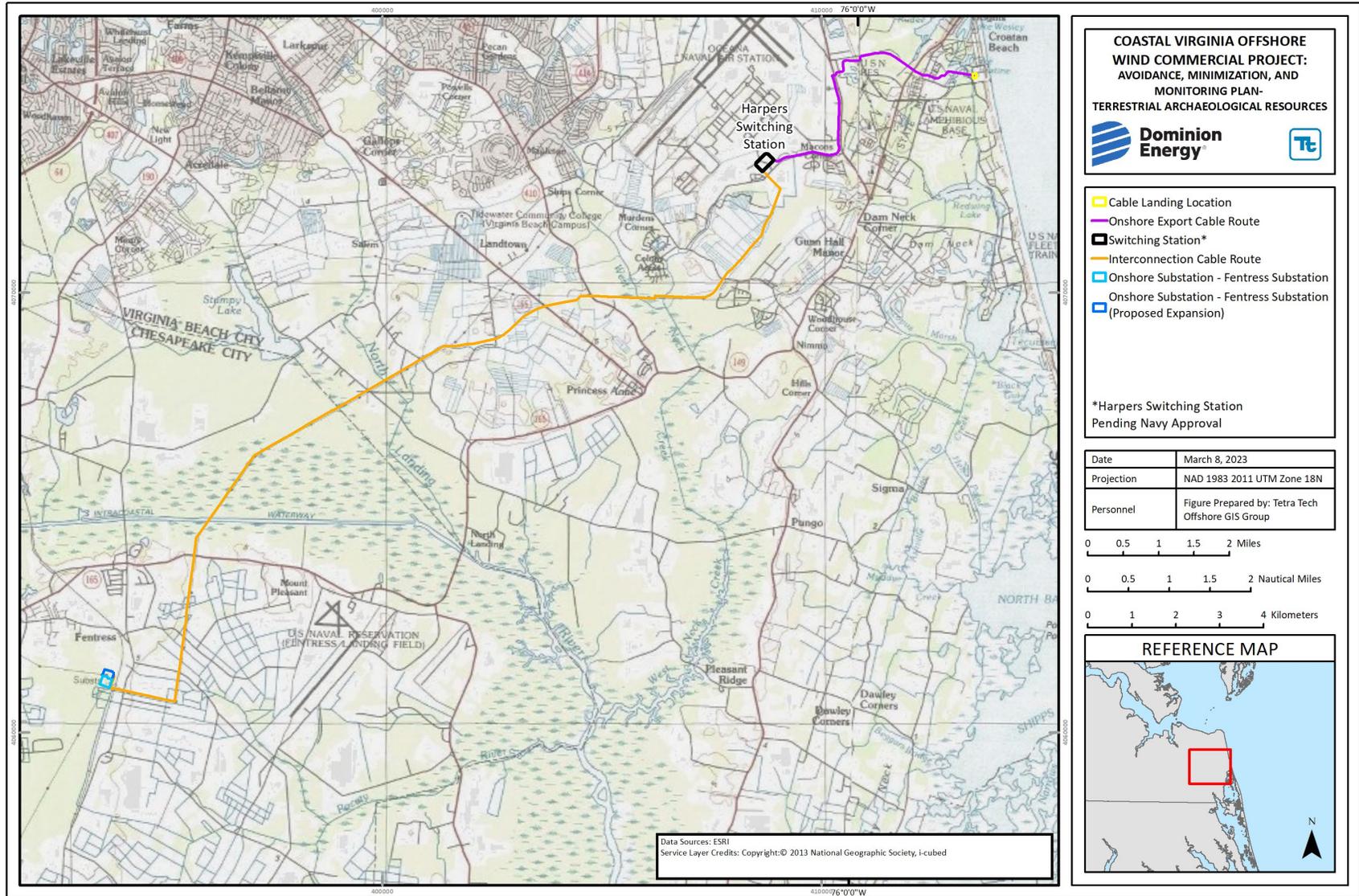


Figure G-9-1. Project Overview

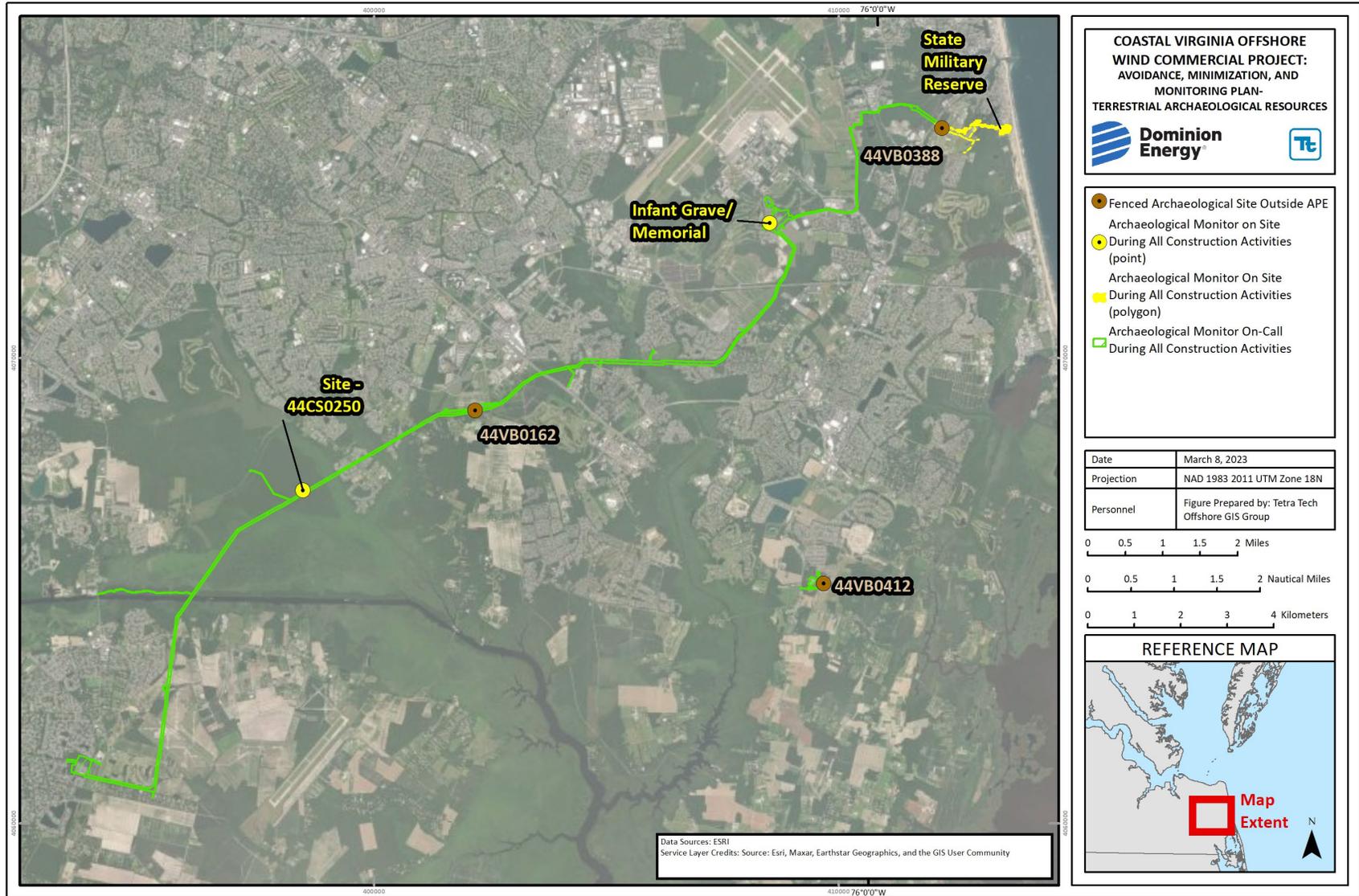


Figure G-9-2. Overview of Terrestrial Archaeological Monitoring and Avoidance

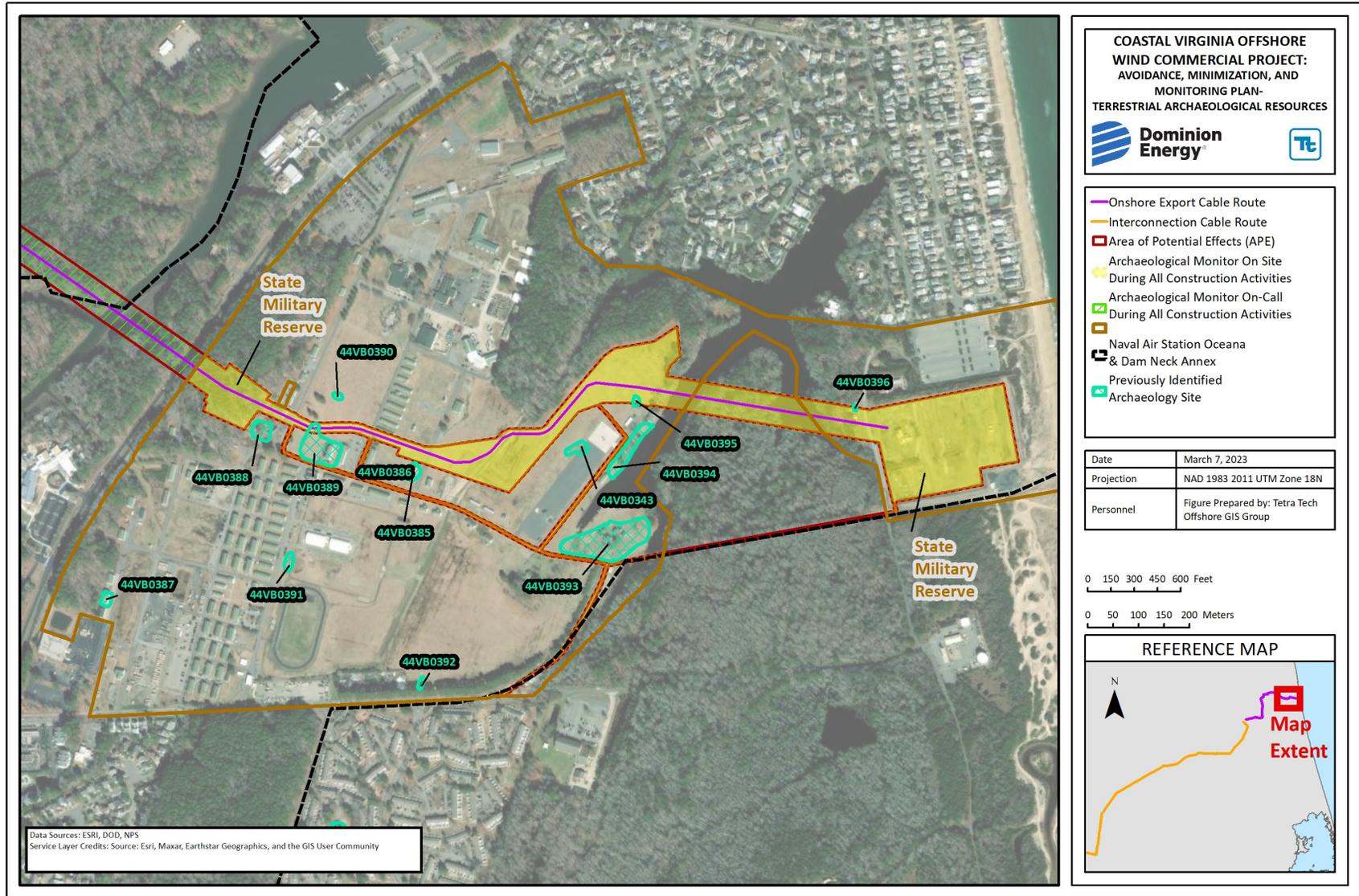


Figure G-9-3. Archaeological Monitoring Areas at State Military Reserve Camp Pendleton

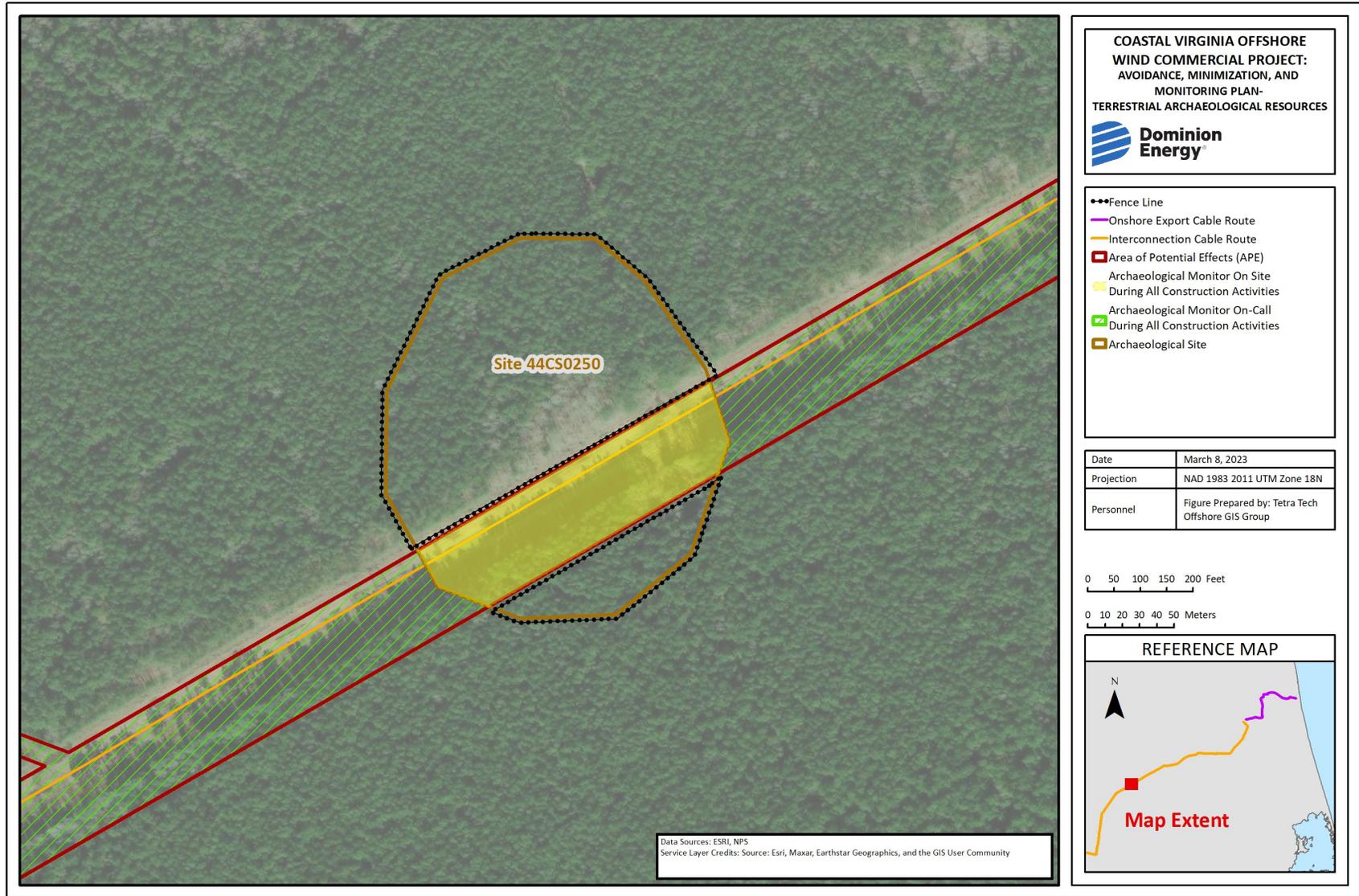


Figure G-9-4. Archaeological Monitoring Areas and Avoidance Measures at Site 44CS0250

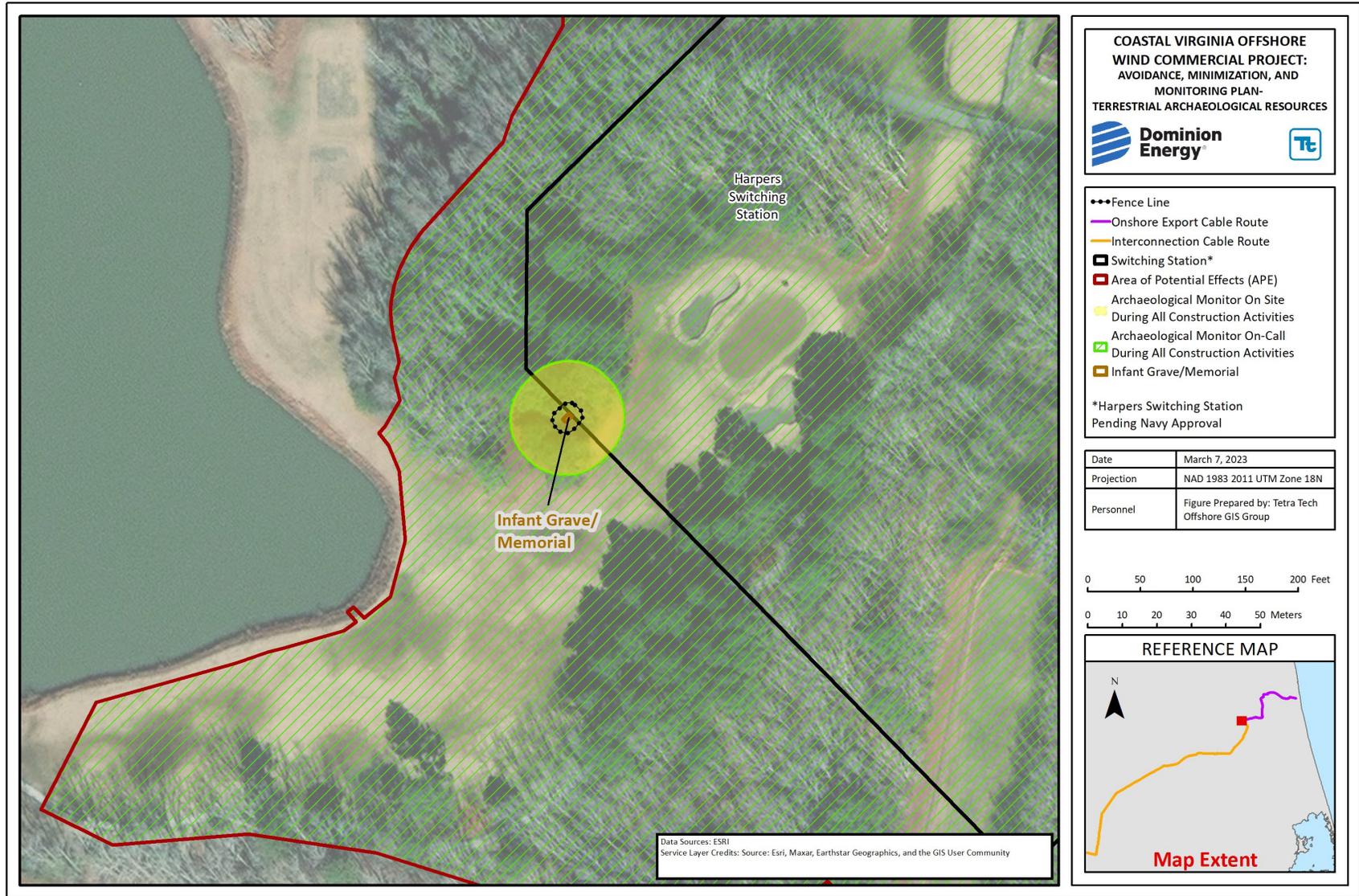


Figure G-9-5. Archaeological Monitoring Areas and Avoidance Measures at Naval Air Station Oceana

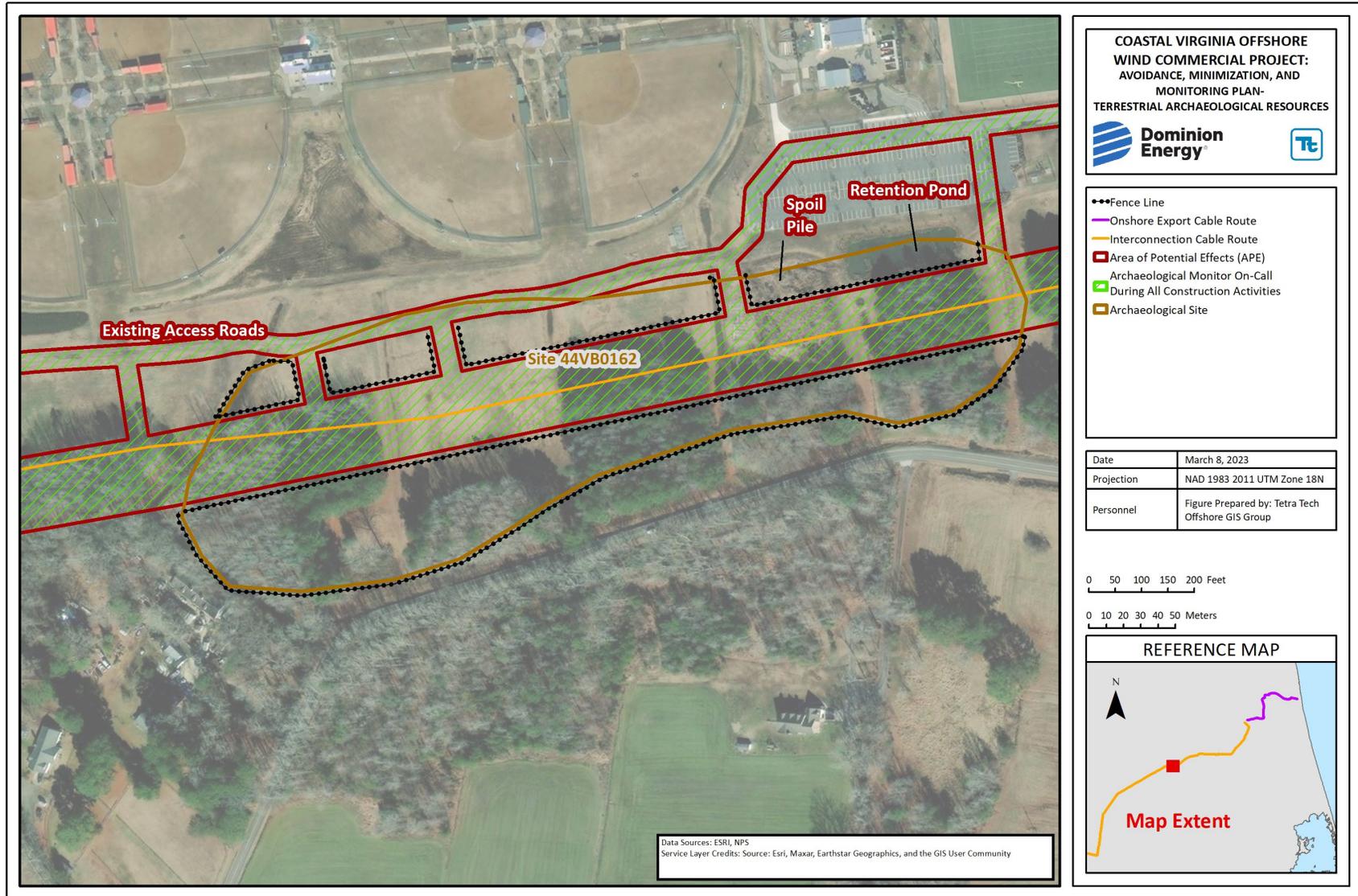


Figure G-9-6. Fencing Around Site 44VB0162

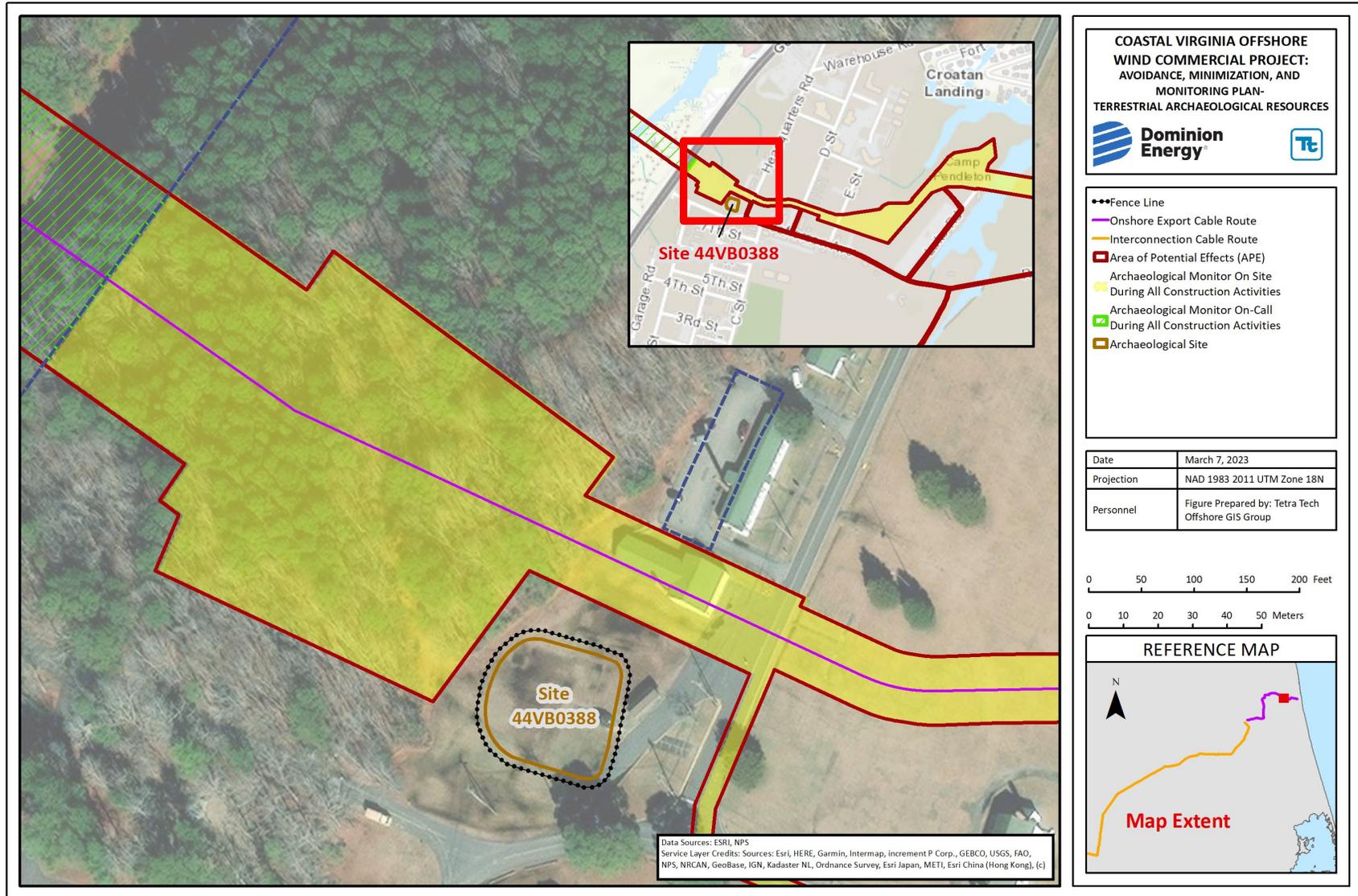


Figure G-9-7. Fencing Around Site 44VB0388

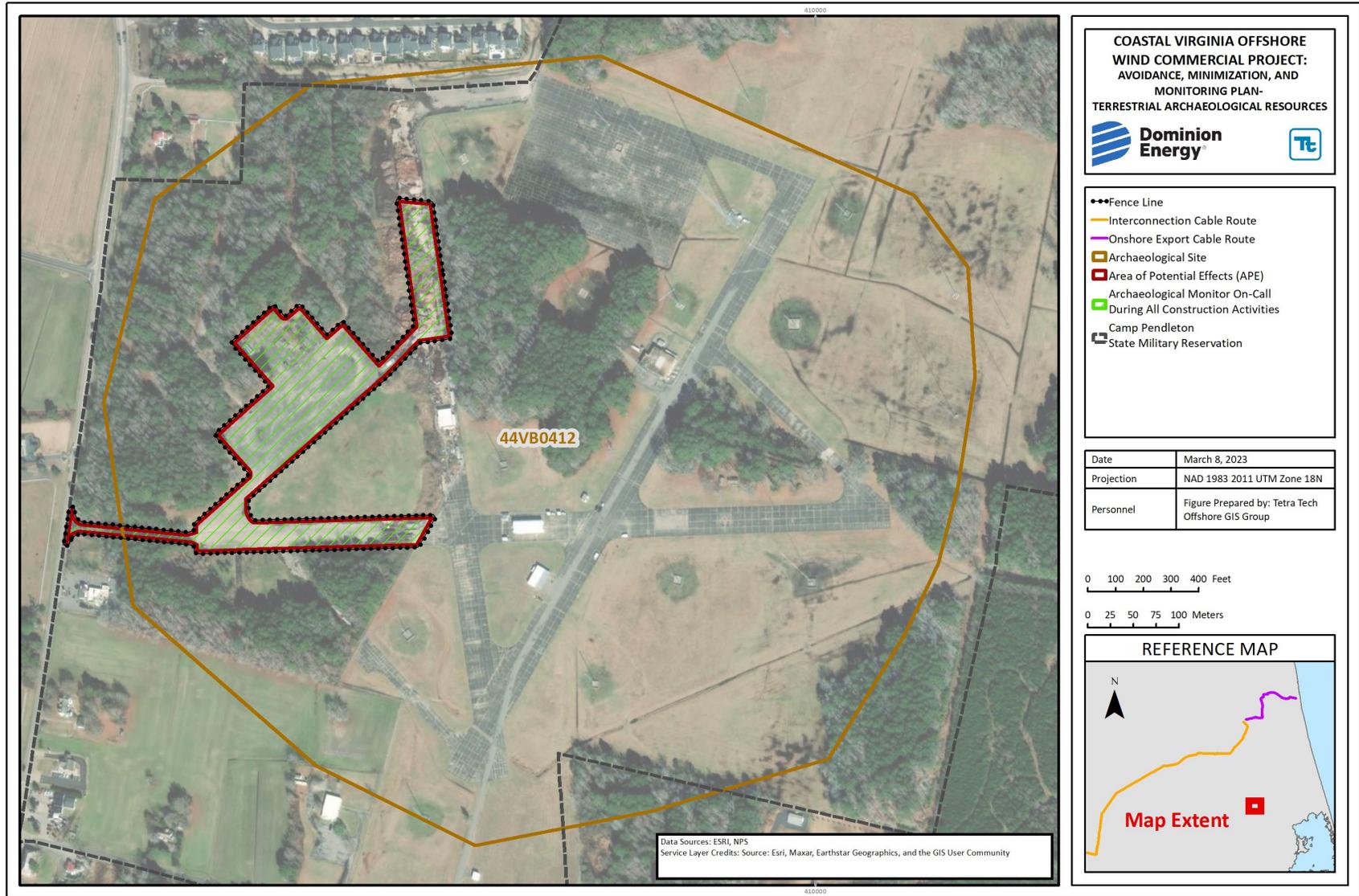


Figure G-9-8. Fencing Around Pungo Laydown Yard

**ATTACHMENT 5 – OFFSHORE HISTORIC PROPERTIES TREATMENT PLAN –
OFFSHORE PROJECT COMPONENTS IN VIRGINIA BEACH, VA AND CURRITUCK, NC**

DRAFT

Offshore Historic Properties Treatment Plan— Offshore Project Components in Virginia Beach, VA and Currituck, NC

Prepared for:



600 East Canal Street
Richmond, Virginia 23219

Prepared by:



Tetra Tech, Inc.
4101 Cox Road, Suite 120
Glen Allen, VA 23060

www.tetrattech.com

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DOCUMENT REVISION LOG		
Revision Number	Date	Description
1	3/17/2023	Draft Submission
2	4/7/2023	Address BOEM Comments
3	5/1/2023	Address BOEM Comments
4	8/4/2023	Address BOEM Comments

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LIST OF ACRONYMS

ac	acre
ACHP	Advisory Council on Historic Preservation
APE	Area of Potential Effect
BOEM	Bureau of Ocean Energy Management
ca.	circa
CFR	Code of Federal Regulations
CLG	Certified Local Government
COP	Construction Operation Plan
CVOW	Coastal Virginia Offshore Wind
dBA	A-weighted decibel
Dominion Energy	Virginia Electric and Power Company, d/b/a Dominion Energy Virginia
ft	foot
GIS	Geographic Information System
ha	hectare
HDD	horizontal directional drilling
HP KOP	Historic Properties Key Observation Point
HPOWeb	The North Carolina State Historic Preservation Office GIS Web Service
HPTP	Historic Preservation Treatment Plan
HRVEA	Historic Resources Visual Effects Analysis
km	kilometer
KOP	Key Observation Point
Lease Area	the OCS-A 0483 Lease, located approximately 27 mi (23.75 nautical miles, 43.99 kilometers) off the coast of Virginia and includes approximately 112,799 acres (45,658 hectares) of submerged lands
Lessee	Dominion Energy
m	meter
mi	mile
MPDF	Multiple Property Documentation Form
MW	megawatt
NCHPO	North Carolina State Historic Preservation Office
NEPA	National Environmental Policy Act
NHL	National Historic Landmark
NHPA	National Historic Preservation Act of 1966
nm	nautical mile
NPS	National Park Service
NRHP	National Register of Historic Places
OCS	Outer Continental Shelf
PAPE	Preliminary Area of Potential Effects
PDE Project	Project Design Envelope Dominion Coastal Virginia Offshore Wind Commercial Project
RCG&A	R. Christopher Goodwin & Associates, Inc.
SHPO	State Historic Preservation Office
SMR	State Military Reservation
TCP	Traditional Cultural Property
Undertaking	Coastal Virginia Offshore Wind Commercial Project
VCRIS	Virginia Cultural Resource Information System

VDHR Virginia Department of Historic Resources
VLR Virginia Landmark Register
WEA Wind Energy Area
WTG Wind Turbine Generator

1 EXECUTIVE SUMMARY

This Historic Preservation Treatment Plan (HPTP) was developed to support fulfillment of stipulation III of the MEMORANDUM OF AGREEMENT (MOA) AMONG THE BUREAU OF OCEAN ENERGY MANAGEMENT, THE STATE HISTORIC PRESERVATION OFFICERS OF VIRGINIA AND NORTH CAROLINA, AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION REGARDING THE COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT. This document was prepared to provide background data, information on historic properties, and detailed implementation steps for mitigation measures developed to resolve adverse visual effects to 22 out of 24 of the historic properties identified by the Bureau of Ocean Energy Management (BOEM) through Section 106 consultation for the Coastal Virginia Offshore Wind Commercial Project (Undertaking), as identified by the Offshore Historic Resources Visual Effects Analysis (HRVEA), dated October 2022, and submitted to BOEM on October 21, 2022, and as amended by the Finding of Effect (Appendix O of the Final Environmental Impact Statement for the Coastal Virginia Offshore Wind Commercial Project) dated August 2023. The Offshore HRVEA summarized effects from Offshore Project Components to historic properties. The mitigation measures within this document, and their implementation if selected, were developed in consultation with federally and state recognized tribes, the Virginia Department of Historic Resources (VDHR), North Carolina Historic Preservation Office (NCHPO), the Advisory Council on Historic Preservation (ACHP), and other consulting parties.

2 BACKGROUND INFORMATION

2.1 Project Overview

BOEM has determined that the CVOW Commercial Project (Undertaking) constitutes an undertaking subject to Section 106 of the National Historic Preservation Act (NHPA; 54 U.S.C. § 306108) and its implementing regulations (36 CFR §800). The proposed activities to support the Project, as detailed in the CVOW Commercial Project Construction and Operations Plan (COP), have the potential to affect historic properties. The work of the Project detailed in the COP will be performed for the Virginia Electric and Power Company, doing business as Dominion Energy Virginia (Dominion Energy). The Project is located in the Commercial Lease of Submerged Lands for Renewable Energy Development on the Outer Continental Shelf (OCS) Offshore Virginia (Lease No. OCS-A-0483, Lease Area), which was awarded to Dominion Energy (Lessee) through the Bureau of Ocean Energy Management (BOEM) competitive renewable energy lease auction of the Wind Energy Area (WEA) offshore of Virginia in 2013. The Lease Area covers approximately 112,799 acres (ac; 45,658 hectares [ha]) and is approximately 27 statute miles (mi) (23 nautical miles [nm], 43 kilometers [km]) off the Virginia Beach coastline. The Offshore Export Cable Route Corridor will connect the Lease Area to a Cable Landing Location at the State Military Reservation (SMR) in Virginia Beach, VA.

The Offshore HRVEA (Appendix H-1) that was prepared as part of the CVOW Commercial Project COP evaluated effects to historic properties from Offshore Project Components. Based on the results of the Offshore HRVEA and through Section 106 consultation, BOEM determined that the Undertaking will result in an adverse visual effect to 24 properties that are either listed or treated as eligible for listing for purposes

of this analysis.¹ This HPTP details the proposed treatment plan for 22 of these properties.. The proposed mitigation measures for the other 2 properties are included in two separate HPTPs: *Offshore Historic Properties Treatment Plan – Fort Story Historic District* and *Historic Properties Treatment Plan Camp Pendleton State Military Reservation Historic District*. Consultation will be undertaken between federally and state recognized Native American tribes, VDHR, NCHPO, and other consulting parties to develop manners in which to avoid, minimize, and mitigate adverse effects to the 22 historic properties described in this HPTP. The resolution of adverse effects is recorded in the Section 106 MOA currently in draft titled MEMORANDUM OF AGREEMENT (MOA) AMONG THE BUREAU OF OCEAN ENERGY MANAGEMENT, THE STATE HISTORIC PRESERVATION OFFICERS OF VIRGINIA AND NORTH CAROLINA, AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION REGARDING THE COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT (MOA). This HPTP was developed in support of the MOA.

2.1.1 Section 106 of the NHPA

This plan was developed to address the items proposed in the MOA intended to help mitigate the visual adverse effects from the Undertaking.

2.1.1.1 Resolution of Adverse Effects Measures in the MOA

Prior to implementation of the MOA, local governments and commissions may require coordination to obtain approvals for mitigation measures including planning boards, historic review commissions, zoning, and code enforcement. All mitigation work selected and completed as outlined in this HPTP will follow applicable historic preservation laws.

Participating parties are defined as consulting parties that have a critical and functional role in fulfilling the mitigation stipulations of the MOA. The roles of participating parties are outlined in Section 4.0 of the HPTP. A list of participating parties is provided in Table 1.

Table 1. Participating Parties in Consultation

Name	Relationship to Historic Property	Address
City of Virginia Beach, Virginia	Governing Entity	2875 Sabre Street, Suite 500, Virginia Beach, VA 23452
Outer Banks Conservationists	Property Owner	305 Queen Elizabeth Avenue, P.O. Box 721, Manteo, NC 27954
Preservation Virginia	Property Owner	204 West Franklin Street, Richmond, VA, 23220

3 HISTORIC SIGNIFICANCE AND EXISTING CONDITIONS OF THE

¹ Through Section 106 consultation with the U.S. Navy and NAS Oceana, it was determined that the Dam Neck Annex was misidentified as an NRHP-eligible property in the HRVEA. The only eligible property associated with NAS Oceana is the Surface-Launched Guided Missile School Historic District. Through a review of the historic significance of the property and consultation with NAS Oceana, BOEM determined that this property, though within the visual APE, would not be adversely affected by the Project. Therefore, BOEM determined that 24 historic properties within the visual APE for Offshore Project components would be adversely affected.

HISTORIC PROPERTY

Twenty-two historic properties are included in this HPTP based on analysis of visual effects to properties as outlined in the HRVEA; these properties are listed in Table 2. Twenty-one of these properties are located in Virginia Beach, VA; one is located in Currituck County, NC. The proposed mitigation measures for the other two adversely affected properties are included in two separate HPTPs: *Offshore Historic Properties Treatment Plan – Fort Story Historic District* and *Historic Properties Treatment Plan Camp Pendleton State Military Reservation Historic District*.

Table 2. Table of Affected Properties

SHPO ID Number	Name	City	State	Eligibility
065-0167	Chesapeake Bay Bridge-Tunnel	Cape Charles Virginia Beach	VA	Eligible for Listing
134-0007	First Cape Henry Lighthouse	Virginia Beach	VA	NHL, NRHP, VLR Listing
134-0047	Seatack Lifesaving Station/United States Coast Guard Station	Virginia Beach	VA	NRHP, VLR Listing
134-0066	Atlantic Wildfowl Heritage Cottage/De Witt Cottage	Virginia Beach	VA	NRHP, VLR Listing
134-0079	Second Cape Henry Lighthouse	Virginia Beach	VA	NRHP, VLR Listing
134-0503	Cavalier Hotel	Virginia Beach	VA	NRHP, VLR Listing
134-0587	House, 7900 Ocean Front Avenue	Virginia Beach	VA	Eligible for the Purposes of the Project
134-5089	House, 8304-8306 Ocean Front Avenue	Virginia Beach	VA	Eligible for Listing
134-5301	Chesapeake Light Tower	Virginia Beach	VA	Eligible for the Purposes of the Project
134-5379	Cavalier Shores Historic District	Virginia Beach	VA	NRHP, VLR Listing
134-5399	House, 4910 Ocean Front Avenue	Virginia Beach	VA	Eligible for the Purposes of the Project
134-5493	House, 8600 Ocean Front Avenue	Virginia Beach	VA	Eligible for the Purposes of the Project
134-5660	House, 100 54 th Street	Virginia Beach	VA	Eligible for the Purposes of the Project
134-5665	House, 5302 Ocean Front Avenue	Virginia Beach	VA	Eligible for the Purposes of the Project
134-5857	Seahawk Motel	Virginia Beach	VA	Associated with the Virginia Beach Oceanfront Resort Motels and Hotels MPD
134-5863	Hilton Washington Inn/Quality Inn and Suites	Virginia Beach	VA	Associated with the Virginia Beach Oceanfront Resort Motels and Hotels MPD
134-5865	Virginia House	Virginia Beach	VA	Associated with the Virginia Beach Oceanfront Resort Motels and Hotels MPD

SHPO ID Number	Name	City	State	Eligibility
134-5866	Cutty Sark Motel Efficiencies	Virginia Beach	VA	NRHP, Associated with the Virginia Beach Oceanfront Resort Motels and Hotels MPD
134-5869	Econo Lodge/Empress Motel	Virginia Beach	VA	Associated with the Virginia Beach Oceanfront Resort Motels and Hotels MPD
134-5872	Oceans II Condominiums/Aeolus Motel	Virginia Beach	VA	Associated with the Virginia Beach Oceanfront Resort Motels and Hotels MPD
CK0106	Currituck Beach Lighthouse Complex Boundary Expansion	Corolla	NC	NRHP
Proposed	Sandbridge Historic District	Virginia Beach	VA	Eligible for the Purposes of the Project

3.1 Historic Context and Significance

3.1.1 Virginia Beach, Virginia

Virginia Beach emerged as a resort town during the second half of the nineteenth century. Travelers came to visit what was called “Virginia Beach” during the late nineteenth and early twentieth centuries by rail and car. A rail line connecting Virginia Beach and Norfolk was opened in 1883 by Colonel Marshall Parks, a developer, who constructed beachside amenities to attract Norfolk residents. The area was incorporated in 1906.

Military activity in Virginia Beach increased during World War I to protect Cape Henry (Cultural Resource Analysts, Inc. and Debra A. McClane 2018). State Military Reservation (SMR), formerly known as Camp Pendleton, was established as a summer training camp for the Virginia National Guard; it subsequently became an Army rifle range (The Beacon 1988; Watts 2007; and Moffett 2003).

Along with military construction, the oceanfront resort area continued to grow. Development accelerated during and after World War II, a conflict that permanently changed the character of the region. Early twentieth century military installations were enlarged, and the region’s population soared as military personnel were transferred into the area. Three of the region’s present military installations originated during World War II: Oceana Naval Air Station (1940); the Fleet Combat Training Center at Dam Neck (1941); and, Little Creek Amphibious Base (1945) (Watts 2007). The resort function of Virginia Beach also continued to expand through the twentieth century. In 1963, Princess Anne County merged with the resort town of Virginia Beach to form the City of Virginia Beach. This merger signaled a burst of rapid urban growth and industrial development that continues to encroach upon the open farmlands and barrier beaches south of Virginia Beach. Development remained concentrated along the beachfront until the 1960s when inland suburban communities began to form. In 1977, Virginia Beach was ranked as the fourth fastest growing city in the country (The Beacon 1988).

3.1.2 Currituck County, North Carolina

Currituck County was initially a precinct of Albemarle County in early colonial North Carolina. The earliest explorers to the county arrived circa 1650 and settled in areas facing the Currituck Sound. The Town of Currituck was established in 1672 (Malvasi 2010). Small towns were established throughout the county during the early eighteenth century including Indian Town, Coinjock, and Moyock. The economy included agriculture and shipbuilding (Malvasi 2010). By 1790, 5,392 individuals lived in Currituck County, and by 1830, 8,098 individuals were recorded as living in the county (Malvasi 2010). However, the population shrunk to 6,703 in 1840. The Albemarle & Chesapeake Canal was constructed in 1859 and provided increased water travel in the region between Virginia and North Carolina (Malvasi 2010). Following the Civil War, tenant farming emerged in the region, subdividing larger plantations into smaller individual farms; and by 1890 958 farms were located within the county (Malvasi 2010). The county became known for its outdoor pursuits including hunting and fishing. During the late nineteenth and early twentieth centuries hunting clubs were constructed along the coast to accommodate sportsmen (Martin Nd). The 1920s brought the popularity of the automobile and less reliance on waterways for transportation. Small unincorporated towns included amenities like stores, restaurants, and gas stations (Malvasi 2010). During the 1930s roadways were constructed to connect the small communities to each other and neighboring Camden County (Malvasi 2010).

3.2 NRHP Criteria and Aspects of Integrity Affected by the Undertaking

This section details the historic and physical context of the affected properties and their character defining views to the ocean.

3.2.1 DHR ID: 134-0007, First Cape Henry Lighthouse, National Historic Landmark (NHL)

“The construction of the Cape Henry Lighthouse was the first public works project of the United States government. President George Washington personally reviewed bids in January of 1791 and selected John McCornbs, a New York bricklayer, as the contractor. Secretary of the Treasury, Alexander Hamilton, executed the contract with the contractor on March 31, 1791. Governor Alexander Spotswood first proposed building a lighthouse at Cape Henry in November of 1720. He suggested that the province of Maryland assist in the costs of the proposed lighthouse. The general assembly passed an act to construct the lighthouse in 1752 and planned to use revenues from an export tax on tobacco. The British disallowed the law claiming the tax would infringe on the tobacco trade. In 1772, another act was passed and construction was started before the British could object; however, construction was interrupted during the revolutionary war. Construction on the project resumed in August 1791 and the lighthouse was placed into service in the fall of 1792. The cost of the project was \$17,700. Most of the original Acquia stone was covered under sand by the time construction resumed in 1791. It was decided to complete the lighthouse with newly acquired Rappahannock red sandstone rather than to unearth all of the acquia stone left on the site prior to the revolutionary war. The sandstone used in the base of the lighthouse was transported from Acquia Virginia quarries near Washington, D.C. The Acquia stone has a special significance since the same stone was provided for Mount Vernon, The U.S. Capital, and the White House. In 1861, the lighthouse was damaged by civil war fighting. The lighthouse was repaired in 1863 and service was restored. The Cape Henry Lighthouse light continued to shine until 1881 when it was replaced by a more modern lighthouse which is still in use today.” (Virginia Department of Historic Resources 2011). The Cape Henry Light is

designated as a NHL. The Cape Henry Lighthouse is located on the Atlantic Ocean and, at several vantage points, has clear ocean views. The property, as a whole, is sited on an early to mid- twentieth century defense facility with an association with military history. The Cape Henry Lighthouse is sited directly along the ocean coastline with historic associations with ocean views.

As a result of the Project, the integrity of location, workmanship, design, and materials would not be affected. However, the integrity of setting, feeling, and association of the lighthouse would be diminished. Unobstructed ocean views and a beachside or maritime setting are character-defining features of the property that contribute to its significance because they were integral considerations in the placement and design of the property. The introduction of modern elements would interfere with how visitors experience the historically and currently unadulterated ocean viewscape. Therefore, the Project would result in an adverse effect to the First Cape Henry Lighthouse.

3.2.2 DHR ID: 134-0047, Seatack Lifesaving Station/United States Coast Guard Station (NRHP Listed)

“Built for the United States Lifesaving Service, a predecessor of the Coast Guard, the station at Virginia Beach is one of the few such facilities remaining on the Atlantic Coast. Erected in 1903 on Atlantic Avenue and 24th Street, the station was constructed to rescue victims of shipwrecks and other maritime disasters. Replaced by larger and more technologically advanced facilities, the station was abandoned by the United States Coast Guard in 1969 and is now the property of the City of Virginia Beach” (Virginia Department of Historic Resources 2013a). The United States Coast Guard Station/Seatack Lifesaving Station is located in an urban setting on a half-acre lot in Virginia Beach, Virginia. Constructed in 1903 and altered in 1933, the wood weatherboard building is one of the few remaining examples of United States Lifesaving Service buildings. The two and one-half-story, wood-frame building was moved to its current location during the late twentieth century and turned so that the original east elevation now faces north. The property is identified in *Evaluation of Visual Impact on Cultural Resources/Historic Properties: North Atlantic, Mid-Atlantic, South Atlantic, and Florida Straits, Volume II: Appendices* as possessing a significant maritime setting and views to the ocean. The United States Coast Guard Station/Seatack Lifesaving Station is oriented towards the Atlantic Ocean in Virginia Beach. The property was listed in the National Register of Historic Places in 1979 and currently houses a museum on coastal rescue. The Station retains significance and overall integrity.

The United States Coast Guard Station/Seatack Lifesaving Station was moved to its current location in the late twentieth century. The reoriented frame building currently occupies a site adjoining a modern twelve-story hotel complex. While the property has lost its original use and location, the building retains two characteristics of its original physical environment that were important to its integrity of setting. These characteristics are the building’s relationship to the beach and views to the ocean. The significance of the property is related to its historical role in coastal rescue during the early twentieth century and for embodying the design characteristics of an increasingly rare property type. Location within the immediate vicinity of the beach was historically important for rapid rescue response from the station as were unobstructed views to the ocean. The early twentieth century period of significance of the property applies to the aspects defining its integrity. The level of integrity of setting for the property is measured by the physical environment and character of place surviving from the period of significance. Beach front

orientation and views to the water are defining elements to the Seatack Lifesaving Station's current integrity of setting.

The Project will not alter the aspects of integrity of location, workmanship, design, or materials. However, the integrity of setting, feeling, and association of the Seatack Lifesaving Station would be diminished. Unobstructed ocean views and a beachside or maritime setting from the early twentieth century are character-defining features of the property integrity of setting that contribute to its significance. The Project would result in an adverse effect to the Seatack Lifesaving Station.

3.2.3 DHR ID: 134-0066, Atlantic Wildfowl Heritage Cottage/De Witt Cottage (NRHP Eligible)

“The de Witt cottage is significant because it is the sole surviving example of the type of oceanfront dwelling constructed in Virginia Beach during its first period of development between its founding in 1883 and its incorporation in 1906. Alterations to the structure have been few and in keeping with its character. The house retains most of its turn-of-the-century ambiance. The remainder of the early Virginia Beach development, however, has changed completely. High-rise hotels and condominiums dwarf the de Witt cottage; rising land values and modern development pressures threaten its existence. The de Witt cottage is eligible for National Register listing under criteria A and C. It is eligible under Criterion A because of its association with the development of oceanfront resort property for the use of prosperous city-dwellers. Oceanfront resort development in the late nineteenth and early twentieth centuries was a national phenomenon. Under Criterion C the house is eligible because of its architectural quality and integrity” (Virginia Department of Historic Resources 2013b).

The de Witt Cottage was constructed in 1895 as a year-round single-family residence. The two-story dwelling occupies an L-shaped plan with a wrap-around porch. The building was constructed of brick masonry and included Queen Anne-style elements. The building is sited directly on the Virginia Beach oceanfront with unobstructed views of the Atlantic Ocean. The site yields significance and integrity from its urban, maritime setting and ocean views.

As a result of the Project, the integrity of location, workmanship, design, and materials would not be affected. However, the integrity of setting, feeling, and association of the Atlantic Wildfowl Heritage Cottage would be diminished. Unobstructed ocean views and a beachside or maritime setting are character-defining features of the property that contribute to its significance because they were integral considerations in the placement and design of the property. The introduction of modern elements of the Project that would alter the relationship between the Cottage and of the physical environment from the period of dwelling's design and construction. The Project would result in an adverse effect to the Atlantic Wildfowl Heritage Cottage.

3.2.4 DHR ID: 134-0079, Second Cape Henry Lighthouse (NRHP Listed)

“The tower retains its original first-order lens. Other than a modern partition wall with modern electrical components in the watch room, it retains over 85 to 90 percent of its original fabric. The oil house is rare in that it retains its original oil fume ceiling hood. The original fog signal building, now used as a garage, is one of only a few pre-turn-of-the-century fog signal structures extant on the East Coast. The remaining station structures have been modified over the years and have low to moderate historic integrity. Taken as

a whole, however, the ancillary buildings represent a light station complex which is largely intact. Few stations, especially on the East Coast, possess such variety.” The Second Cape Henry Lighthouse is listed in the NRHP.

The Cape Henry Lighthouse is located on the Atlantic Ocean and, at several vantage points, has clear ocean views. The Second Cape Henry Lighthouse is sited directly along the ocean coastline with historic associations with ocean views.

While naval architecture and navigation technology have changed over the years, active lighthouses continue to provide water-based traffic with reliable markers for navigation. Visibility of the light from the structure supports safe passage for watercraft in navigation channels and coastal waters. This primary role, as an aid to navigation, required the designers of lighthouses such as the Second Cape Henry Lighthouse to factor location and setting in the development of their engineering designs. The lighthouse marks the entrance to the Chesapeake Bay and historically supported a regional economy dependent on the Bay and shipping. The introduction of WTGs into the maritime landscape marks a change in use in coastal waters and would introduce modern industrial elements to the physical environment that would alter the historic setting of the lighthouse from the period of its importance.

As a result of the Project, the property’s integrity of location, workmanship, design, and materials would not be affected. However, the integrity of setting, feeling, and association of the lighthouse would be diminished. Unobstructed ocean views and a beachside or maritime setting are character-defining features of the property that contribute to its significance; the structure’s relationship to the physical environment was an integral consideration in its siting, design, and operation. While changes have occurred in the maritime landscape since the construction of the lighthouse in 1881, the viewshed to the ocean is important to the engineering design significance of the historic property. Location and setting were aspects of integrity that supported the historical operation of the structure, which continues to operate as an automated light. The Project would result in an adverse effect to the lighthouse.

3.2.5 VDHR ID: 065-0167 Chesapeake Bay Bridge-Tunnel (NRHP Eligible)

“In 1956, the General Assembly authorized the Ferry Commission to explore the construction of a fixed crossing. Results of the study indicated a crossing was feasible and recommended a series of bridges and tunnels. In the summer of 1960, the Chesapeake Bay Ferry Commission sold \$200 million in revenue bonds to private investors. Monies collected by future tolls were pledged to pay the principal and interest on these bonds. Construction contracts were awarded to Tidewater Construction Corporation; Merritt Chapman, Scott; Raymond International; Peter Kiewitt & Sons, Inc. and American Bridge Co. No local, state or federal tax money was used in the construction of the project. In April 1964 - just 42 months after construction began - the Bridge-Tunnel opened to traffic and ferry service was discontinued. From shore to shore, the Bridge-Tunnel measures 17.6 miles (28.4 km) and is considered the world's largest bridge-tunnel complex. Construction of the span required undertaking a project of more than 12 miles of low-level trestle, two 1-mile tunnels, two bridges, almost 2 miles of causeway, four manmade islands and 5-1/2 miles of approach roads, totaling 23 miles. Although individual components are not the longest or largest ever built, the Bridge-Tunnel is unique in the number of different types of structures it includes [...] The Chesapeake Bay Bridge Tunnel (065-0167) retains integrity and continues to meet the minimum criteria for inclusion in the

NRHP at the state level under Criterion A and C for significance in the areas of transportation and engineering” (Virginia Department of Historic Resources 2014a).

As a significant bridge-tunnel structure, orientation and association to the Atlantic Ocean are character-defining features. The engineering design of the structure was developed in response to its physical environment and setting. Setting, as defined as the physical environment of the property also is a factor related to the structure’s importance in regional transportation history during a period of regional transition from coastal ferries to major transportation infrastructure projects, such as the structure. The bridge-tunnel is a monumental scale engineering structure designed in direct response to its natural setting. Therefore, the Project would result in an adverse effect to the Chesapeake Bay Bridge-Tunnel.

3.2.6 VDHR ID: 134-0503, Cavalier Hotel and Beach Club (NRHP Listed)

The Cavalier Hotel is listed in the NRHP under Criterion C for Architecture as a 1920s hotel exhibiting Jeffersonian-inspired Classical Revival style. The hotel is also listed under Criterion A in the areas of Recreation and Social History for its associations with development of Virginia Beach as a beach resort destination town; it was also the last pre-World War II hotel built in the city. The seven-story hotel has a maritime setting and overlooks the town and ocean from its elevated location on a hill the rises above Atlantic Avenue/Pacific Avenue. Its unique Y form maximizes the views of the ocean from individual rooms and, according to the NRHP nomination (Pollard 2013), “Every possible aspect of the design was chosen to reflect the relationship of the hotel to the ocean including views of the ocean from many public areas.” The Cavalier Hotel and Beach Club is listed in the NRHP.

As a result of the Project, the integrity of location, workmanship, design, and materials would not be affected. However, the integrity of setting, feeling, and association of the Cavalier Hotel would be diminished. Unobstructed ocean views and a beachside or maritime setting are character-defining features of the hotel that contribute to its significance because they were integral considerations in the placement and design of the property. The introduction of modern elements would interfere with how visitors experience the historically and currently open ocean viewscape visible from the beach and from the public and private areas in the hotel. Therefore, the Project would result in an adverse effect to the Cavalier Hotel.

3.2.7 DHR ID: 134-0587, House (7900 Ocean Front Avenue) (Eligible for the Purposes of the Project)

This resource is considered eligible for the purposes of the Project. It is potentially eligible under Criterion A as an example of an urban residence in Virginia Beach on the local level and under Criterion C. The ca. 1910 one-story cottage is situated on an urban lot directly on the beach coastline (Virginia Department of Historic Resources 1992). The building is oriented west onto Ocean Front Avenue. The resource is situated on a beachfront lot in a coastal setting with beach access and ocean views from the rear elevation. The resource has a historic association with maritime activities.

As a result of the Project, the integrity of location, workmanship, design, and materials would not be affected. However, the integrity of setting, feeling, and association of the residence would be diminished. Unobstructed ocean views and a beachside or maritime setting are character-defining features of the property that contribute to its significance because they were integral considerations in the placement and design of the property. The introduction of modern elements would interfere with how visitors experience

the historically and currently unadulterated ocean viewscape. Therefore, the Project would result in an adverse effect to the residence.

3.2.8 DHR ID: 134-5089, House (8304-8306 Ocean Front Avenue) (NRHP Eligible)

“Locally born architect Herbert Smith designed the house according to the aesthetics pioneered by Frank Lloyd Wright. The house is full of small details that delight aficionados of the 1950s, such as a wall-mounted ice crusher and much period furniture (Virginia Department of Historic Resources 2005).” The property was evaluated as eligible for listing in the NRHP. The ca. 1955 two-story International-style dwelling is situated on a coastal lot directly overlooking the beach front and Atlantic Ocean. The residence is located on oceanfront property with associations with coastal development in Virginia Beach. The building is oriented toward the ocean and has ocean views.

As a result of the Project, the integrity of location, workmanship, design, and materials would not be affected. However, the integrity of setting, feeling, and association of the residence would be diminished. Unobstructed ocean views and a beachside or maritime setting are character-defining features of the property that contribute to its significance because they were integral considerations in the placement and design of the property. The introduction of modern elements would interfere with how visitors experience the historically and currently unadulterated ocean viewscape. Therefore, the Project would result in an adverse effect to the residence.

3.2.9 DHR ID: 134-5301, Chesapeake Light Tower (Eligible for the Purposes of the Project)

The Chesapeake Light Tower is located in open water 12.83 mi (20.66 km) from the proposed turbines. The Chesapeake Bay Tower is a 120-foot-tall light station constructed in 1965 and is an example of Texas Tower design. The property is referenced in the *National Register Multiple Property Listing for Light Stations in the United States* (NRHP accepted:2002) and the property is considered eligible for listing in the NRHP by the VHDR under Criterion C. Modeled after the design of offshore drilling platforms, Texas Towers were prefabricated light stations utilized in open ocean conditions in water greater than 30 feet. The Chesapeake Bay Tower was prefabricated by the Tidewater Raymond Kiewit Company of Norfolk and originally manned by a staff of four people. The structure was later converted to an automated station for data collection for scientific research and for the NOAA marine reporting system. The lighthouse, which was deactivated in 2016 due to its structural condition, was the last Texas Tower light station in service. The light station was sold by the General Services Administration to a private party in 2016. The resource is located offshore and has clear views of the ocean. The resource, as a whole, is situated offshore with clear views of the ocean in all directions. Further, the resource has an historic association with maritime and offshore navigation and scientific research.

As a result of the Project, the integrity of location, workmanship, design, and materials would not be affected. However, the integrity of setting, feeling, and association of the lighthouse would be diminished. Unobstructed ocean views and a beachside or maritime setting are character-defining features of the property that contribute to its significance because they were integral considerations in the placement and design of the property. The introduction of modern elements would diminish the functional role of setting

in the siting of the structure, which historically and currently include unobstructed ocean views. Therefore, the Project would result in an adverse effect to the lighthouse.

3.2.10 DHR ID: 134-5379, Cavalier Shores Historic District (NRHP Listed)

“The Cavalier Shores Historic District is comprised of a seven-block residential neighborhood of the same name that was platted in 1927 by Cavalier Shores, Inc., a subsidiary of the adjacent Cavalier Hotel. The district is located immediately north of the Cavalier Hotel property and thus is the first neighborhood between the more commercial and high-density “resort area” and the primarily residential “north end” area between it and Cape Henry. This section of Virginia Beach is flat and narrow between the ocean to the east and various branches of Lynnhaven Bay to the west. The setting is naturally sandy with a plethora of low, scrub vegetation, although this has been supplemented with more lush and ornamental landscaping by both private and municipal efforts. Overall, the district retains a lush, cohesive, and attractive neighborhood feel through consistent scale, setback, and style of homes and a well-planned and maintained layout. The neighborhood is further complimented by decorative streetlights which also adorn the brick promenade and some sidewalks. Overhead power and utility lines are hidden within the alleys in the interior of the block and thus do not intrude in the historic character of the neighborhood. Nearly all of the homes in the proposed district retain a high degree of integrity and historic character. In general, they retain original form, materials, features, and other architectural details and convey the development and evolution of Cavalier Shores from 1927 through the present-day” (Virginia Department of Historic Resources 2019). The Cavalier Shores Historic District is listed in the NRHP.

The Cavalier Shores Historic District is a ca. 1920s residential subdivision with three blocks of coastal beach access and views. Several of the resources within the district are oriented north or south. Resources along the beach have ocean views. The district, as whole, comprises densely constructed residences in a coastal setting with beach access and ocean views. The district has historic associations with maritime setting.

As a result of the Project, the integrity of location, workmanship, design, and materials would not be affected. However, the integrity of setting, feeling, and association of the historic district would be diminished. Unobstructed ocean views and a beachside or maritime setting are character-defining features of the property that contribute to its significance because they were integral considerations in the placement and design of the property. The introduction of modern elements would interfere with how visitors experience the historically and currently unobscured ocean viewscape. Therefore, the Project would result in an adverse effect to the historic district.

3.2.11 DHR ID: 134-5399, House (4910 Ocean Front Avenue) (Eligible for the Purposes of the Project)

This resource is considered eligible for the purposes of the Project under Criterion A as an example of urban development in Virginia Beach and under Criterion C as an example of the Shingle style. The ca. 1930 Shingle-style cottage is an early example of the houses that were built along the Virginia Beach beachfront during this period and the building retains several characteristics of the style including shingle cladding, clipped gable roofs with swooping eaves, and cottage-style windows (Virginia Department of Historic Resources 2018a). The dwelling is situated on a beachfront lot and is oriented west onto Ocean Front

Avenue. From the rear of the dwelling, the ocean is visible. The resource is situated on a beachfront lot in a coastal setting with beach access and ocean views. The resource has a historic association with maritime activities.

As a result of the Project, the integrity of location, workmanship, design, and materials would not be affected. However, the integrity of setting, feeling, and association of the residence would be diminished. Unobstructed ocean views and a beachside or maritime setting are character-defining features of the property that contribute to its significance because they were integral considerations in the placement and design of the property. The introduction of modern elements would interfere with how visitors experience the historically and currently unadulterated ocean viewscape. Therefore, the Project would result in an adverse effect to the residence.

3.2.12 DHR ID: 134-5493, House (8600 Ocean Front Avenue) (Eligible for the Purposes of the Project)

This resource is considered eligible for the purposes of the Project under Criterion A as an example of urban development in Virginia Beach. The ca. 1934 two-story dwelling with no discernable-style is situated on a coastal lot with vegetation and partial-ocean views from the east elevation (Virginia Department of Historic Resources 2018b). The dwelling is oriented south onto Ocean Front Avenue. The resource is situated on a beachfront lot in a coastal setting with beach access and ocean views. The resource has a historic association with maritime activities.

As a result of the Project, the integrity of location, workmanship, design, and materials would not be affected. However, the integrity of setting, feeling, and association of the residence would be diminished. Unobstructed ocean views and a beachside or maritime setting are character-defining features of the property that contribute to its significance because they were integral considerations in the placement and design of the property. The introduction of modern elements would interfere with how visitors experience the historically and currently unadulterated ocean viewscape. Therefore, the Project would result in an adverse effect to the residence.

3.2.13 DHR ID: 134-5660, House (100 54th Street) (Eligible for the Purposes of the Project)

This resource is considered eligible for the purposes of the Project under Criterion A as an example of urban development in Virginia Beach. The resource is ca. 1956, two-story Colonial Revival-style dwelling situated on a modest oceanfront lot populated with minimal landscaping (Virginia Department of Historic Resources 2018c). The dwelling is oriented west onto 54th Street and has unobstructed ocean views from the rear (east) elevation. The resource is situated on a beachfront lot in a coastal setting with beach access and ocean views. The resource has a historic association with maritime activities.

As a result of the Project, the integrity of location, workmanship, design, and materials would not be affected. However, the integrity of setting, feeling, and association of the residence would be diminished. Unobstructed ocean views and a beachside or maritime setting are character-defining features of the property that contribute to its significance because they were integral considerations in the placement and design of the property. The introduction of modern elements would interfere with how visitors experience

the historically and currently unadulterated ocean viewscape. Therefore, the Project would result in an adverse effect to the residence.

3.2.14 DHR ID: 134-5665, House (5302 Ocean Front Avenue) (Eligible for the Purposes of the Project)

This resource is considered eligible for the purposes of the Project under Criterion A as an example of urban development in Virginia Beach. The resource is ca. 1936 two-and-one-half story vernacular dwelling located on a modest coastal lot with minimal landscaping (Virginia Department of Historic Resources 2018d). The dwelling is oriented west onto Ocean Front Avenue and has ocean views from the rear (east) elevation. The resource is situated on a beachfront lot in a coastal setting with beach access and ocean views. The resource has a historic association with maritime activities.

As a result of the Project, the integrity of location, workmanship, design, and materials would not be affected. However, the integrity of setting, feeling, and association of the residence would be diminished. Unobstructed ocean views and a beachside or maritime setting are character-defining features of the property that contribute to its significance because they were integral considerations in the placement and design of the property. The introduction of modern elements would interfere with how visitors experience the historically and currently unadulterated ocean viewscape. Therefore, the Project would result in an adverse effect to the residence.

3.2.15 DHR ID: 134-5857, Seahawk Motel (Associated with the Virginia Beach Oceanfront Resort Motels and Hotels Multiple Property Document)

“The Seahawk Motel is an oceanfront hotel that was constructed in 1964 on the site formerly occupied by the 67-room Spotswood Arms resort inn. The Spotswood was built in the 1910s and was torn down in 1962. The Seahawk stands on Lots 5 and 6 of Block 62 of the Virginia Beach Development Company plat. The hotel was owned by Hugh Kitchin Jr., and initially was managed by his son Hugh Kitchin III, and later by William H. Phillips. The elder Kitchin served as a Virginia Beach Councilman (representing the Virginia Beach borough), was a member of the Virginia Beach School Board, and served as the Chairman of the city's Erosion Commission. The Kitchin family had been involved in hotel-motel industry since the 1930s and at the time the Seahawk was built, Mr. Kitchin's mother, Mrs. W.H. Kitchin, operated the Halifax House vacation cottage, formerly located north of the Seahawk at 2600 Atlantic Avenue. The Seahawk Motel is recommended eligible for listing in the NRHP as part of the Multiple Property Document (MPD) Virginia Beach Oceanfront Resort Motels and Hotels (1955-1970) as a resource that is located in the Virginia Beach Oceanfront, was built as a motel during the period of significance, and that retains a sufficient amount of its original architectural character to convey its historical appearance. Early brochures for the resort motel highlighted its "100% oceanfront" rooms, the "sun struck protected pool and sun lounge terrace," and the "expansive parking area." Individual guest rooms were equipped with "oceanfront verandas, oceanscope glass window wall, conversation corner (seating), tiled shower tub baths" and luxurious appointments. Corner efficiency rooms had kitchenettes, adjustable circular tables, and connected to adjacent rooms for use by families. The motel was open year-round with golf and beach club privileges included” (Virginia Department of Historic Resources 2020a). The property is associated with the Virginia Beach Oceanfront Resort Motels and Hotels (1955-1970) MPD and is eligible for listing.

As a result of the Project, the integrity of location, workmanship, design, and materials would not be affected. However, the integrity of setting, feeling, and association of the motel would be diminished. Unobstructed ocean views and a beachside or maritime setting are character-defining features of the property that contribute to its significance because they were integral considerations in the placement and design of the property. The introduction of modern elements would interfere with how visitors experience the historically and currently unadulterated ocean viewscape. Therefore, the Project would result in an adverse effect to the motel.

3.2.16 DHR ID: 134-5863, Hilton Washington Inn/Quality Inn and Suites (Associated with the Virginia Beach Oceanfront Resort Motels and Hotels MPD)

“The Washington Club Inn Hotel, now the Quality Inn and Suites, was constructed on Lots 1, 2, 3, and 4, Block 1 of the Ocean Lot Investment Company subdivision plat (1922, W. Frank Robertson, president). In 1966, plans were announced for the 124-unit hotel and construction was underway in February of that year. By June, the hotel had opened 40 rooms. The owner and president of the Washington Hotel Corp., was Charles Gardner, a Nashville native. Gardner and his wife Juanita moved to Virginia Beach in the early 1960s, and continued working in the accommodations industry until his retirement in 1975. Mr. Gardner died in 2009. Mr. Gardner's community service to Virginia Beach included terms on City Council, the city's Personnel Board and its Race Relations Committee, the Chesapeake Bay Preservation Board, Virginia Marine Science Museum Board, the Crime Task Force Rotary (lifetime), and Mid-Atlantic Teen Challenge Board (chairman). He also served as president of the Innkeepers of Virginia Beach Association. Construction of the hotel was completed in phases, with the 40-unit south end wing constructed first. In 1968, an additional 20 units (on two floors) were added, and in 1969, a permit was granted for construction of the final 64 units at the motel. Those units opened in 1970. The Quality Inn/Washington Club Inn is recommended eligible for listing in the NRHP as part of the MPD Virginia Beach Oceanfront Resort Motels and Hotels (1955-1970) as a resource that is located in the Virginia Beach Oceanfront, was built as a motel during the period of significance, and that retains a sufficient amount of its original architectural character to convey its historical appearance. The hotel retains its unique semi-circular plan with all oceanfront rooms. Private balconies, a centralized pool area, and office wing remain intact. Exterior materials appear to be original and any renovations to railings or windows have been made in-kind. Additions to the hotel include two small food service areas (one on each wing) near the pool. The wooden fence between the pool area and the boardwalk has recently been reconstructed” (Virginia Department of Historic Resources 2020b).”

As a result of the Project, the integrity of location, workmanship, design, and materials would not be affected. However, the integrity of setting, feeling, and association of the hotel would be diminished. Unobstructed ocean views and a beachside or maritime setting are character-defining features of the property that contribute to its significance because they were integral considerations in the placement and design of the property. The introduction of modern elements would interfere with how visitors experience the historically and currently unadulterated ocean viewscape. Therefore, the Project would result in an adverse effect to the hotel.

3.2.17 DHR ID: 134-5865, Virginia House (Associated with the Virginia Beach Oceanfront Resort Motels and Hotels MPD)

“When originally built, the Virginia House Residences incorporated at least some motel units, though they have since been converted to condominiums. The Virginia House Motel is listed for the first time in the 1966 Virginia Beach City Directory but does not appear in the 1971 Accommodation Directory. It continues to be listed in the City Directory under the Motels heading in the early 1970s, however. It seems likely that it was built to incorporate a variety of functions; City Directories appear to list some private offices within the Virginia House as well, and, to the recollection of local residents, it was always year-round apartments. It appears to have good integrity to the 1960s on the exterior. It was evaluated under the Multiple Property Document Virginia Beach Oceanfront Resort Motels and Hotels (1955-1970), but, because it was built to serve multiple uses and not as a resort hotel, it is not eligible under the MPD. Further survey would be necessary to evaluate it for individual eligibility” (Virginia Department of Historic Resources 2020c). The resource has a historic association to maritime setting as a recreational lodging resource.

As a result of the Project, the integrity of location, workmanship, design, and materials would not be affected. However, the integrity of setting, feeling, and association of the Virginia House would be diminished. Unobstructed ocean views and a beachside or maritime setting are character-defining features of the property that contribute to its significance because they were integral considerations in the placement and design of the property. The introduction of modern Project elements would alter the property’s historical and current ocean views, factors contributing to the development climate in Virginia Beach. Therefore, the Project would result in an adverse effect to the Virginia House.

3.2.18 DHR ID: 134-5866, Cutty Sark Motel Efficiencies (NRHP Listed)

“The Cutty Sark was built as the Crest Kitchenette Motel in 1963 by Mr. William T. Winner, owner and general contractor. The architect was William Burton Alderman, and the plans are dated February 17, 1963. Alderman was also the architect for several other motels in Virginia Beach, including Jefferson Manor Motel Apartments, the Blue Marlin Lodge, the Plantation Motel, and the Golden Sands Motel. Winner built the motel as something to keep him busy during retirement and, at the time, it had the largest units on the oceanfront and high-end kitchen efficiencies. He soon realized that he missed the construction business and sold the Crest Kitchenette Motel to Mr. Lit Hudgins, a local developer. Hudgins was responsible for changing the name to the Cutty Sark, which, depending on which story you believe, is either a nod to a famous sailing ship or a bottle of scotch. The Cutty Sark is an excellent example of the type of small, independently-owned, family-operated motels that were built along the oceanfront in the 1950s and 1960s and it retains good integrity to the period. It is recommended individually eligible for listing on the Registers, and is also eligible under the Multiple Property Document, Virginia Beach Oceanfront Resort Motels and Hotels (1955-1970). It retains such significant character-defining features as concrete block construction; original flat roof; visually differentiated units; original private concrete balconies with exposed concrete beams; plate glass windows; original footprint and three-story height; stacked/vertically aligned façade; and Modern-inspired-style” (Virginia Department of Historic Resources 2020d).” The property was listed in the NRHP in October 2022.

Access to the beach and views to the ocean were key advantages in attracting guests in Virginia Beach’s developing tourist economic during the 1950s and 1960s. Architectural design often was functional and

subordinate to the considerations of location and views. This pattern is illustrated in the Cutty Sark Motel Efficiencies.

As a result of the Project, the integrity of location, workmanship, design, and materials would not be affected. However, the integrity of setting, feeling, and association of the motel would be diminished. Unobstructed ocean views and a beachside or maritime setting are character-defining features of the property that contribute to its significance because they were integral considerations in the placement and design of the property. The introduction of modern elements would interfere with how visitors experience the historically and currently unadulterated ocean viewscape. Therefore, the Project would result in an adverse effect to the motel.

3.2.19 DHR ID: 134-5869, Econo Lodge/Empress Motel (Associated with the Virginia Beach Oceanfront Resort Motels and Hotels MPD)

“The Econo Lodge was built in 1965 as the Empress Motel. It was part of a boom in resort motel construction along the Virginia Beach oceanfront following the opening of the Chesapeake Bay Bridge Tunnel in 1964. One of the co-founders was Norman T. Cox who is also listed as the manager in the 1966 City Directory; in the 1971 Accommodation Directory Mrs. Norman Cox is listed as the manager. The Directory indicates that the Empress had 38 air-conditioned units, each with a private ocean front balcony. The property also boasted a heated pool and sun deck, and advertised motel rooms, efficiencies, motor apartments, and bridal suites. The former Empress Motel was surveyed and evaluated under the Multiple Property Document, Virginia Beach Oceanfront Resort Motels and Hotels (1955-1970). In spite of some alterations to stylistic details, the motel retains its original footprint and several character-defining features of a resort motel as defined in the MPD including concrete construction; original, multi-story height; concrete balconies, both private, oceanfront balconies and continuous balconies forming exterior corridors along the west elevation; visually distinctive individual units that are stacked/vertically aligned; plate glass windows; sun deck and pool; on-site parking; and separate office building with porte cochère. Therefore, it is considered eligible for listing on the Registers under the MPD” (Virginia Department of Historic Resources 2020e)”

The design of the Empress Hotel integrated the beach experience through the inclusion of balconies, exterior corridors, a sun deck and pool. The beach, ocean views and opportunities for outdoor recreation catered to the City’s developing tourist economy. Setting was a character defining features of the design and business model.

As a result of the Project, the integrity of location, workmanship, design, and materials would not be affected. However, the integrity of setting, feeling, and association of the motel would be diminished. Unobstructed ocean views and a beachside or maritime setting are character-defining features of the property that contribute to its significance because they were integral considerations in the placement and design of the property. The introduction of modern elements would interfere with how visitors experience the historically and currently unadulterated ocean viewscape. Therefore, the Project would result in an adverse effect to the motel.

3.2.20 DHR ID: 134-5872, Oceans II Condominiums/Aeolus Motel (Associated with the Virginia Beach Oceanfront Resort Motels and Hotels MPD)

“The Aeolus Motel was built in 1955-56 and is the oldest remaining mid-century motel along the oceanfront. It was built and operated by former Virginia Beach mayor Paul F. (Pat) Murray and his sons, Arthur E. Murray and P.F. Murray, Jr. It was designed by Ft. Lauderdale architectural firm Gambel, Pownall, & Gilroy and opened for business in the spring of 1956 as one of the first motels in Virginia Beach to incorporate a tropical Florida vibe. In 1963, Murray sold the motel to Mr. and Mrs. George Davis, who had previously operated the Ebbitide Motor Lodge at 20th Street and the oceanfront. In 1973, the Aeolus was sold to developer E. Howland Smith II, president of Oceans Condominium Corp., which developed the Oceans condominium tower just across Atlantic from the Aeolus. A major remodel in 1974 by architects Williams & Tazewell (who were also the architects for the Oceans tower and the Oceans Club, adjacent to the Aeolus) converted the motel into studio efficiency condominiums called Oceans II. It is eligible for listing on the Registers under the Multiple Property Document, Virginia Beach Oceanfront Resort Motels and Hotels (1955-1970) as an example of the Resort Motel property type that retains such character defining features as multi-story height, masonry construction, concrete balconies, plate glass windows, identifiable units that are vertically aligned, on-site parking, and Modern-inspired stylistic elements. From the exterior, it remains recognizable when compared to 1950s and 60s photographs” (Virginia Department of Historic Resources 2020f).

As a result of the Project, the integrity of location, workmanship, design, and materials would not be affected. However, the integrity of setting, feeling, and association of the motel would be diminished. Unobstructed ocean views and a beachside or maritime setting are character-defining features of the property that contribute to its significance because they were integral considerations in the placement and design of the property. The introduction of modern elements would interfere with how visitors experience the historically and currently unadulterated ocean viewscape. Therefore, the Project would result in an adverse effect to the motel.

3.2.21 Sandbridge Historic District (Eligible for the Purposes of the Project)

The City of Virginia Beach has documented selected buildings contained in the community of Sandbridge as part of their on-going municipal architectural survey efforts. Architectural survey data for the Sandbridge community was recorded using VCRIS forms and entered into the Virginia inventory system maintained by VDHR. Formal evaluation by VDHR of the individual significance or potential collective significance of this area as an historic district is not reflected in the database. However, recommendations contained in the VCRIS forms concluded that while individual resources lacked significance, the community, as a whole, possesses historic importance as among the City’s last planned communities with beachfront access and limited commercial development, particularly when initial development (ca. 1958) is combined with the more recent development (1970-85) in the community. Formal consideration of the area as a whole as an historic district was recommended in the near future (2030). Based on this recommendation, the importance of the community to the history of the City of Virginia Beach, the long-standing history of local municipal preservation interest, and the importance of maritime setting to the character of the area, the Sandbridge area was considered as a potential historic district for the purposes of the current assessment. This approach is consistent with methodology adopted for properties surveyed but not yet evaluated, as well as the

recognizes the potential local historical significance of the Sandbridge area to the development of the City of Virginia Beach under Criteria A of the National Register Criteria for Evaluation (36 CFR 60 [a-d]).

A formal boundary delineation of the potential historic district has not been made to date. Maps accompanying this assessment include the neighborhood boundaries for reference and anticipate that the definition of formal boundaries will accompany a formal determination of National Register eligibility. The potential district is anticipated to include residential development; Sandbridge Beach, an oceanfront amenity of approximately 4.5 miles; and Fire Station 17, a two-bay firehouse constructed by the residents of Sandbridge in 1975 and currently manned by the Virginia Beach Fire Department. The Sandbridge Lifesaving Station (DHR ID 134-0596), a surveyed but unevaluated property was among the properties documented by the City of Virginia Beach during the first architectural survey of the south section of the City in 1992. Sandbridge is a physically isolated seaside residential community distinguished by its beach front and ocean orientation. The Station, constructed in 1920, is recorded as among the oldest surviving lifesaving facilities in Virginia Beach and is closely associated with the recreational history and orientation of the Sandbridge community during the twentieth century. Fire Station 17 replaced an earlier fire station and currently houses the Sandbridge Lifeguard Service (summer) and the Sandbridge Volunteer Rescue Squad.

Sandbridge is a residential coastal community in south Virginia Beach accessible from Sandbridge Road. The community is located on the Currituck Banks Peninsula separating North Bay from the Atlantic Ocean. Predominantly single-family dwellings on single building lots are organized along a densely developed attenuated grid plan that extends along the peninsula from the Atlantic Ocean beach to the North Bay, with most recent development extending into the bay along irregular cul-de-sacs. Beach and waterfront orientation dominates the architectural character of the community, which comprises low scale, one- to three- story, frame dwellings of irregular size and massing. Dwellings occupying lots between Sandbridge Road and the beach are sited with direct beach access and sweeping ocean views. The compressed land area and development plan affords ocean views from the majority, if not all, dwellings in the community.

While the maritime character of the City of Virginia Beach has changed and evolved over the twentieth century with progressive military and private sector development, Sandbridge has retained its overall integrity of setting, feeling, and association as an isolated, residential enclave oriented to the beach and water due, in part, to its limited assess and residential use. The development in the Sandbridge area is characterized by its isolation from the urban center, compact development along the peninsula, and water orientation. Beach front building orientation and ocean setting are important to the historical integrity of the 20th-century planned community. The introduction of the WTG array within the community's viewshed could alter the community's setting and orientation to the existing managed, but natural, landscape, thus affecting its overall integrity. The scale and industrial character of the array differs from the community's scale and dominant residential character. While the visibility of the Project to the contemporary visitor will be limited, the unobstructed ocean setting is important to the historical integrity of the Sandbridge area as a mid-20th century seaside community developed to capitalize on its natural setting. Therefore, due to altering the unobstructed ocean setting and overall integrity of the Sandbridge community, the Project would result in an adverse effect to the potential historic district.

3.2.22 NC SHPO ID: CK0106, Currituck Beach Lighthouse (NRHP Listed)

The Currituck Beach Lighthouse Complex Boundary Expansion is a historic resource which includes the following components: the individually listed Currituck Beach Lighthouse (CK0001); the Light Keepers' House; the Light Keepers' Rainwater Cistern; the Small Light Keepers' House, Cistern, and Privy; a Storehouse; and the Lighthouse Compound Landscape. The complex and boundary expansion was listed in the NRHP under Criteria A and C for significance in maritime history and architecture (Smith 1999). The maritime complex resource is situated in a coastal beach town setting, setback from the beachfront on a flat, wooded lot. Most resources associated with the complex have minimal views to the ocean due to intervening development and vegetation. However, the Currituck Beach Lighthouse is 162-feet in height with clear views toward the Atlantic Ocean. Maritime association is a character-defining feature from the property and the historic property is anticipated to have minimal views of the turbines under ideal weather conditions solely from the Lighthouse structure due to its height above low-lying treelines. Location and setting affording water visibility contribute to the historical integrity of the engineering structure.

As a result of the Project, the integrity of location, workmanship, design, and materials would not be affected. However, the integrity of setting, feeling, and association of the lighthouse would be diminished. Unobstructed ocean views and a beachside or maritime setting are character-defining features of the property that contribute to its significance because they were integral considerations in the placement and design of the property. The introduction of modern elements would interfere with how visitors experience the historically and currently unadulterated ocean viewscape. Therefore, the Project would result in an adverse effect to the lighthouse.

4 MITIGATION MEASURES

This section details the mitigation measures to resolve adverse effects to historic properties stipulated in the MOA, and describes the purpose and intended outcome, scope of work, methodology, standards, deliverables and funds and accounting for each measure. The content of this section was developed on behalf of Dominion Energy by individuals who meet Secretary of the Interior's (SOI) Professional Qualifications Standards for History, Architectural History and/or Architecture (62 FR 33708) and is consistent with fulfilling the mitigation measures such that they fully address the nature, scope, size, and magnitude of the visual adverse effect. Fulfillment of the mitigation measures will be led by individuals who meet SOI Qualifications Standards for History, Architectural History and/or Architecture.

Virginia Beach is the location of 21 of the 22 adversely affected historic properties addressed in this HPTP. Virginia Beach has received Certified Local Government (CLG) status from the Virginia Department of Historic Resources, denoting that the city has enacted local preservation ordinances and comments on National Register of Historic Places (NRHP) nominations. As a CLG, Virginia Beach has experience receiving and administering preservation grants. Virginia Beach's CLG status was considered while developing mitigation. Dominion Energy met with the City of Virginia Beach on March 13, 2023, to discuss potential mitigation. Virginia Beach stated their priorities for mitigation including survey, NRHP nominations, renovation planning, and sea level rise mitigation planning.

The resource in North Carolina that would be affected by the Project is located in Currituck County, which is also a CLG. Dominion Energy met with Outer Banks Conservationists on March 21, 2023 to discuss adverse effects to the Currituck Lighthouse resulting from the Project and solicit their feedback on mitigation priorities in development of the HPTP. Dominion Energy reviewed the HRVEA methodology, results of the Currituck Lighthouse visual simulations, and responded to questions from Outer Banks Conservationists regarding the visual effects from the Project and process for compensation determination. Dominion Energy proposed a donation to Outer Banks Conservationists commensurate with Project impacts to contribute to the upkeep and renovation to the lighthouse.

These mitigation options were developed to further preservation, preservation education, and preservation scholarship in the public interest. The mitigations that have been developed are classified as “alternative” or “creative” mitigation—mitigation that does not prescribe the traditional documentation of the affected resources, but, rather, chooses to further the preservation needs of the community as a whole. Guidance on alternative mitigation can be found by the Advisory Council on Historic Preservation.²

4.1 Mitigation Measure—Support for survey and documentation of Doyletown and Queen City, Virginia Beach

4.1.1 Purpose and Intended Outcomes

Based on input from Participating Parties during consultation, Dominion Energy will provide financial support to either fully or partially fund the survey and documentation of Doyletown and Queen City, both of which were identified as potentially eligible historically African American neighborhoods in the 2018 Historic Architecture Resource Survey Update City of Virginia Beach, Virginia Northern Half. The funds will support scholarship on these historic properties and further the understanding of the properties by the public. This measure serves to educate the public on residential historic districts and serves to mitigate the adverse effects to Sandbridge Historic District and Cavalier Shores Historic District—both residential historic districts.

4.1.2 Scope of Work and Methodology

The scope of work for this mitigation measure will consist of the following:

- Dominion Energy will fund the agreed upon survey and documentation in accordance with the funding amounts listed in Attachment 10 of the MOA.
- The City of Virginia Beach will oversee scheduling, set standards, hire contractors, and review draft and final deliverables.
- Dominion Energy will provide notification of compliance with this scope of work in the annual report pursuant to Stipulation XIII of the MOA.

² https://www.achp.gov/Section_106_Archaeology_Guidance/Questions%20and%20Answers/Reaching%20agreement%20on%20Appropriate%20Treatment

4.1.3 Standards

The project will comply with the following standards:

- Guidelines for Conducting Historic Resources Survey in Virginia
- Secretary of the Interior’s Professional Qualification Standards for architectural history

4.1.4 Deliverables

The City of Virginia Beach will oversee the deliverables of this project resulting in survey report(s) and accompanying forms. Dominion Energy will provide notification to BOEM and all signatories, invited signatories, and consulting parties that the funding was provided.

4.1.5 Funds and Accounting

Dominion Energy will provide the funding for this project to the City of Virginia Beach in accordance with the funding amounts identified in Attachment 10 of the MOA.

4.2 Mitigation Measure—Support for planning for renovation and expansion of the Cape Henry Lighthouse Visitor Services Center

4.2.1 Purpose and Intended Outcomes

Dominion Energy will provide financial support to either fully or partially fund the development of a renovation and expansion plan for the Cape Henry Lighthouse Visitor Services Center. These funds will support the interpretation of the first and second Cape Henry lighthouses for the public good. This measure serves to mitigate the adverse effects to the First and Second Cape Henry Lighthouses—both present on the site.

4.2.2 Scope of Work and Methodology

The scope of work for this mitigation measure will consist of the following:

- Dominion Energy will fund the agreed upon renovation and expansion plan in accordance with the funding amounts listed in Attachment 10 of the MOA.
- Preservation Virginia will oversee scheduling, hiring contractors, and executing the renovation and expansion plan.
- Preservation Virginia will make good faith efforts to ensure the funded activities are implemented by professionals who meet the Secretary of the Interior’s Professional Qualifications Standards, as applicable.
- Preservation Virginia will ensure the draft plans, final plans, and any construction associated with the funded activities meet the Secretary of the Interior’s Standards for the Treatment of Historic Properties.
- Preservation Virginia will ensure the draft plans associated with the funded activities are submitted to VDHR for their review and comment.

- Dominion Energy will provide notification of compliance with this scope of work in the annual report pursuant to Stipulation XIII of the MOA.

4.2.3 Standards

The project will comply with the following standards:

- Secretary of the Interior’s Standards for the Treatment of Historic Properties
- State and local laws, including zoning and building codes as applicable

4.2.4 Deliverables

Preservation Virginia will oversee the deliverables of this project resulting in a renovation and expansion plan. Dominion Energy will provide notification to BOEM and all signatories, invited signatories, and consulting parties that the funding was provided.

4.2.5 Funds and Accounting

Dominion Energy will provide the funding for this project to Preservation Virginia in accordance with the funding amounts identified in Attachment 10 of the MOA.

4.3 Mitigation Measure—Support for the preparation of a NRHP nomination for the Pocahontas Fowling Club and the Princess Anne County Gunning and Hunt Clubs MPD

Dominion Energy will provide financial support to either fully or partially fund the preparation of NRHP nominations for the Pocahontas Fowling Club and the Princess Anne County Gunning and Hunt Clubs MPD. These funds will support scholarship on these historic properties and further the understanding of the properties by the public. This measure serves to educate the public on hunt clubs and serves to mitigate the adverse effects to various properties in Virginia Beach.

4.3.1 Scope of Work and Methodology

The scope of work for this mitigation measure will consist of the following:

- Dominion Energy will fund the agreed upon NRHP nominations in accordance with the funding amounts listed in Attachment 10 of the MOA.
- The City of Virginia Beach will oversee scheduling, hire contractors, and review draft and final deliverables.
- The City of Virginia Beach will ensure the nominations associated with the funded activities are submitted to the VDHR and NPS (as applicable) for their review, comment, and signature.
- Dominion Energy will provide notification of compliance with this scope of work in the annual report pursuant to Stipulation XIII of the MOA.

4.3.2 Standards

The project will comply with the following standards:

- National Register Bulletin 16A: How to Complete the National Register Registration Form and other National Register Bulletins as applicable
- Secretary of the Interior’s Professional Qualification Standards for architectural history

4.3.3 Deliverables

The City of Virginia Beach will oversee the deliverables of this project resulting in two NRHP nominations. Dominion Energy will provide notification to BOEM and all signatories, invited signatories, and consulting parties that the funding was provided.

4.3.4 Funds and Accounting

Dominion Energy will provide the funding for this project to the City of Virginia Beach in accordance with the funding amounts identified in Attachment 10 of the MOA.

4.4 Mitigation Measure—Support for preservation planning documents and educational programs

4.4.1 Purpose and Intended Outcomes

Dominion Energy will provide financial support to either fully or partially fund preservation planning priorities or educational programs for the City of Virginia Beach. Examples for use of these funds may include one or more of the following: hiring a contractor to develop a Sea Level Rise Mitigation Plan, supporting educational programs and interpretation of the Virginia Beach Surf and Rescue Museum located in the Seatack Lifesaving Station/U.S. Coast Guard Station, and supporting educational programs and interpretation of the Atlantic Wildfowl Heritage Museum/De Witt Cottage. This mitigation measure will further preservation efforts of historic buildings in Virginia Beach for the public good. The measure will mitigate adverse effects to various properties in Virginia Beach.

4.4.2 Scope of Work and Methodology

The scope of work for this mitigation measure will consist of the following:

- Dominion Energy will fund the agreed upon priority projects or specified activities associated with the priority projects in accordance with the funding amounts listed in Attachment 10 of the MOA.
- The City of Virginia Beach will determine, and notify Dominion Energy and BOEM, which priority preservation projects will be funded, oversee scheduling, set standards, hire contractors, and review draft and final deliverables, as applicable.
- The City of Virginia Beach will make good faith efforts to ensure the funded activities are implemented by professionals who meet the Secretary of the Interior’s Professional Qualifications Standards, as applicable.

- Dominion Energy will provide notification of compliance with this scope of work in the annual report pursuant to Stipulation XIII of the MOA.

4.4.3 Standards

The project will comply with the following standards:

- Secretary of the Interior’s Standards for the Treatment of Historic Properties (for applicable projects)
- Secretary of the Interior’s Professional Qualification Standards as applicable
- State and local laws, including zoning and building codes as applicable

4.4.4 Deliverables

The City of Virginia Beach will oversee the deliverables of this project, which may result in a Sea Level Rise Mitigation Plan, and educational and interpretation programs. Dominion Energy will provide notification to BOEM and all signatories, invited signatories, and consulting parties that the funding was provided.

4.4.5 Funds and Accounting

Dominion Energy will provide the funding for this measure to the City of Virginia Beach in accordance with the funding amounts identified in Attachment 10 of the MOA.

4.5 Mitigation Measure—Support for the restoration and maintenance of Currituck Beach Lighthouse

Dominion Energy will provide financial support to either fully or partially fund priority preservation projects as determined by the Outer Banks Conservationists—the organization that maintains the Currituck Beach Lighthouse. The funds may be used for, but not limited to, exterior masonry repairs, interior masonry and ironwork, a conditions assessment of the original First Order Fresnel lens, and other annual lighthouse restoration maintenance. This measure serves to mitigate effects to the Currituck Beach Lighthouse.

4.5.1 Scope of Work and Methodology

- Dominion Energy will fund the agreed upon priority projects in accordance with the funding amounts listed in Attachment 10 of the MOA.
- Outer Banks Conservationists will determine, and notify Dominion Energy and BOEM, which priority preservation projects will be funded, oversee scheduling, set standards, hire contractors, and review draft and final deliverables, as applicable.
- Outer Banks Conservationists will oversee scheduling, set standards for applicable projects, hire contractors, review final conditions assessments as applicable, and deliver final conditions assessments to NC SHPO as applicable.

- Outer Banks Conservationists will make good faith efforts to ensure the funded activities are implemented by professionals who meet the Secretary of the Interior’s Professional Qualifications Standards, as applicable.
- Dominion Energy will provide notification of compliance with this scope of work in the annual report pursuant to Stipulation XIII of the MOA.

4.5.2 Standards

The project will comply with the following standards:

- Secretary of the Interior’s Standards for the Treatment of Historic Properties (for applicable projects)
- State and local laws, including zoning and building codes as applicable

4.5.3 Deliverables

Outer Banks Conservationists will oversee any deliverables associated with the funded projects, which may include a conditions assessment of the First Order Fresnel lens. Dominion Energy will provide notification to BOEM and all signatories, invited signatories, and consulting parties that the funding was provided.

4.5.4 Funds and Accounting

Dominion Energy will provide the funding for this project to Outer Banks Conservationists in accordance with the funding amounts identified in Attachment 10 of the MOA.

5 IMPLEMENTATION

5.1 Timeline

Within one year of the MOA being executed, Dominion Energy will fund the mitigation measures described above. Tasks associated with all measures can occur during and/or after construction. Mitigation measures within this HPTP are to be completed within five years of funding, unless a different timeline is agreed upon by Participating Parties and accepted by BOEM and may be completed simultaneously, as applicable.

5.2 Annual Reporting

Following the execution of the MOA and until BOEM determines that these mitigation measures have been completed, Dominion Energy, with the cooperation of the City of Virginia Beach, Outer Banks Conservationists, and Preservation Virginia, shall prepare an annual summary report detailing work undertaken pursuant to the MOA consistent with MOA Stipulation XIII (Monitoring and Reporting), including the mitigation measures outlined in the final HPTP. Following BOEM review and approval, Dominion Energy will distribute the summary report to all signatories, invited signatories, and consulting parties to the MOA by January 31, and summarize the work undertaken during the previous year.

5.2 Organizational Responsibilities

5.2.1 BOEM

- Act as the lead federal agency and oversee Section 106 compliance;
- Ensure that the mitigation measures adequately resolve adverse effects, consistent with the NHPA, and in consultation with interested consulting parties;
- Consult with Dominion Energy, VDHR, NCHPO, ACHP, Tribes, and other consulting parties;
- Review and approve the annual summary report;
- Oversee consultation with consulting parties;
- Oversee consultation related to dispute resolution.

5.2.2 Dominion Energy

- Fund mitigation measures.
- Prepare Annual Report, submit reporting to BOEM for review and approval, and distribute to consulting parties per the Mitigation Measures section of this HPTP

5.2.3 VDHR and NCHPO

- Consult as appropriate, on the implementation of the HPTP.

5.2.4 ACHP

- Consult as appropriate, on the implementation of the HPTP.

5.2.5 City of Virginia Beach

- Implement the scope of work and ensure compliance with the standards as identified in the Mitigation Measures section of this HPTP
- Communicate progress of implementation of mitigation measures to Dominion Energy for inclusion in Dominion Energy's Annual Report

5.2.6 Outer Banks Conservationists

- Implement the scope of work and ensure compliance with the standards as identified in the Mitigation Measures section of this HPTP
- Communicate progress of implementation of mitigation measures to Dominion Energy for inclusion in Dominion Energy's Annual Report

5.2.7 Preservation Virginia

- Implement the scope of work and ensure compliance with the standards as identified in the Mitigation Measures section of this HPTP
- Communicate progress of implementation of mitigation measures to Dominion Energy for inclusion in Dominion Energy's Annual Report

6 FINALIZATION

6.1 Notification

Upon completion of the selected mitigation measures, Dominion will notify BOEM and the signatories of the MOA.

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**ATTACHMENT 6 – OFFSHORE HISTORIC PROPERTIES TREATMENT PLAN – FORT
STORY HISTORIC DISTRICT**

DRAFT

Offshore Historic Properties Treatment Plan— Fort Story Historic District

Prepared for:



600 East Canal Street
Richmond, Virginia 23219

Prepared by:



Tetra Tech, Inc.
4101 Cox Road, Suite 120
Glen Allen, VA 23060

www.tetrattech.com

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LIST OF ACRONYMS

ac	acre
ACHP	Advisory Council on Historic Preservation
APE	Area of Potential Effect
BOEM	Bureau of Ocean Energy Management
ca.	circa
CFR	Code of Federal Regulations
CLG	Certified Local Government
COP	Construction Operation Plan
CVOW	Coastal Virginia Offshore Wind
dBA	A-weighted decibel
Dominion Energy	Virginia Electric and Power Company, d/b/a Dominion Energy Virginia
ft	foot
GIS	Geographic Information System
ha	hectare
HDD	horizontal directional drilling
HP KOP	Historic Properties Key Observation Point
HPTP	Historic Preservation Treatment Plan
HRVEA	Historic Resources Visual Effects Analysis
km	kilometer
KOP	Key Observation Point
Lease Area	the OCS-A 0483 Lease, located approximately 27 mi (23.75 nautical miles, 43.99 kilometers) off the coast of Virginia and includes approximately 112,799 acres (45,658 hectares) of submerged lands
Lessee	Dominion Energy
m	meter
mi	mile
MPDF	Multiple Property Documentation Form
MW	megawatt
NEPA	National Environmental Policy Act
NHL	National Historic Landmark
NHPA	National Historic Preservation Act of 1966
nm	nautical mile
NPS	National Park Service
NRHP	National Register of Historic Places
OCS	Outer Continental Shelf
PAPE	Preliminary Area of Potential Effects
PDE Project	Project Design Envelope Dominion Coastal Virginia Offshore Wind Commercial Project
RCG&A	R. Christopher Goodwin & Associates, Inc.
SHPO	State Historic Preservation Office
TCP	Traditional Cultural Property
Undertaking	Coastal Virginia Offshore Wind Commercial Project
VCRIS	Virginia Cultural Resource Information System
VDHR	Virginia Department of Historic Resources
VLR	Virginia Landmark Register
WEA	Wind Energy Area

WTG

Wind Turbine Generator

DRAFT

1 EXECUTIVE SUMMARY

This Historic Preservation Treatment Plan (HPTP) was developed to support fulfillment of Stipulation III of the MEMORANDUM OF AGREEMENT (MOA) AMONG THE BUREAU OF OCEAN ENERGY MANAGEMENT, THE STATE HISTORIC PRESERVATION OFFICERS OF VIRGINIA AND NORTH CAROLINA, AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION REGARDING THE COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT. This document was prepared to provide background data, information on historic properties, and detailed implementation steps for mitigation measures developed to resolve adverse visual effects to one of the 24 historic properties identified by the Bureau of Ocean Energy Management (BOEM) through Section 106 consultation for the Coastal Virginia Offshore Wind Commercial Project (Undertaking), as identified by the Offshore Historic Resources Visual Effects Analysis (HRVEA), dated October 2022, and submitted to BOEM on October 21, 2022, and as amended by the Finding of Effect (Appendix O of the Final Environmental Impact Statement for the Coastal Virginia Offshore Wind Commercial Project) dated August 2023. The Offshore HRVEA summarized effects from Offshore Project Components to historic properties. The mitigation measures within this document, and their implementation if selected, were developed in consultation with federally and state recognized tribes, the Virginia Department of Historic Resources (VDHR), the Advisory Council on Historic Preservation (ACHP), and other consulting parties.

2 BACKGROUND INFORMATION

2.1 Project Overview

BOEM has determined that the CVOW Commercial Project (Undertaking) constitutes an undertaking subject to Section 106 of the National Historic Preservation Act (NHPA; 54 U.S.C. § 306108) and its implementing regulations (36 CFR §800). The proposed activities to support the Project, as detailed in the CVOW Commercial Project Construction and Operations Plan (COP), have the potential to affect historic properties. The work of the Project detailed in the COP will be performed for the Virginia Electric and Power Company, doing business as Dominion Energy Virginia (Dominion Energy). The Project is located in the Commercial Lease of Submerged Lands for Renewable Energy Development on the Outer Continental Shelf (OCS) Offshore Virginia (Lease No. OCS-A-0483, Lease Area), which was awarded to Dominion Energy (Lessee) through the Bureau of Ocean Energy Management (BOEM) competitive renewable energy lease auction of the Wind Energy Area (WEA) offshore of Virginia in 2013. The Lease Area covers approximately 112,799 acres (ac; 45,658 hectares [ha]) and is approximately 27 statute miles (mi) (23 nautical miles [nm], 43 kilometers [km]) off the Virginia Beach coastline. The Offshore Export Cable Route Corridor will connect the Lease Area to a Cable Landing Location at the State Military Reservation (SMR) in Virginia Beach, VA.

The Offshore HRVEA (Appendix H-1) that was prepared as part of the CVOW Commercial Project COP evaluated effects to historic properties from Offshore Project Components. Based on the results of the Offshore HRVEA and through Section 106 consultation, BOEM determined that the Undertaking will result in an adverse visual effect to 24 properties that are either listed or treated as eligible for listing for purposes

of this analysis.¹ This HPTP details the proposed mitigation measures for one of these properties, Fort Story Historic District, which is owned by the Navy. The proposed mitigation measures for the other 23 properties are included in two separate HPTPs: *Offshore Historic Properties Treatment Plan – Offshore Project Components in Virginia Beach, VA and Currituck, NC* and *Historic Properties Treatment Plan Camp Pendleton State Military Reservation Historic District*. Consultation will be undertaken between federally and state recognized Native American Tribes, VDHR, the Navy, and other consulting parties to develop manners in which to avoid, minimize, and mitigate adverse effects to this historic property. The resolution of adverse effects is recorded in the Section 106 MOA currently in draft titled MEMORANDUM OF AGREEMENT (MOA) AMONG THE BUREAU OF OCEAN ENERGY MANAGEMENT, THE STATE HISTORIC PRESERVATION OFFICERS OF VIRGINIA AND NORTH CAROLINA, AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION REGARDING THE COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT (MOA). This HPTP was developed in support of the MOA.

2.1.1 Section 106 of the NHPA

This plan was developed to address the items proposed in the MOA intended to help mitigate the visual adverse effects from the Undertaking.

2.1.1.1 Resolution of Adverse Effects Measures in the MOA

Prior to implementation of the MOA, local governments and commissions may require coordination to obtain approvals for mitigation measures including planning boards, historic review commissions, zoning, and code enforcement. All mitigation work selected and completed as outlined in this HPTP will follow applicable historic preservation laws.

Participating parties are defined as consulting parties that have a critical and functional role in fulfilling the mitigation stipulations of the MOA. The roles of participating parties are outlined in Section 4.0 of the HPTP. A list of participating parties is provided in Table 1.

Table 1. Participating Parties in Consultation

Name	Relationship to Historic Property	Address
Joint Expeditionary Base Little Creek-Fort Story	Governing Entity	Solomons Road, Virginia Beach, VA

¹ Through Section 106 consultation with the U.S. Navy and NAS Oceana, it was determined that the Dam Neck Annex was misidentified as an NRHP-eligible property in the HRVEA. The only eligible property associated with NAS Oceana is the Surface-Launched Guided Missile School Historic District. Through a review of the historic significance of the property and consultation with NAS Oceana, BOEM determined that this property, though within the visual APE, would not be adversely affected by the Project. Therefore, BOEM determined that 24 historic properties within the visual APE for Offshore Project components would be adversely affected.

3 HISTORIC SIGNIFICANCE AND EXISTING CONDITIONS OF THE HISTORIC PROPERTY

One historic property is included in this HPTP based on analysis of visual effects to properties as outlined in the HRVEA (Appendix H-1 of the COP); this property is listed in Table 2. This property is located in Virginia Beach, Virginia.

Table 2. Table of Effected Properties

SHPO ID Number	Name	City	State	Eligibility
134-0660	Fort Story Historic District	Virginia Beach	VA	NRHP, VLR Listing, NHL lighthouse

3.1 Historic Context and Significance

3.1.1 Virginia Beach, Virginia

Virginia Beach emerged as a resort town during the second half of the nineteenth century. Travelers came to visit what was called “Virginia Beach” during the late nineteenth and early twentieth centuries by rail and car. A rail line connecting Virginia Beach and Norfolk was opened in 1883 by Colonel Marshall Parks, a developer, who constructed beachside amenities to attract Norfolk residents. The area was incorporated in 1906.

Military activity in Virginia Beach increased during World War I to protect Cape Henry (Cultural Resource Analysts, Inc. and Debra A. McClane 2018). State Military Reservation (SMR), formerly known as Camp Pendleton, was established as a summer training camp for the Virginia National Guard; it subsequently became an Army rifle range (The Beacon 1988; Watts 2007; and Moffett 2003).

Along with military construction, the oceanfront resort area continued to grow. Development accelerated during and after World War II, a conflict that permanently changed the character of the region. Early twentieth century military installations were enlarged, and the region’s population soared as military personnel were transferred into the area. Three of the region’s present military installations originated during World War II: Oceana Naval Air Station (1940); the Fleet Combat Training Center at Dam Neck (1941); and, Little Creek Amphibious Base (1945) (Watts 2007). The resort function of Virginia Beach also continued to expand through the twentieth century. In 1963, Princess Anne County merged with the resort town of Virginia Beach to form the City of Virginia Beach. This merger signaled a burst of rapid urban growth and industrial development that continues to encroach upon the open farmlands and barrier beaches south of Virginia Beach. Development remained concentrated along the beachfront until the 1960s when inland suburban communities began to form. In 1977, Virginia Beach was ranked as the fourth fastest growing city in the country (The Beacon 1988).

3.2 NRHP Criteria and Aspects of Integrity Affected by the Undertaking

This section details the historic and physical context of the affected properties and their character defining views to the ocean.

3.2.1 DHR ID: 134-0660, Fort Story Historic District (NRHP Listed)

“Fort Story is located on 1,458 acres of government-owned land on Cape Henry, on the south side of the opening to the Chesapeake Bay in Virginia Beach, Virginia. The installation is bounded roughly by the Atlantic Ocean and Chesapeake Bay to the north, 89th Street and First Landing State Park to the east, Kwajalein Road and Atlantic Avenue to the west, and Shore Drive (US-60) to the south. Cape Henry is located in Virginia’s Lower Tidewater area, at the interface between the mouth of the Chesapeake Bay and the Atlantic Ocean. Located between the urban centers of Norfolk to the northwest and Virginia Beach to the south, Fort Story remains relatively isolated from these areas of development as a result of the security measures put in place by the Army during its tenure there. The landscape adjacent to the waterfront consists of large swaths of sand dunes and scrub vegetation. Behind the shoreline is a large area known historically as “the Desert,” which is covered by a primeval forest of cypress and other trees intermixed with freshwater springs. The area currently displays a distinctly military appearance due to the strictly military nature of Fort Story and the secure entrance areas. The Fort Story Historic District (DHR ID: 134-0660) is eligible for the NRHP under Criterion A for its association with Military History and Government (Dutton + Associates, LLC 2012). The district is of exceptional historical importance for its role in the defense of the Tidewater area of Virginia during the Cold War. The individually eligible Building 591/Old Fort Story Railroad Depot (DHR ID: 134-0660-0041/134-0082), the First Cape Henry Lighthouse National Historic Landmark (DHR ID: 134-0007), and the NRHP-listed Second Cape Henry Lighthouse (DHR ID: 134-0079/114-5250) are located within the Fort Story Historic District boundary, but they do not contribute to the district’s NRHP eligibility (Dutton + Associates, LLC 2012).

Fort Story is coastal fortification that has been significant to the country’s defense for two centuries. Strategic coastal location with viewsheds to the ocean were important factors in site selection, design, and operation. The integrity of setting assumes greater importance to the significance of the property due to its functional imperative.

As a result of the Project, the integrity of location, workmanship, design, and materials would not be affected. However, the integrity of setting, feeling, and association of the historic district would be diminished. Unobstructed ocean views and a beachside or maritime setting are character-defining features of the property that contribute to its significance because they were integral considerations in the placement and design of the property. The introduction of modern elements would interfere with how visitors experience the historic and current ocean viewscape. Therefore, the Project would result in an adverse effect to the historic district.

4 MITIGATION MEASURES

This section details the mitigation measures to resolve adverse effects to historic properties stipulated in the MOA, and describes the purpose and intended outcome, scope of work, methodology, standards, deliverables and funds and accounting for each measure. The content of this section was developed on behalf of Dominion Energy by individuals who meet Secretary of the Interior (SOI) Qualifications Standards for History, Architectural History and/or Architecture (62 FR 33708) and is consistent with fulfilling the mitigation measures such that they fully address the nature, scope, size, and magnitude of the

visual adverse effect. Fulfillment of the mitigation measures will be led by individuals who meet SOI Professional Qualifications Standards for History, Architectural History and/or Architecture.

These mitigation options were developed to further preservation, preservation education, and preservation scholarship in the public interest. The mitigations that have been developed are classified as “alternative” or “creative” mitigation—mitigation that does not prescribe the traditional documentation of the affected resources, but, rather, chooses to further the preservation needs of the community as a whole. Guidance on alternative mitigation can be found by the Advisory Council on Historic Preservation.²

4.1 Mitigation Measure—Update and Replace up to 5 Interpretive Panels in the Fort Story Historic District

4.1.1 Purpose and Intended Outcomes

Dominion Energy will hire contractors to design and install up to five interpretive panels at the Fort Story Historic District. These funds will support scholarship on this historic property and further the understanding of the property by the public. This measure serves to educate the public on the historic district and serves to mitigate the adverse effects to the Fort Story Historic District.

4.1.2 Scope of Work and Methodology

The scope of work for this mitigation is that Dominion Energy will hire contractors to design and install the interpretive panels at Fort Story in coordination with the Joint Expeditionary Base Little Creek-Fort Story.

4.1.3 Standards

The project will comply with the following standards:

- Secretary of the Interior’s Standards for the Treatment of Historic Properties
- Secretary of the Interior’s professional qualification standards as applicable
- State and local laws, including zoning and building codes as applicable

4.1.4 Deliverables

Dominion Energy will oversee the deliverables of this project resulting in the installation of up to five interpretive panels at the Fort Story Historic District. Dominion Energy will provide notification to BOEM and all signatories and invited signatories that the mitigation measure has been completed.

4.1.5 Funds and Accounting

Dominion Energy will provide the funding for this project to contractors.

² https://www.achp.gov/Section_106_Archaeology_Guidance/Questions%20and%20Answers/Reaching%20agreement%20on%20Appropriate%20Treatment

5 IMPLEMENTATION

5.1 Timeline

Within one year of the MOA being executed, Dominion Energy will fund the mitigation measures described above. Tasks associated with all measures can occur during and/or after construction. Mitigation measures within this HPTP are to be completed within five years of funding, unless a different timeline is agreed upon by Participating Parties and accepted by BOEM and may be completed simultaneously, as applicable.

5.2 Annual Reporting

Following the execution of the MOA and until BOEM determines that these mitigation measures have been completed, Dominion Energy, with the cooperation of the Joint Expeditionary Base Little Creek-Fort Story, shall prepare an annual summary report detailing work undertaken pursuant to the MOA consistent with MOA Stipulation XIII (Monitoring and Reporting), including the mitigation measures outlined in the final HPTP. Following BOEM review and approval, Dominion Energy will distribute the summary report to all signatories, invited signatories, and consulting parties to the MOA by January 31, and summarize the work undertaken during the previous year.

5.3 Organizational Responsibilities

5.3.1 BOEM

- Act as the federal agency and oversee Section 106 compliance;
- Ensure that the mitigation measures adequately resolve adverse effects, consistent with the NHPA, and in consultation with interested consulting parties;
- Consult with Dominion Energy, VDHR, NCHPO, ACHP, Tribes, and other consulting parties;
- Review and approve the annual summary report;
- Oversee consultation with consulting parties;
- Oversee consultation related to dispute resolution.

5.3.2 Dominion Energy

- Fund mitigation measure;
- Hire contractor to design and install interpretive panels;
- Prepare Annual Report, submit reporting to BOEM for review and approval, and distribute to consulting parties per the Mitigation Measures section of this HPTP.

5.3.3 VDHR

- Consult as appropriate, on the implementation of the HPTP.

5.3.4 ACHP

- Consult as appropriate, on the implementation of the HPTP.

5.3.5 United States Navy/Joint Expeditionary Base Little Creek-Fort Story

- Provide direction on design and content of interpretive signs and provide access to site for installation of panels.

6 FINALIZATION

6.1 Notification

Upon completion of the selected mitigation measures, Dominion will notify BOEM and the signatories of the MOA.

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7 REFERENCES

- The Beacon. 1988. 25th Anniversary Supplement to The Beacon. The Virginian-Pilot and Ledger-Star. Norfolk, Virginia.
- Cultural Resource Analysts, Inc. and Debra A. McClane. 2018. Historic Architectural Resource Survey Update, City of Virginia Beach, Virginia: Northern Half. Prepared for the Historic Preservation Commission, Department of Planning and Community Development, City of Virginia Beach, Virginia.
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**ATTACHMENT 7 – HISTORIC PROPERTIES TREATMENT PLAN CAMP PENDLETON
STATE MILITARY PRESERVATION HISTORIC DISTRICT**

DRAFT



**Dominion
Energy®**

Historic Properties Treatment Plan Camp Pendleton State Military Reservation Historic District

Coastal Virginia Offshore Wind Commercial
Project, City of Virginia Beach, Virginia

14 April 2023 14 August 2023

Project No.: 0522898

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14 April 2023

Historic Properties Treatment Plan Camp Pendleton State Military Reservation Historic District

Coastal Virginia Offshore Wind Commercial Project, City of Virginia
Beach, Virginia



Emily Tucker-Laird
Principal Cultural Resource



Mary Beth Derrick
Architectural Historian



Jeffrey L. Holland
Senior Historian

ERM
3300 Breckinridge Boulevard
Suite 300
Duluth, GA 30096

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Acronyms and Abbreviations

Name	Description
ACHP	Advisory Council on Historic Preservation
ANGRC	Air National Guard Readiness Center
APE	Area of Potential Effects
BOEM	Bureau of Ocean Energy Management
CFR	Code of Federal Regulations
CLH	Cable Landing to Harpers
CVOW	Coastal Virginia Offshore Wind Commercial Project
COP	Construction and Operations Plan
CWA	Civil Works Administration
DEIS	Draft Environmental Impact Statement
ERM	Environmental Resources Management
GNSS	Global Navigation Satellite System
HABS	Historic American Buildings Survey
HDD	Horizontal Directional Drill
HDP	Heritage Documentation Programs
HPTP	Historic Properties Treatment Plan
ICRMP	Integrated Cultural Resources Management Plan
MOA	Memorandum of Agreement
NAS	Naval Air Station
NPS	National Park Service
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
ROW	Right-of-Way
SCC	State Corporation Commission
SMR	State Military Reservation
SOI	Secretary of the Interior
TL	Transmission Line
USACE	U.S. Army Corps of Engineers
USN	U.S. Navy
V-CRIS	Virginia Cultural Resource Information System
VDHR	Virginia Department of Historic Resources
VDMA	Virginia Department of Military Affairs
VLR	Virginia Landmarks Register

EXECUTIVE SUMMARY

This document presents an Historic Properties Treatment Plan (HPTP) to mitigate adverse effects on historic resource 134-0413, the Camp Pendleton State Military Reservation (SMR) Historic District, prepared by Environmental Resources Management, Inc. (ERM) on behalf of Dominion Energy Virginia (Virginia Electric and Power Company or Company) for an onshore electric transmission line associated with the proposed Coastal Virginia Offshore Wind (CVOW) Commercial Project (Project). Because the overall Project is regulated by the Bureau of Ocean Energy Management (BOEM), it is subject to the provisions of Section 106 of the National Historic Preservation Act (NHPA).

BOEM's Finding of Adverse Effect for the Coastal Virginia Wind Construction and Operations Plan determines that 24 historic properties will be adversely affected by this project. These adverse effects will be resolved through mitigation as stipulated in the *Memorandum Of Agreement Among The Bureau of Ocean Energy Management, The State Historic Preservation Officers of Virginia and North Carolina, and The Advisory Council on Historic Preservation Regarding the Coastal Virginia Offshore Wind Commercial Project* (MOA) and its associated HPTPs. This HPTP addresses one historic property, the Camp Pendleton State Military Reservation, which requires mitigation of adverse effects. This HPTP document will be used to support the fulfillment of Stipulation III of the MOA.

The onshore transmission line component of the Project is subject to a state-level permitting process by the Virginia State Corporation Commission (SCC). To accommodate both the federal and state-level review processes, ERM conducted a pre-application analysis in accordance with the VDHR's *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia* (Guidelines), followed by a full historic resource survey for all alternative routes under consideration, which served as the Phase I historic resource survey for the purpose of Section 106 compliance and the survey of approved alternatives for the purpose of the SCC review in accordance with the VDHR *Guidelines* (VDHR 2008; Derrick et al. 2021a, 2021b). Both associated reports have been submitted to VDHR and BOEM to facilitate the SCC review and the Section 106 consultation process. These reports are incorporated into Dominion Energy Virginia's Construction and Operations Plan (COP), Section 4.3.3, Aboveground Resources and Appendix H-2 and H-3: Onshore Historic Resources Visual Effects Analysis.

Dominion Energy Virginia has initiated and continued consultation among relevant agencies and stakeholders for how to mitigate adverse effects to the resource as there is no feasible alternative for avoiding adverse impacts on the SMR Historic District.

BACKGROUND INFORMATION

Project Overview

The Project will encompass an offshore wind generating facility as well as onshore electrical transmission infrastructure, the latter of which is the focus of the current report. The proposed onshore transmission line includes an underground segment extending from the Cable Landing Location at the Virginia SMR to the switching station site north of Harpers Road in the City of Virginia Beach. This route segment is referred to as the Cable Landing to Harpers (CLH) Route. The onshore electric transmission line in its entirety would extend from the Cable Landing Location in the City of Virginia Beach to the Company's existing Fentress Substation in the City of Chesapeake, with an overhead transmission line extending between the Harpers Road switching station and the Company's existing Fentress Substation. This report is only concerned with the CLH Route, the Project segment that will pose adverse effects to the Camp Pendleton SMR Historic District, a resource listed in the National Register of Historic Places (NRHP) (Figure 1.1-1).

The CLH Route for the Onshore Export Circuits would include both horizontal directional drill (HDD) and surface trench installation of the proposed underground circuits between the Cable Landing Location and the switching station north of Harpers Road. After exiting transition joint bays at the Cable Landing Location, nine concrete-encased, underground duct banks would transition to five HDDs for crossing Lake Christine. The HDDs would extend west for approximately 0.3 mile (1,540 feet), passing beneath two branches of the lake separated by a peninsula of U.S. Navy (USN) land at Dam Neck Annex. The HDDs would terminate on the west side of the lake just north of a helicopter landing pad at the north end of Lake Road on the SMR. From here, the underground circuits would be installed by surface trenching in a typical, three-wide, nine-circuit, duct bank configuration. The route would head generally west for about 0.6 mile, mostly crossing parade and training grounds within the SMR.

At a point just east of General Booth Boulevard, the typical, three-wide, duct bank configuration would diverge into five HDDs for crossing General Booth Boulevard, Owl Creek, and associated wetlands. The HDDs would extend approximately 0.4 mile (2,200 feet) to the northwest, leaving the SMR, crossing a city-owned parcel along the creek, and exiting onto USN land at Naval Air Station (NAS) Oceana near Bells Road. The underground circuits would then converge into the typical, three-wide, duct bank configuration and continue west and south on USN land for about 1.0 mile, paralleling Bells Road for 0.6 mile and crossing Birdneck Road and the transmission line corridor for Dominion Energy Virginia's existing Lines #2118/78. The CLH route would then turn south to parallel the east side of Oceana Boulevard for about 1.1 miles, all on USN land. At the intersection of Oceana Boulevard and Harpers Road, the route for the underground circuits would head west to parallel the north side of Harpers Road for about 1.0 mile and terminate at the Harpers Switching Station site on the north side of Harpers Road.

The right-of-way (ROW) for the underground segment to be installed by surface trenching would measure 65 feet wide with duct banks for each circuit installed within three parallel trenches excavated within the corridor. Where manholes/splicing vaults are installed, the width of the ROW would expand to 86 feet. The CLH underground route is approximately 4.4 miles in length.

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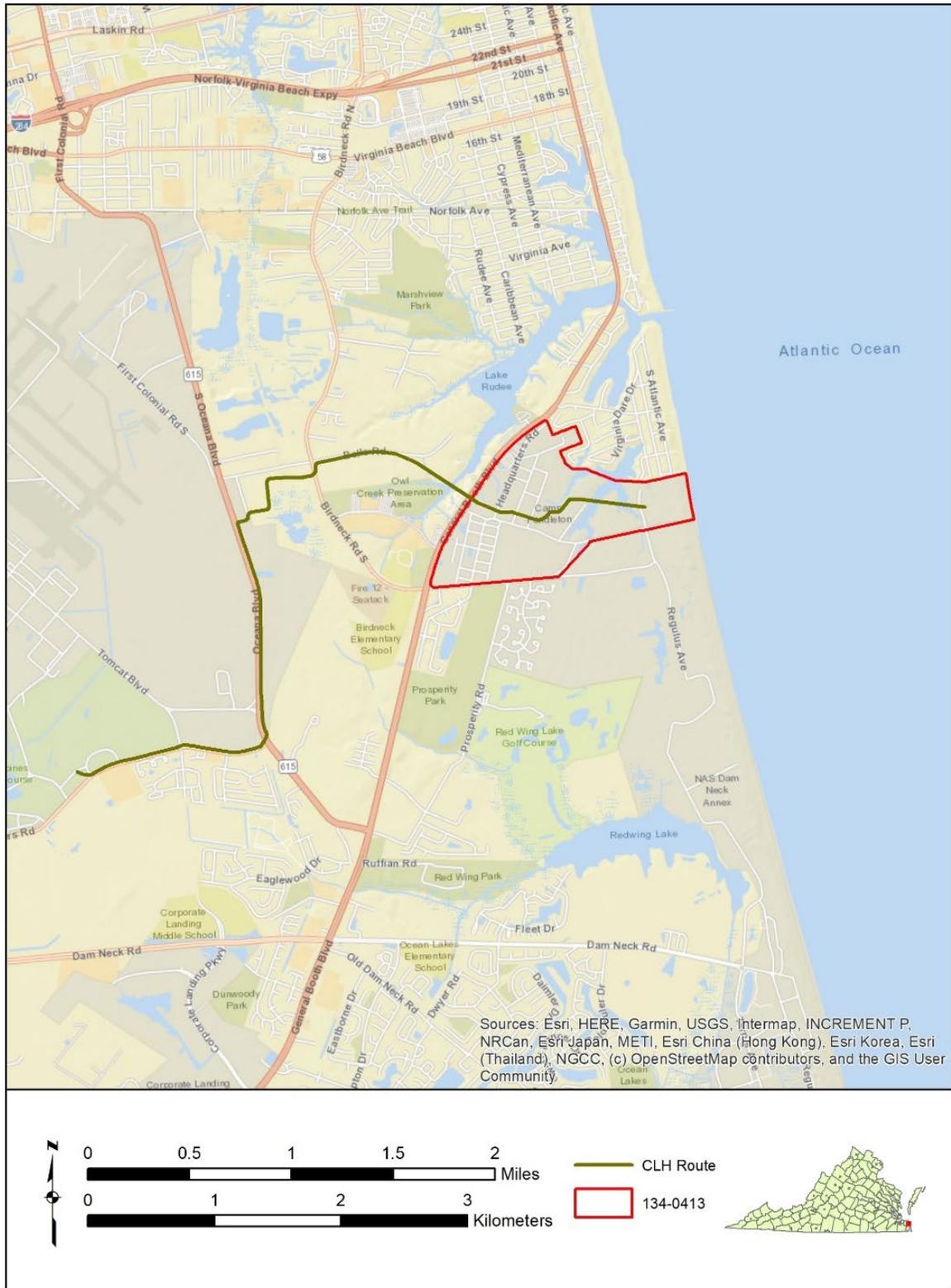


Figure 1.1-1: CLH Route Project Overview and Location of the Camp Pendleton SMR Historic District

Section 106 of the NHPA

The BOEM determined that the proposed Project constitutes an undertaking subject to Section 106 of the National Historic Preservation Act, as amended (54 U.S. Code §306108), and its implementing regulations (36 Code of Federal Regulations [CFR] Part 800). In its review of the proposed Project, BOEM determined that the activities included in the proposed Project's COP have the potential to affect historic properties, and that the Project would have an adverse effect on the Camp Pendleton SMR.

This HPTP is designed to comply with Section 106 of the National Historic Preservation Act (36 CFR 800.3), whose provisions include a requirement that federal agencies must produce documentation to Heritage Documentation Programs (HDP) standards for buildings, structures, and cultural landscapes that are listed or eligible for listing, in the NRHP, to mitigate the adverse effects of federal actions such as demolition or substantial alteration. This plan provides background data, historic property information, and information on how to proceed with mitigation plans arrived at in consultation with BOEM and other relevant Participating Parties.

Municipal Regulations

Before the implementation of mitigation plans for the Camp Pendleton SMR, any on-site mitigation measure will be coordinated to obtain approvals as appropriate. Such measures may include building permits, zoning, land use, historic commissions and design review boards. Coordination with the SCC, VDHR, SMR, and the City of Virginia Beach Historic Preservation Commission may also be warranted. The Virginia Army National Guard Integrated Cultural Resources Management Plan (ICRMP) will be consulted, as applicable. Required permits are addressed in the Coastal Virginia Offshore Wind Commercial (CVOW-C) Draft Environmental Impact Statement (DEIS) for Commercial Wind Lease OSC-A-0483; Appendix A: Required Environmental Permits and Consultations.

Preservation Easements and Restrictions

Currently, there are no known Preservation Easements or Restrictions with regards to the SMR property.

Resolution of Adverse Effects Measures in MOA

BOEM prepared an MOA detailing avoidance, minimization, and mitigation measures to resolve adverse effects on historic properties, including the State Military Reservation, pursuant to 36 CFR 800.6(c). The final version of this HPTP will be an attachment to the executed MOA.

Historic Significance and Existing Conditions

Historic Context and Significance

The NRHP-listed Camp Pendleton SMR Historic District occupies 343 acres on the Atlantic Ocean in the City of Virginia Beach. The facility was established in 1911 as the State Rifle Range and has served as a training facility for the Virginia National Guard, as well as for the U.S. Navy during World War I, and the U.S. Army during World War II and at other times since then.

The Camp Pendleton SMR Historic District was listed in the NRHP in 2005, and the nomination was updated in 2013 (Malvasi 2013; Moffett 2003). The district encompasses 343 acres adjacent to the Atlantic Ocean, just south of the resort area of Virginia Beach. As of the 2013 update, the district contained 121 contributing buildings and structures, as well as eight contributing sites and one object. The eight sites include historic landscape features such as the circulation system (roads), parade grounds, camp areas, and firing ranges that have been identified as contributing elements to the historic

district. There are 55 non-contributing buildings and structures within the boundaries of the historic district.

Camp Pendleton SMR was established in 1911 as the State Rifle Range, and since that time has served in a variety of military capacities at both the state and federal level. The SMR is listed in the NRHP for its significance under the themes of architecture and military/defense. It meets Criterion A for its significance as the site of the first state-owned airfield during the 1920s and as representative of an intact World War II training facility for the Virginia National Guard under the auspices of the U.S. Army. The SMR also meets NRHP Criterion C for its substantial and intact concentration of World War II temporary buildings and for its examples of early twentieth century residential and military buildings from the 1910s to the 1930s. The district represents a well-preserved example of a twentieth century military training facility that includes a large number of historical buildings, structures, and landscapes. In particular, ERM noted that the district meets Criterion A of the NRHP as a well-preserved twentieth century military training facility that adapted to state and federal defense needs. It also meets Criterion C for its representative examples of twentieth century military architectural styles from different periods of the early and mid-twentieth century.

A cultural landscape approach to the management of historic resources at Camp Pendleton was instituted as part of the ICRMP for the Virginia Army National Guard (Virginia Army National Guard Facilities Management-Environmental 2014). The pertinent landscapes within the SMR Historic District were outlined in a revised NRHP nomination for the historic district prepared in 2013 (Malvasi 2013). The revised nomination identified six historic landscapes dating to different periods of the camp's history, which clearly reflect the purposes of the facility and the evolution of military cantonments during the first half of the twentieth century. The landscapes are the Beachfront, the Beachfront Rifle Range (1927–1928), the Original Rifle Range/Training Field A (1912), the Parade Field Tent Area/Regimental Camp Area No. 1 (1912), the Drill Field and Airfield (1912–1920s), and Regimental Camp Area No. 2 (1921).

Four distinct development periods are evident in the historic built environment of SMR. The first period is the original layout and buildings constructed in 1912. Most of these buildings were demolished by the end of World War II, but the circulation system represented by the camp roads, the parade field/camp area, and the original rifle range remain, and these features influenced the development of the facility as it grew and evolved. Buildings from that era that remain include a former Residential Quarters (Building 85), Officer's Quarters (Building 88), a former Residence (Building 89), the original Governor's Cottage (Building 90), and the original Post Superintendent's House (Building 94). The second development period was carried out after World War I and included the expansion of the rifle ranges and the construction of barracks and mess halls. A number of buildings were constructed during this period as part of the Civil Works Administration (CWA) of the New Deal, and as part of a rebuilding effort after the Hurricane of 1933. Many of these buildings were also replaced during World War II, but a few remain around the center of the camp, along with the beachfront rifle range. The third period of development dates to the period from 1940, when the SMR was transferred to the U.S. Army, until the end of World War II in 1945. During this period, over 100 new buildings were constructed, including barracks, mess halls, service buildings, and training facilities. These buildings were intended to be temporary, but have continued to be used, and make up the bulk of the contributing resources of the district. Of the 121 contributing buildings and structures, 32 (26 percent) date to before 1940, while 88 (73 percent) were constructed between 1940 and 1945. The fourth development period is the post-war period to the present. One building, two sites, one structure, and one object dating after 1945 are considered contributing resources to the historic district. The largest post-World War II building program is that associated with the 203rd Red Horse Air National Guard complex, located north of the Parade Field and south of Warehouse Road. These buildings are considered non-contributing resources to the historic district.

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The Camp Pendleton SMR Historic District as a whole has attained significance as representative of the National Guard's evolution during the first half of the twentieth century, which is reflected in the layout, landscape, and diverse collection of buildings from different periods of development. The layout and landscape features of the facility include open fields, firing ranges, wooded areas, and access to the ocean to provide a range of environments for training, as well as residential, recreational, and service buildings arranged in a way that serves the needs of a military training camp. None of the contributing resources of the historic district are listed in or have been determined eligible for the NRHP individually, but collectively they achieve significance as an intact example of a multi-purpose, long-term military facility in use during both world wars.

NRHP Criteria and Aspects of Integrity Affected by the Undertaking

The Camp Pendleton SMR Historic District was originally listed in the Virginia Landmarks Register (VLR) in 2004 and the NRHP in 2005 (Moffett 2003). Additional documentation was conducted in 2013 (Malvasi 2013). The updated NRHP registration form added a number of contributing resources and defined six contributing historical landscapes. The district meets Criterion A of the NRHP as a well-preserved twentieth century military training facility that adapted to state and federal defense needs. It also meets Criterion C for its representative examples of twentieth century military architectural styles from different periods of the early and mid-twentieth century.

The underground transmission line associated with CLH Route would run east to west, through the entire district, for 0.93 mile (Appendix D, Sheet 1). The district's eastern portion would not be impacted by the underground route because the circuits in this area would be installed by HDD, a trenchless installation method, and the HDD operation would not require the removal of any existing vegetation. The area around Lake Christine would be bored and no tree cut would occur, as shown through photosimulation SP 5 and SP10 (Appendix D, Sheets 2 through 5). However, the proposed route would remove trees and vegetation near the western edge of the district to the north of the main entrance. In addition to the tree cut, this portion of the route would also result in the demolition of two contributing structures to the district, Building 410 and Building 59, as shown in SP25 and SP26 (Appendix D, Sheets 6 through 9).

Building 410 is a fire house constructed between 1940 and 1942. Building 59 is a mess hall constructed in 1934, during the period in which the State Rifle Range was expanded between the world wars; it is one of nine nearly identical buildings. Building 410 is a unique structure, constructed for a specific purpose during the World War II expansion of the base. The loss of this building would have a greater impact on the overall integrity of the district, since it represents a specific activity that took place at the facility. While the vegetation to be removed is part of the district's historic landscape, it is not as integral to the resource's historic setting and feeling as the built environment. In addition to effects to those buildings, the Project will entail use of workspace near the ruins of the YMCA that once was along Headquarters Road. The ruins, recorded as archaeological site 44VB0388, are of interest to SMR resource managers as a potential historic resource. Project plans call for avoidance of the ruins with a buffer of at least 10 feet, and while tree clearing within the workspace will alter the current viewshed of the YMCA ruins, those woodlands are not integral to the site's historical significance. Furthermore, the HDD or direct pipe work in the proposed workspace at the Rifle Range will be restored to pre-construction activities.

BOEM determined that the Project effects would constitute physical destruction of contributing elements of the historic district as well as the introduction of visual elements that affect the setting. Through the demolition of the buildings, the Project would diminish the aspects of the district's integrity including design, materials, and workmanship important to its NRHP eligibility. Additionally, with the introduction of modern elements into the historically and currently unaltered ocean viewscape visible from the beach areas within the district, the Project would diminish the integrity of location, feeling, and association.

Physical Description and Existing Conditions

The Camp Pendleton SMR Historic District includes 130 contributing resources, consisting of 113 buildings, eight structures, eight sites, and one object. The buildings are primarily utilitarian-type military buildings, including barracks, mess halls, classroom buildings, administration buildings, and maintenance and storage facilities, but they also include residential cottages, a firehouse, a chapel, an officers' club, an armory, and a service station. Contributing structures include building foundations, loading docks, an observation deck, a water tower, and the road network. Six of the eight contributing sites are historic landscapes that include the parade ground, camp area, drill field, two rifle ranges, and the beachfront.

Camp Pendleton SMR was laid out in a linear pattern that was common during World War I and up until World War II. During World War II, the design of cantonments, or temporary camps, shifted to more triangular and quadrangular layouts. Although many of the buildings date to World War II, the layout of the camp was dictated by the earlier plans. Groups of barracks, mess halls, and storage buildings were arranged on side streets, while motor pools, administration buildings, churches, and recreational buildings were placed on main streets, defining functional use areas. The open areas used for drills, parades, and training activities are interspersed with these functional areas, providing open vistas to different areas of the camp that afford the viewer a wide view of the activities of the camp. Trees and landscaping elements within the activity areas around the buildings and open spaces are minimal, reflecting the functional nature of the spaces. However, mature trees are located along Headquarters Road, framing the Parade Field/Regimental Camp Area No. 1; the Governor's Cottage (Building 90) and Superintendent's House (Building 94) also both have significant landscaping and screening trees. Forested areas to the west of Headquarters Road and around Lake Christine have remained intact, and views around the beachfront rifle range are more restricted due to vegetation on the perimeter of the range. Although the landscapes at SMR have changed as needs have changed, the overall organization of the camp and the spatial relationships of the different elements of barracks areas, maintenance areas, open fields, and service areas have remained largely intact (Malvasi 2013).

The six landscape areas (see Section 3.1.1) that correspond with specific historic periods are represented in the figure provided in Appendix B. The circulation networks at the SMR are also considered a historical resource. They consist of roads, parking areas, and the remnants of an old airplane runway. The roads are arranged in a hierarchical order of primary and secondary roads, which serve ordinary vehicular traffic as well as training activities.

The majority of the buildings in the district date to the period of expansion during World War II. They were constructed in the style of temporary military structures but have continued to serve the needs of the Virginia National Guard and its tenants. A handful of buildings from the original State Rifle Range remain, along with those from the period between the world wars. The majority of the buildings in the district are of frame construction and reflect function over form. No changes have occurred since the 2013 survey (Malvasi 2013).

MITIGATION MEASURES

This section details the mitigation measures planned to resolve adverse effects to the historic property as described in Section 2.3.2. The content of this section was developed on behalf of Dominion Energy Virginia by individuals who meet the Secretary of the Interior (SOI) Qualifications Standards for Archaeology, Architectural History, and/or History and is consistent with fulfilling the mitigation measures such that they fully address the nature, scope, size, and magnitude of the adverse effect. Fulfillment of the mitigation measures will be led by personnel with demonstrated experience working in historic preservation, in coordination with individuals who meet SOI Qualifications.

HPTP Purpose and Components

The HPTP presented here for the Camp Pendleton SMR Historic District describes the approach to mitigating adverse effects from the Project. The plan includes measures tailored to the conditions and characteristics of the district, its management context, and its place within the community. The mitigation measures include documentation and public educational materials. This plan has been developed to support Dominion Energy Virginia, BOEM, VDHR, and the VDMA's Cultural Resource Program, which is responsible for cultural resource stewardship at SMR, as well as other consulting parties in negotiating an MOA pertaining to mitigating adverse effects on this resource. The work will meet the Secretary of the Interior's Standards for Archaeology and Historic Preservation and will be done by or under the supervision of an individual meeting that agency's professional qualification standards. In developing components of the HPTP, several objectives were pursued. These include an interest in highlighting the NRHP significance of the resource, ensuring the public benefit of the plan, considering the needs of all stakeholders in the process, and arriving at a plan for mitigation that will enhance our knowledge of the resource and ensure its protection. The HPTP specifies the general measures that will be implemented prior to, during, and after construction; it will also include a research and public outreach element. Specific details on the plan's execution will be provided once the consulting parties have reviewed the document and the signatories have agreed to its content.

- Documentation of the SMR landscapes and contributing resources will include large-format photography, as well as photogrammetry that will capture the resources in three dimensions using modern digital techniques. This will include pre- and post-construction digital photo documentation of the district where it is traversed by the Project. The technology uses hundreds of photos to create a model of the resources that can be viewed from any angle, as well as interior views. This would permit digital users to do a virtual tour of the resources to experience them as they existed before the Project. The virtual tour could be integrated with other information on the history of Camp Pendleton/SMR that would provide context for the virtual experience, and be housed in the history section of the Virginia National Guard (State Military Reservation (ng.mil)). These digital "twins" would only include the buildings that will be demolished; however, the goal is to create them in such a format that other components of the base could be added onto the digital experience should SMR ever wish to do so.
- The appropriate level of documentation for the buildings will require further consultation, and will be driven in part by available records. It is anticipated that Historic American Buildings Survey (HABS) Level I documentation of Building 410 would be appropriate as this is a unique building whose loss would constitute a greater impact to the Camp Pendleton SMR Historic District, and would include measured drawings, photographs, and written data (history and description). HABS Level III documentation of Building 59, including a sketch plan, photographs, and written data (short form for historical reports), is anticipated to be appropriate because Building 59 is one of nine nearly identical buildings, of which eight will not be impacted by the Project.

Intended Outcomes

The purpose of the mitigation will be to offset adverse effects from the Project on the Camp Pendleton SMR Historic District. The mitigation will provide documentation of the buildings prior to demolition.

Scope of Work

The scope of work will consist of the following:

- Consultation with BOEM, VDHR, NPS, and SMR.
- Collection and review of materials relating to the construction and history of the property;
- Photography of the property using large-format photography (or agreed upon equivalent);
- Development of draft HABS documentation appropriate to each resource for review and comment by Participating Parties;
- Development of the final HABS level documentation, incorporating comments from Participating Parties,
- Delivery of HABS Level documentation to NPS;
- Delivery of Final HABS documentation to NPS and agreed-upon repositories.

Methodology

- Coordination: The area subject to investigation will be coordinated with VDHR and Camp Pendleton. The investigation will occur by a SOI Qualified Architectural Historian and/or Historian.
- Research: Background information specific to Camp Pendleton will be reviewed on site. A comprehensive review of primary and secondary sources of data, as well as previous architectural survey reports will be reviewed.
- Fieldwork: All field investigations will be coordinated with Camp Pendleton. The principal investigator will take detailed field notes on the exterior and interior of the buildings, as well as the overall integrity, condition, and setting. Photographs will include the interior and exterior views as well as views of the setting.
- Preparing of Documentation:
 - This could include the preparation of HABS Level I documentation for building 410 (measured drawings, large format photography, and a historical report) by an SOI Qualified Architect and/or Architectural Historian and/or Historian who has demonstrated experience in this type of documentation.
 - This could include the preparation of HABS Level III documentation for building 59 (including a sketch plan, large format photography, and written data; short form) by an SOI Qualified Architect and/or Architectural Historian and/or or Historian who has demonstrated experience in this type of documentation.

Applicable Standards

The documentation measures will follow the following standards:

- Secretary of the Interior's Standards and Guidelines for Architectural and Engineering Documentation, including:
 - HABS Guideline Recording Structures and Sites with HABS Measured Drawings (2008);
 - HABS Guide to Field Documentation (2011);
 - Heritage Documentation Programs Photography Guidelines (updated 2015);
 - Historic American Buildings Guidelines for Historical Reports (updated 2020);
 - Preparing HABS/HAER/HALS Documentation for Transmittal (updated 2021);
- Secretary of the Interior's Standards for Archaeology and Historic Preservation (1983); and
- Secretary of the Interior Professional Qualification Standards.

Documentation

Participating Parties will be provided a 30-day review and comment period for the draft documentation. The final HABS documentation will be provided to the NPS and agreed-upon repositories.

Annual Summary Report

Following execution of the MOA, Dominion Energy Virginia shall prepare, and following BOEM review and approval, provide all signatories and consulting parties to the MOA a summary report detailing work undertaken pursuant to the MOA consistent with MOA Stipulation XIII (Monitoring and Reporting), including the mitigation measures outlined in the final HPTP. This report will be prepared, reviewed and distributed by [TBD], and summarize the work undertaken during the previous year. As per MOA Stipulation XIII this reporting is required yearly after the execution of the MOA until it expires or is terminated.

Funds and Accounting

Dominion Energy Virginia will be responsible for funding the mitigation measures and will work with SMR to ensure implementation and reporting of annual activities to Dominion Energy Virginia.

IMPLEMENTATION

Timeline

Following the execution of the MOA, the measured drawings and photography for both Buildings 59 and 410, must be completed prior to the demolition of the buildings, or Project related viewshed changes that affect the resources. The other mitigation tasks can occur during and/or after construction.

It is anticipated that the mitigation measures will commence within 1 year of the execution of the MOA, unless otherwise agreed by the Participating Parties and accepted by BOEM. Mitigation measures within this HPTP are to be completed within five years of its initiation, unless a different timeline is agreed upon by Participating Parties and accepted by BOEM and may be completed simultaneously, as applicable. The proposed timeline presumes the MOA will be executed in October 2023.

- Field survey for measured drawings and photography ~Fall 2023
- Archival research ~Fall/Winter 2023
- Draft drawings and photography ~Winter 2024
- Draft written data ~Spring 2024
- Final HABS documentation ~Fall 2024

Organizational Responsibilities

BOEM

BOEM is responsible for the following during the construction and completion of the Project:

- Serving as the lead agency.
- Making federal decision and determine compliance with Section 106.
- Ensuring that the mitigation measures adequately resolve adverse effects, consistent with the NHPA, and in consultation with the Participating Parties.
- Consulting with Dominion Energy Virginia, VDHR, ACHP, relevant federally recognized tribes, and other Participating Parties with demonstrated interest in the affected historic property.
- Review and approve the annual summary report.

Dominion Energy Virginia (Lessee)

Dominion Energy Virginia is responsible for the following during the construction and completion of the Project:

- Fund and oversee implementation of the mitigation measures in Stipulation III of the MOA and described in Section 3.8 of this HPTP.
- Execution of the HPTP.
- Examining and reviewing comments made from Participating Parties involved and identified in the HPTP.
- Reporting annually to BOEM on the progress of the HPTP and distribution of said reporting to consulting parties.

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- Completing the mitigation measures necessary outlined in Section 3.
- Meeting correct standards.
- Providing correct documentation to all necessary Participating Parties involved for them to review and comment.

VDHR

- Consult, when necessary, on implementation of this HPTP.
- Ensure compliance with applicable state laws, regulations, and guidelines.
- Confirm that proper mitigation measures are being undertaken in conformance with state permitting requirements.
- Serve as a Participating Party in the review process.

SMR

- Consult, when necessary, on implementation of this HPTP.
- Coordinate to start onsite documentation and research.
- Send copies of final documentation, signage, and brochure, as appropriate.

National Park Service

- Consult, when necessary, on implementation of this HPTP.
- Serve as a Participating Party in the review process.
- Send copies of final HABS documentation.

FINALIZATION

The HPTP will be finalized with the execution of the MOA. Mitigation measures within this HPTP will be completed within five years of execution of the MOA, unless a different timeline is agreed upon by Participating Parties and accepted by BOEM. Mitigation measures may be completed simultaneously as applicable.

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Virginia Department of Historic Resources (VDHR)

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Virginia Army National Guard Facilities Management-Environmental

2014 Integrated Cultural Resources Management Plan Revision for Facilities of the Virginia Army National Guard, Fiscal Years 2014–2018. Prepared for Virginia Department of Military Affairs.

APPENDIX A CORRESPONDENCE - REDACTED

**APPENDIX B OVERVIEW OF CAMP PENDLETON SMR HISTORIC DISTRICT
SHOWING CONTRIBUTING RESOURCES FROM FOUR
PERIODS OF DEVELOPMENT**



Appendix B. Overview of Camp Pendleton/SMR Historic District Showing Contributing Resources from Four Periods of Development.

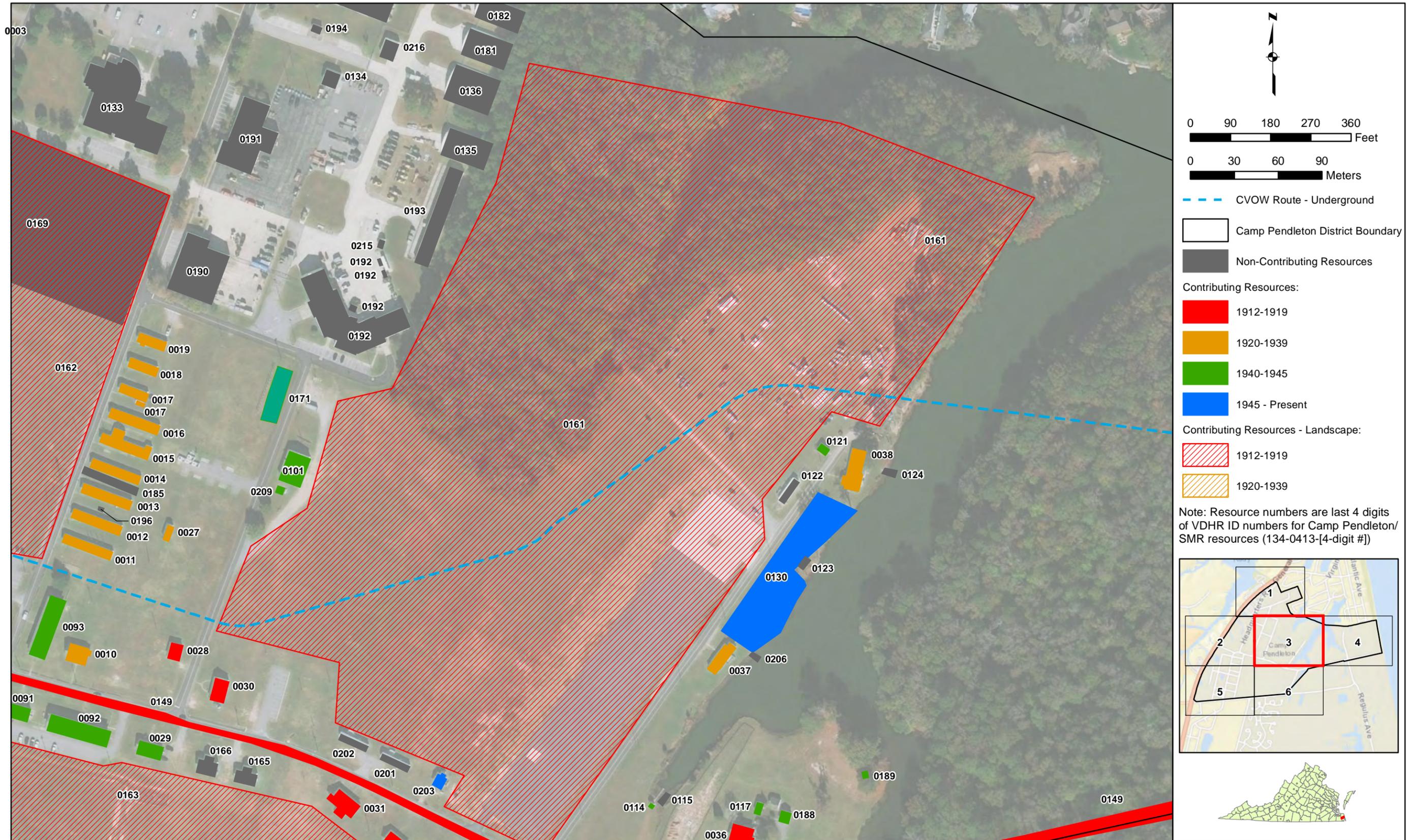
**APPENDIX C DETAILED MAP OF CONTRIBUTING RESOURCES SHOWING
VDHR RESOURCE NUMBERS AND ASSOCIATED
DEVELOPMENT PERIOD**



Appendix C: Detailed Map of Contributing Resources Showing VDHR Resource Numbers and Associated Development Period (Sheet 1 of 6).



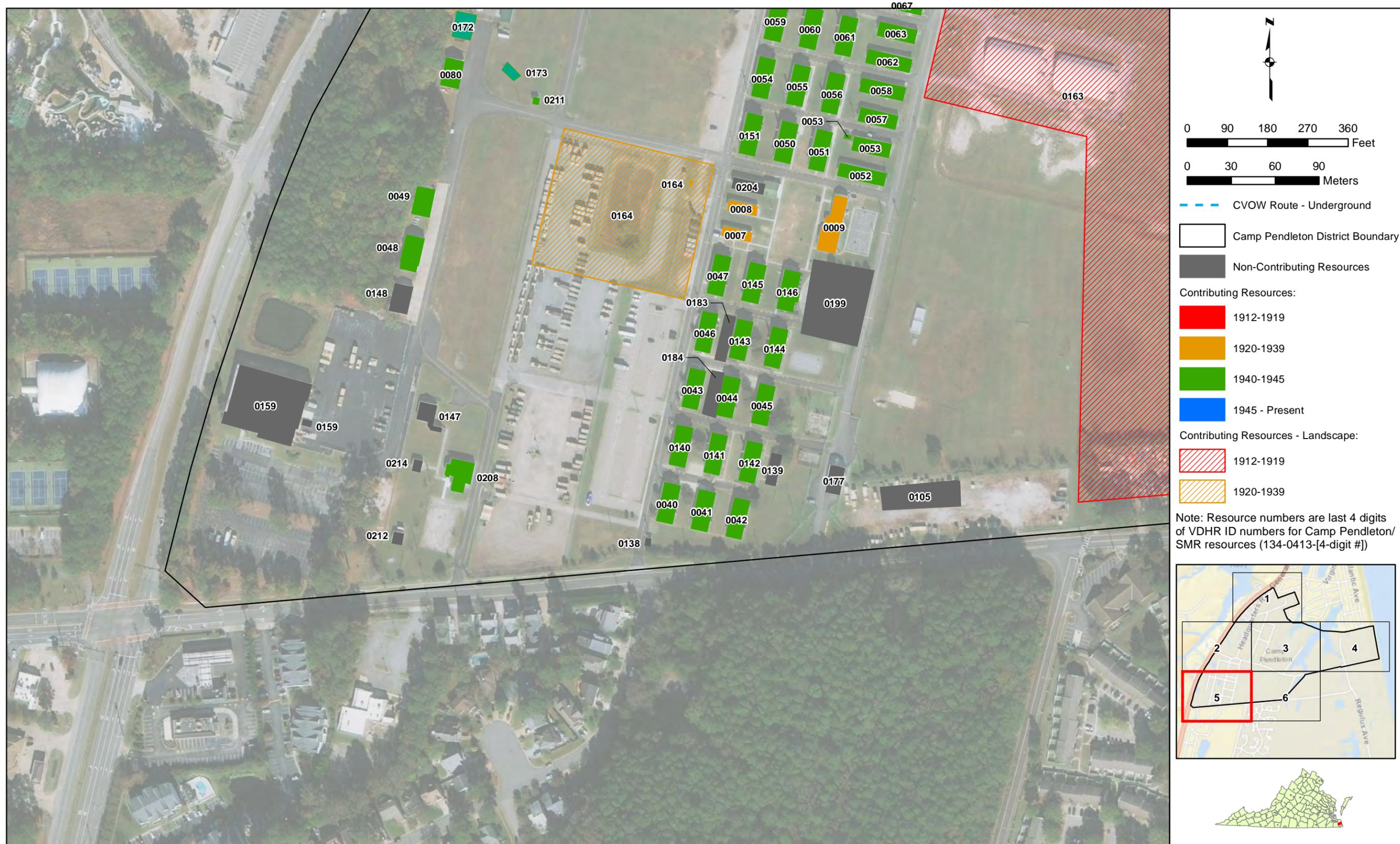
Appendix C: Detailed Map of Contributing Resources Showing VDHR Resource Numbers and Associated Development Period (Sheet 2 of 6).



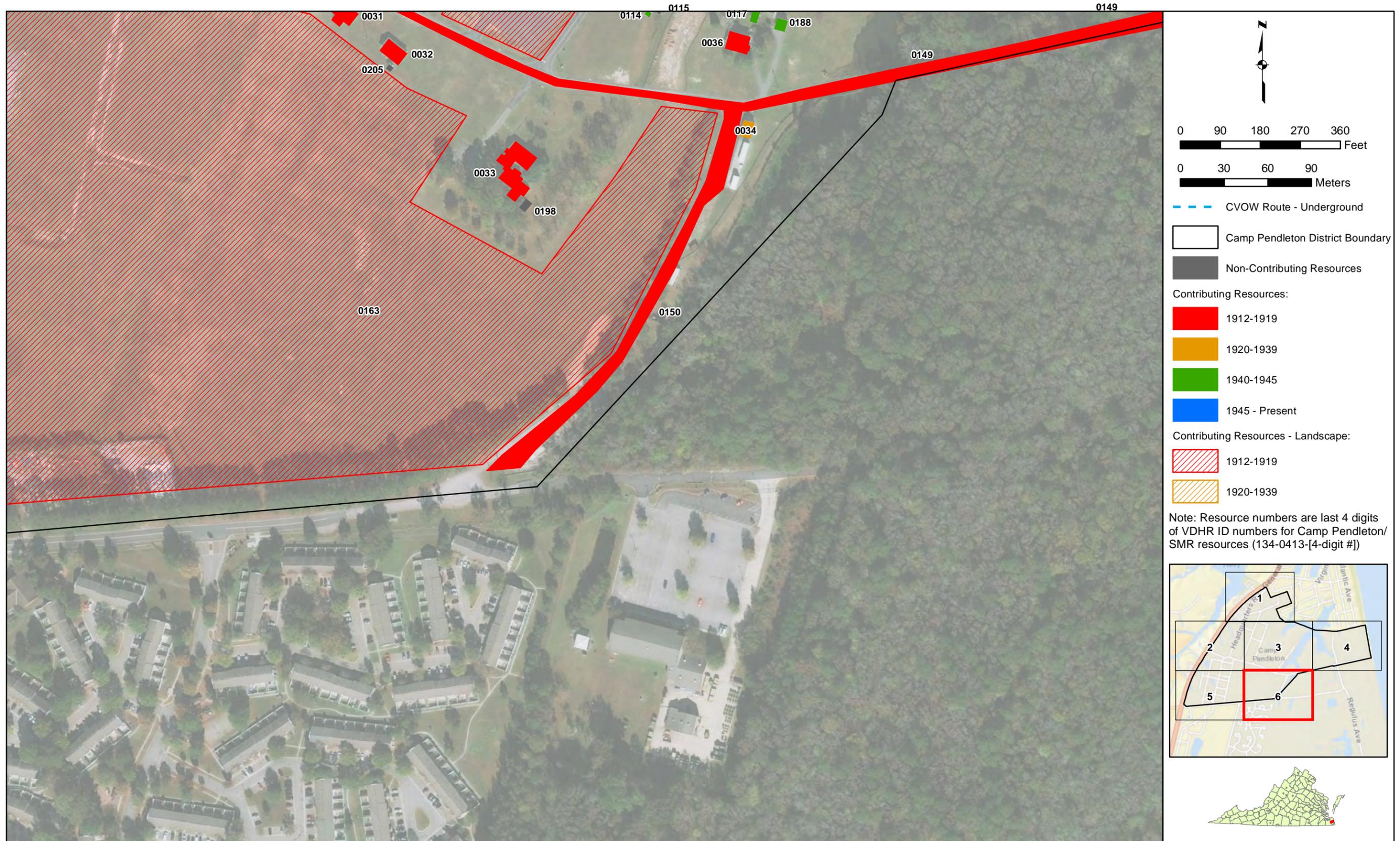
Appendix C: Detailed Map of Contributing Resources Showing VDHR Resource Numbers and Associated Development Period (Sheet 3 of 6).



Appendix C: Detailed Map of Contributing Resources Showing VDHR Resource Numbers and Associated Development Period (Sheet 4 of 6).



Appendix C: Detailed Map of Contributing Resources Showing VDHR Resource Numbers and Associated Development Period (Sheet 5 of 6).



Appendix C: Detailed Map of Contributing Resources Showing VDHR Resource Numbers and Associated Development Period (Sheet 6 of 6).

**APPENDIX D CAMP PENDLETON SMR HISTORIC DISTRICT
PHOTO SIMULATIONS**

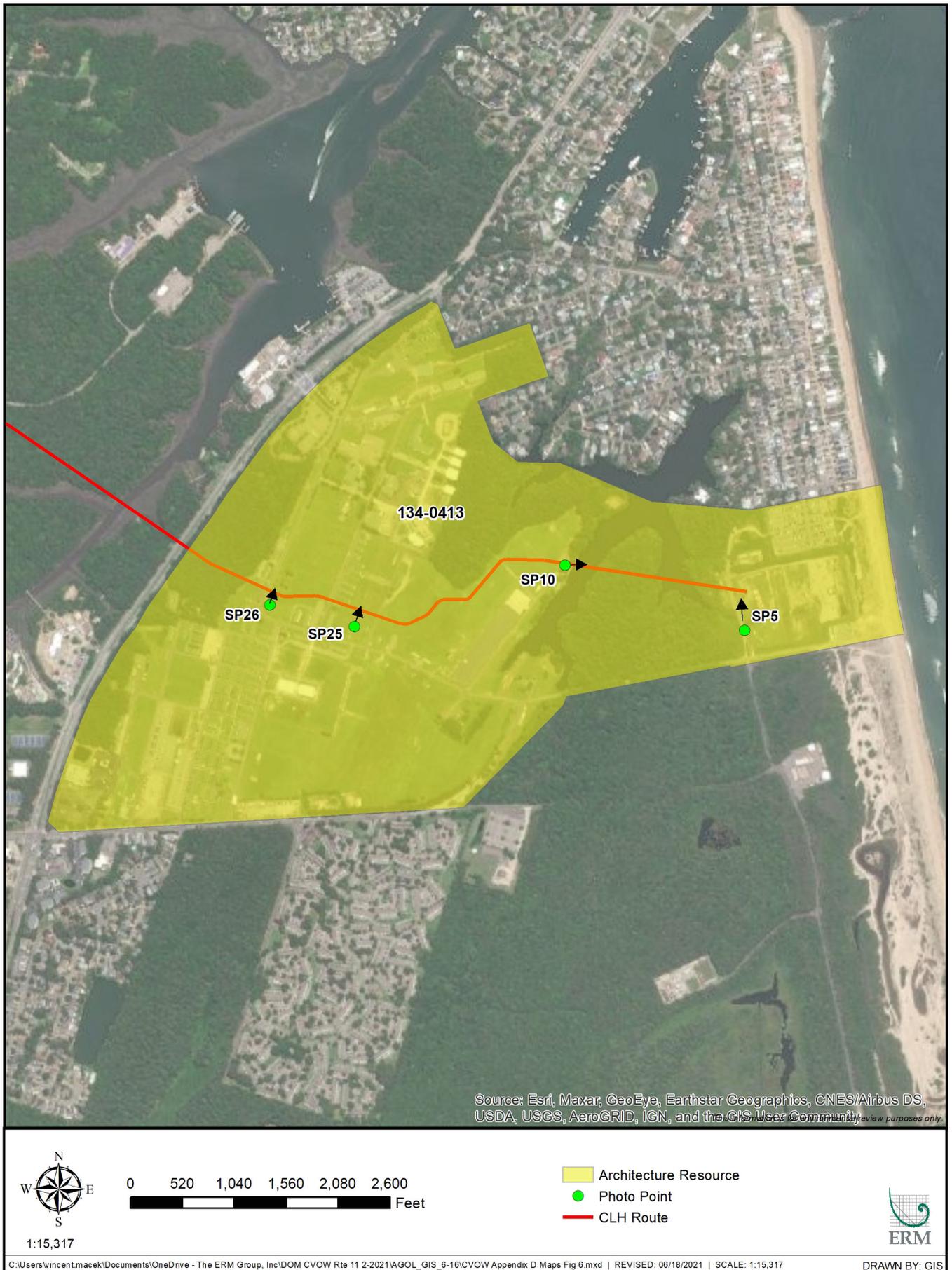
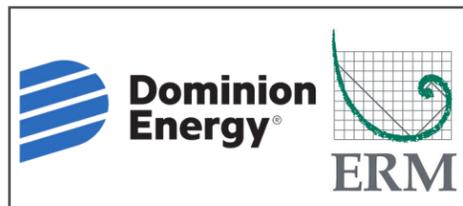


Figure 1: Aerial photograph depicting land use and photo view for 134-0413.



Appendix D: Photosimulations

Existing view



Viewpoint Location UTM Zone 18N: 413436E 4074902N
 View Direction: 318 degrees
 Viewpoint Elevation: 13 feet
 Distance to Route: 136 feet
 Horizontal Field of View: 90 degrees

Date of Photography: 31st March 2021 11:56
 Camera: Nikon D800
 Lens: Nikkor 50mm 1.4
 Camera Height: 5 feet

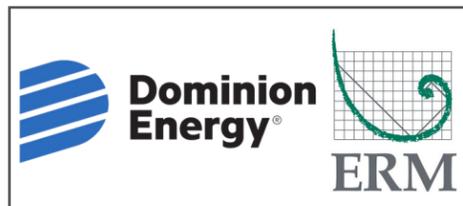


Figure 2:
Viewpoint SP5 - CLH Route
 On Regulus Road northwest of 134-0413
Treatment Plan for 134-0413
Coastal Virginia Offshore Wind
Commercial Project



Appendix D: Photosimulations

Yellow line shows approximate position of proposed underground cable route (a dashed line means its location is behind foreground features)



Viewpoint Location UTM Zone 18N: 413436E 4074902N
 View Direction: 318 degrees
 Viewpoint Elevation: 13 feet
 Distance to Route: 136 feet
 Horizontal Field of View: 90 degrees

Date of Photography: 31st March 2021 11:56
 Camera: Nikon D800
 Lens: Nikkor 50mm 1.4
 Camera Height: 5 feet

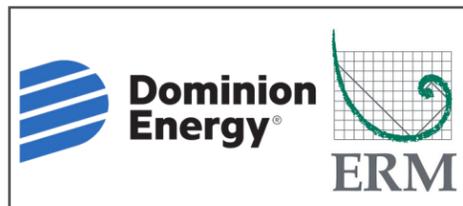


Figure 3:
Viewpoint SP5 - CLH Route
 On Regulus Road northwest of 134-0413
Treatment Plan for 134-0413
Coastal Virginia Offshore Wind
Commercial Project



Appendix D: Photosimulations

Existing View



Viewpoint Location UTM Zone 18N: 413028E 4075014N
 View Direction: 110 degrees
 Viewpoint Elevation: 10 feet
 Distance to Route: 35 feet
 Horizontal Field of View:

Date of Photography: 30th March 2021 10:59
 Camera: Nikon D800
 Lens: Nikkor 50mm 1.4
 Camera Height: 5 feet

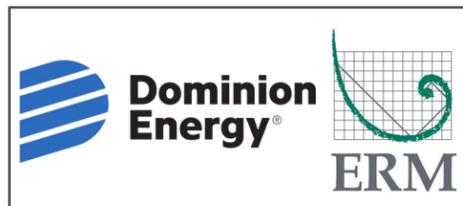


Figure 4:
Viewpoint SP10 - CLH Route
 Parking lot on end of Lake Road 134-0413
Treatment Plan for 134-0413
Coastal Virginia Offshore Wind
Commercial Project



Appendix D: Photosimulations

Yellow line shows approximate position of proposed underground cable route (a dashed line means its location is behind foreground features)



Viewpoint Location UTM Zone 18N: 413028E 4075014N
 View Direction: 110 degrees
 Viewpoint Elevation: 10 feet
 Distance to Route: 35 feet
 Horizontal Field of View:

Date of Photography: 30th March 2021 10:59
 Camera: Nikon D800
 Lens: Nikkor 50mm 1.4
 Camera Height: 5 feet

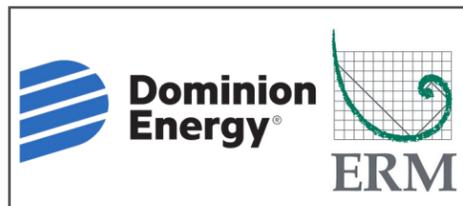


Figure 5:
Viewpoint SP10 - CLH Route
 Parking lot on end of Lake Road 134-0413
Treatment Plan for 134-0413
Coastal Virginia Offshore Wind
Commercial Project



Appendix D: Photosimulations

Existing view



Viewpoint Location UTM Zone 18N: 412495E 4074861N
 View Direction: 335 degrees
 Viewpoint Elevation: 16 feet
 Distance to Route: 140 feet
 Horizontal Field of View:

Date of Photography: 31st March 2021 14:25
 Camera: Nikon D800
 Lens: Nikkor 50mm 1.4
 Camera Height: 5 feet



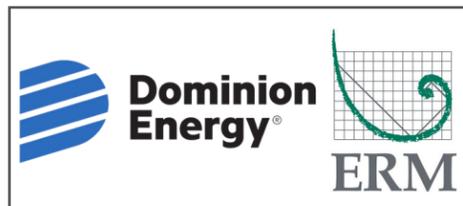
Figure 6:
Viewpoint SP25 - CLH Route
 Jefferson Avenue between buildings 57 and 83
 134-0413

Treatment Plan for 134-0413
Coastal Virginia Offshore Wind
Commercial Project



Appendix D: Photosimulations

Yellow line shows approximate position of proposed underground cable route (a dashed line means its location is behind foreground features)



Viewpoint Location UTM Zone 18N: 412495E 4074861N
 View Direction: 335 degrees
 Viewpoint Elevation: 16 feet
 Distance to Route: 140 feet
 Horizontal Field of View:

Date of Photography: 31st March 2021 14:25
 Camera: Nikon D800
 Lens: Nikkor 50mm 1.4
 Camera Height: 5 feet



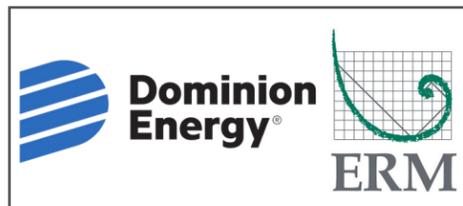
Figure 7:
Viewpoint SP25 - CLH Route
 Jefferson Avenue between buildings 57 and 83
 134-0413

Treatment Plan for 134-0413
Coastal Virginia Offshore Wind
Commercial Project



Appendix D: Photosimulations

Existing View



Viewpoint Location UTM Zone 18N: 412495E 4074861N
 View Direction: 347 degrees
 Viewpoint Elevation: 13 feet
 Distance to Route: 116 feet
 Horizontal Field of View:

Date of Photography: 31st March 2021 15:03
 Camera: Nikon D800
 Lens: Nikkor 50mm 1.4
 Camera Height: 5 feet

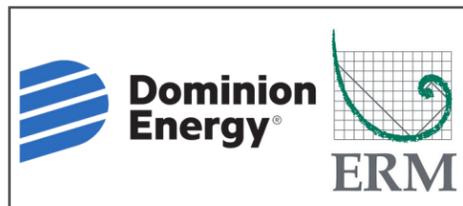


Figure 8:
Viewpoint SP26 - CLH Route
 In field to west of church 134-0413
Treatment Plan for 134-0413
Coastal Virginia Offshore Wind
Commercial Project



Appendix D: Photosimulations

Yellow line shows approximate position of proposed underground cable route (a dashed line means its location is behind foreground features)



Viewpoint Location UTM Zone 18N: 412495E 4074861N
 View Direction: 347 degrees
 Viewpoint Elevation: 13 feet
 Distance to Route: 116 feet
 Horizontal Field of View:

Date of Photography: 31st March 2021 15:03
 Camera: Nikon D800
 Lens: Nikkor 50mm 1.4
 Camera Height: 5 feet

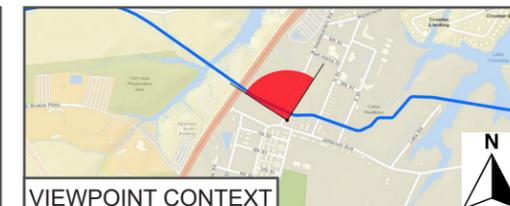


Figure 9:
Viewpoint SP26 - CLH Route
 In field to west of church 134-0413
Treatment Plan for 134-0413
Coastal Virginia Offshore Wind
Commercial Project

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ERM

3300 Breckinridge Boulevard
Suite 300
Duluth, Georgia, USA 30096

T: 678-781-1370

www.erm.com

Memorandum of Agreement Among the Bureau of Ocean Energy Management, the State Historic Preservation Officers of Virginia and North Carolina, and the Advisory Council on Historic Preservation Regarding the Coastal Virginia Offshore Wind Commercial Project

ATTACHMENT 8 – UNANTICIPATED DISCOVERIES PLAN – PLANS AND PROCEDURES ADDRESSING UNANTICIPATED DISCOVERIES OF CULTURAL RESOURCES AND HUMAN REMAINS, IN SUPPORT OF THE COASTAL VIRGINIA OFFSHORE WIND COMMERCIAL PROJECT LOCATED ON THE OUTER CONTINENTAL SHELF OFFSHORE VIRGINIA

DRAFT

Appendix X
Unanticipated Discoveries Plan

**PLANS AND PROCEDURES ADDRESSING
UNANTICIPATED DISCOVERIES OF CULTURAL
RESOURCES AND HUMAN REMAINS,
IN SUPPORT OF THE COASTAL VIRGINIA OFFSHORE
WIND COMMERCIAL PROJECT
LOCATED ON THE OUTER CONTINENTAL SHELF
OFFSHORE VIRGINIA**

PREPARED FOR:

**TETRA TECH, INC.
10 POST OFFICE SQ., STE. 1100
BOSTON, MA 02109**

**R. CHRISTOPHER GOODWIN & ASSOCIATES, INC.
241 EAST FOURTH STREET, SUITE 100 FREDERICK, MD 21701**

**Plans and Procedures Addressing
Unanticipated Discoveries of Cultural Resources
and Human Remains, in Support of the
Coastal Virginia Offshore Wind Commercial Project
Located on the Outer Continental Shelf
Offshore Virginia**

by

DRAFT

**R. Christopher Goodwin & Associates, Inc.
241 East Fourth Street, Suite 100
Frederick, MD 21701**

February 2023

Prepared for:

**Tetra Tech, Inc.
10 Post Office SQ., Ste. 1100
Boston, MA 02109**

DRAFT

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1.0 INTRODUCTION

The Coastal Virginia Offshore Wind (CVOW) Commercial Project (Project) is located in the Commercial Lease of Submerged Lands for Renewable Energy Development on the Outer Continental Shelf (OCS) Offshore Virginia (Lease No. OCS-A-0483, Lease Area), which was awarded to Virginia Electric and Power Company d/b/a Dominion Energy Virginia (Dominion Energy) through the Bureau of Ocean Energy Management (BOEM) competitive renewable energy lease auction of the Wind Energy Area offshore of Virginia in 2013. The Lease Area covers approximately 112,799 acres (45,658 hectares) and is approximately 27 statute miles (23 nautical miles, 43 kilometers) off the Virginia Beach coastline. The Project's Offshore Export Cable Route Corridor will connect the Lease Area to a Cable Landing Location at the State Military Reservation in Virginia Beach, Virginia.

From 2020 to 2021, Dominion Energy conducted high resolution geophysical (HRG) and geotechnical survey campaigns to inform the Project. The HRG surveys applied a remote sensing array consisting of multi-channel ultrahigh-resolution seismic, single-channel ultra-high-resolution seismic, multi-beam echo sounder, side scan sonar, magnetometer (transverse gradiometer configuration), and sub-bottom profiler during surveys conducted in 2020 and 2021. The Qualified Marine Archaeologist (QMA) conducted an analyses and interpretation of the HRG and geotechnical datasets, which were integrated into the Marine Archaeological Resources Assessment (MARA) report.

The QMA identified 31 potential cultural resources; 18 in the Lease Area, and 13 in the Offshore Export Cable Route Corridor. These potential cultural resources were recommended for avoidance of any potential or inadvertent effects. Within the Lease Area, six buried paleolandscape features were identified from the seismic data sets. These features were delineated based on spatial extent and recommendations for avoidance incorporated larger areas beyond their mapped spatial extents. No paleolandscape features were identified within the Offshore Export Cable Route Corridor.

Dominion Energy recognizes that although there has been intensive background research and HRG surveys, there is still a potential to encounter submerged cultural resources, including shipwrecks and archaeological sites, during construction or bottom-disturbing activities. Consequently, this Unanticipated Discoveries Plan (UDP) is prepared in support of the Project.

To minimize the potential for the accidental discovery of cultural resources, a systematic review of remote sensing data was conducted for the Project. This UDP has been developed to support Dominion Energy in its compliance with Section 106 of the National Historic Preservation Act of 1966, as amended, and its implementing regulations (36 CFR 800) entitled "Protection of Historic Properties, the Archaeological and Historic Preservation Act of 1974; the Abandoned Shipwreck Act of 1987; Title 36 of

the CFR, Parts 60-66 and 800, as appropriate; standards set forth in the *Secretary of the Interior's Guidelines for Archaeology and Historic Preservation*; the Native American Graves Protection and Repatriation Act (NAGPRA); the Guidelines for Providing Geophysical, Geotechnical, and Geohazard Information Pursuant to 30 CFR Part 585 (May 27, 2020); Guidelines for Providing Archaeological and Historic Property Information Pursuant to 30 CFR Part 585 (May 27, 2020), as set forth by BOEM; and with relevant laws of the Commonwealth of Virginia including the Virginia Antiquities Act (§10.1-2300).

2.0 POTENTIALLY SIGNIFICANT CULTURAL RESOURCES

The archaeological potential to discover precontact period resources within the Lease Area is considered high, due to the rapid sea level rise between 16,000 and 12,000 cal BP. This period is well within the Paleoindian and Early Archaic cultural periods, when the first human occupants of the region could have settled along this coastal plain environment. Rapid sea level rise also occurred sometime between 10,000 and 8,000 cal BP, which again increased the probability for coastal occupations from the early Holocene to have been preserved. The preservation potential for the precontact period is lower along the Offshore Export Cable Route Corridor due to a slower rate of submergence and intertidal, shoreface conditions, which would have led to a greater degree of erosion in any potential archaeological deposits. The abundance of maritime activity in this region can be correlated to a high potential for post-contact period maritime cultural resources.

Any of the following would be considered potentially significant submerged cultural resources:

- Prehistoric shell middens;
- Lithics (projectile points, stone tools) and ceramic artifacts;
- Human remains;
- Animal bone;
- Wooden ship timbers or sections of iron or steel hulls;
- Scattered cargo remains, such as ceramics, glass, wooden barrels or barrel staves;
- Any distinct mound of stones indicative of a ballast pile;
- Cannon and swivel guns and/or ammunition;
- Debris comprised of ship rigging, gear and fittings;
- Groups of anchors or other objects that indicate the presence of a shipwreck.

3.0 ARCHAEOLOGICAL RESOURCE IDENTIFICATION/TRAINING

The identification of cultural resources requires basic training in order to recognize potential archaeological resources. Training will be provided by the QMA for resident engineers and contractor field supervisors prior to the implementation of the Project. The purpose of this training will be to review state and federal regulations concerning archaeological resource compliance and to provide an overview of the Project-specific resources so that both Dominion and contract personnel will be aware of the kinds of unanticipated archaeological resources that may be encountered in the field. The training program will present the procedures to be followed and notification required if an unanticipated discovery is identified during Project implementation. The training will be designed to ensure that Project personnel and contractors understand the archaeological survey program that has been performed for the Project and are fully informed on the resources and the avoidance areas that have previously been demarcated for Project implementation activities and new discoveries which would constitute unanticipated finds during the Project implementation process.

4.0 PROCEDURES FOR THE DISCOVERY OF A POTENTIAL CULTURAL RESOURCE

Dominion Energy's designated on-vessel representatives have the responsibility to monitor construction sites for potential cultural resources throughout construction. The approved QMA will inspect the discovery and provide a verbal or written notification within 24-hours of suspected discovery. The UDP includes a stop-work order and requires coordination with the Project, the QMA, BOEM and BSEE, Tribes, and relevant stakeholders on the manner to proceed.

When a potential cultural resource is encountered during construction and/or bottom disturbing activities, the following steps should be taken:

- Consistent with OCS-A-0497 Lease stipulation 4.2.7.1, all bottom disturbing activities in the area of discovery will cease and every effort will be made to avoid or minimize damage to the potential submerged cultural resource(s).
- The field/construction crew that identifies an unanticipated find will immediately notify Dominion Energy or Dominion Energy's designated on-vessel representative of the discovery.
- Dominion Energy will issue an order to stop work within a safe distance of the discovery pending its identification as a potential historic property or non-historic property, as determined by the QMA.
- Dominion Energy will notify BOEM and BSEE of the discovery of a potential submerged cultural resource within 24 hours of such discovery. Dominion Energy will also notify DHR and the Tribal

Historic Preservation Offices (THPOs) or other designated representatives of federally recognized Native American Tribes. Dominion Energy will immediately notify the QMA concerning the potential find(s). The QMA will initiate an assessment of the find's (finds') potential to qualify as a historic property. Information shared with the QMA will include, but not be limited to, coordinates, discernable characteristics, photographs, and survey data. If necessary to support an initial assessment, the QMA may request to visit the site to inspect the find. If the QMA determines the find(s) represent a potential historic property, the QMA will immediately advise Dominion Energy of the QMA's preliminary determination.

- If upon further consideration of available information, the QMA determines that the find (i.e., site, feature, or potential cultural resource) is not cultural or not associated with a potential historic property, the QMA will notify Dominion Energy's on-site representative that the find is not a potential historic property.
- If the QMA determines that the find is associated with a potential historic property, the QMA will notify Dominion Energy and work may not resume at the given location until the field/construction crew is notified accordingly in writing by Dominion Energy.

FOR DISCOVERIES IN FEDERAL WATERS

- Within 72 hours of the discovery of a potential submerged cultural resource, the QMA will prepare, and Dominion Energy will submit to BOEM and BSEE, a report summarizing the available information concerning the nature and characteristics of the resource and observed attributes relevant to the resource's potential eligibility for listing in the National Register of Historic Places (NRHP). Dominion Energy and the QMA will consult, as feasible, with BOEM during the preparation of the report and preliminary assessment of the resource's significance.
- If BOEM determines the affected resource is eligible for listing in the NRHP, Dominion Energy will prepare a mitigation plan and submit that plan to BOEM. The mitigation plan will prioritize avoidance and minimization measures to the extent practicable based on the specific location and circumstances of the discovery. Dominion Energy will address any BOEM comments in a revised draft mitigation plan before submitting the document to DHR and THPOs. DHR and the THPOs will provide Dominion Energy, BOEM any comments or suggestions within one week of receipt of the mitigation plan.
- Dominion Energy will respond to all timely comments received on the mitigation plan in preparing the final mitigation plan for submittal to BOEM. Work in the vicinity of the discovery

may not resume until Dominion Energy receives written authorization from BOEM. Dominion Energy will be responsible for implementing the final mitigation plan in such circumstances.

- If BOEM determines the potential submerged cultural resource is not eligible for listing in the NRHP, Dominion Energy may proceed with construction activities in the vicinity of the find upon receipt of BOEM's written authorization.

FOR DISCOVERIES IN VIRGINIA STATE WATERS

- Within 72 hours of the discovery of a potential submerged cultural resource, the QMA will prepare, and Dominion Energy will submit to BOEM and DHR, a report summarizing the available information regarding the nature and characteristics of the resource and observed attributes relevant to the resource's potential eligibility for listing in the NRHP. Dominion Energy and the QMA will consult, as feasible, with BOEM and DHR during the preparation of the report and preliminary assessment of the resource's significance.
- If BOEM, in consultation with DHR, determines the affected resource is eligible for listing in the NRHP, Dominion Energy will prepare a mitigation plan and submit that plan to BOEM and DHR. The mitigation plan will prioritize avoidance and minimization measures to the extent practicable based on the specific location and circumstances of the discovery. Dominion Energy will address any BOEM comments in a revised draft mitigation plan before submitting the document to the DHR and THPOs. The DHR and THPOs will provide Dominion Energy and BOEM any comments or suggestions within one week of receipt of the mitigation plan.
- Dominion Energy will respond to all timely comments on the mitigation plan in preparing the final mitigation plan for submittal to BOEM and DHR. Work in the vicinity of the discovery may not resume until Dominion Energy receives written authorization from BOEM. Dominion Energy will be responsible for implementing the final mitigation plan in such circumstances.
- If BOEM determines the potential submerged cultural resource is not eligible for listing in the NRHP, Dominion Energy may proceed with construction activities in the vicinity of the find upon receipt of BOEM's written authorization and DHR's written approval of the final mitigation plan.
- The location of any unanticipated discovery will be kept confidential, and the findings will be reported within the Marine Archaeological Resource Assessment (MARA), which will be attached to the Construction and Operations Plan (COP) and submitted to the relevant federal and state agencies.

5.0 UNANTICIPATED DISCOVERY OF HUMAN REMAINS

If potential human remains are encountered during Project construction activities, different procedures are to be followed depending on whether the remains were located in federal or Virginia state waters.

FOR DISCOVERIES IN FEDERAL WATERS

If suspected human remains are encountered in federal waters, the below procedures, which comply with the Advisory Council on Historic Preservation's (ACHP) *Policy Statement Regarding Treatment of Burial Sites, Human Remains and Funerary Objects*, should be followed.

- All work in the near vicinity of the human remains will cease and reasonable efforts will be made to avoid and protect the remains from further damage. Potential remains shall be protected, which may include keeping the remains submerged in an onboard tank of sea water or other appropriate material.
- The vessel crew or authorized Project Representative will immediately notify Dominion Energy of the discovery of potential human remains. Dominion Energy will immediately notify BOEM and BSEE and the QMA of the discovery.
- If necessary, the QMA may request to visit the vessel to inspect the potential human remains. If the find is a cultural resource, the QMA will provide a preliminary assessment. The QMA will document and inventory the remains and any associated artifacts, and assist in coordinating with federal, state, and local officials.
- A plan for the avoidance of any further impact to the human remains and/or mitigative excavation, reinternment, or a combination of these treatments will be developed in consultation with BOEM, DHR, and THPOs or closest lineal descendants. All parties will be expected to respond with advice and guidance in an efficient time frame. Once the plan is agreed to by all parties, the plan will be implemented by Dominion Energy. Dominion Energy will not proceed with construction activities in the vicinity of the discovery until it has received written authorization from BOEM.

FOR DISCOVERIES IN VIRGINIA STATE WATERS

In the event human remains are encountered during construction activities, DHR recommends implementing the following protocol:

- At all times human remains must be treated with the utmost dignity and respect. Should human remains be encountered, work in the general area of the discovery will stop immediately and the location will be immediately secured and protected from damage and disturbance.
- Human remains or associated artifacts will be left in place and not disturbed. No skeletal remains or materials associated with the remains will be collected or removed until appropriate consultation has taken place and a plan of action has been developed. The archaeological recovery of human remains may require a permit from the Director of the Department of Historic Resources (DHR) (§10.1-2305).
- The county coroner/medical examiner, local law enforcement, DHR, the appropriate Indian Nations, and the involved agency will be notified immediately. The coroner and local law enforcement will make the official ruling on the nature of the remains, being either forensic or archaeological.
- If human remains are determined to be Native American, the remains will be left in place and protected from further disturbance until a plan for their avoidance or removal can be generated. Please note that avoidance is the preferred choice of DHR and the Indian Nations. The involved agency will consult DHR and appropriate Indian Nations to develop a plan of action that is consistent with NAGPRA guidance.
- If human remains are determined to be non-Native American, the remains will be left in place and protected from further disturbance until a plan for their avoidance or removal can be generated. Please note that avoidance is the preferred choice of DHR. Consultation with DHR and other appropriate parties will be required to determine a plan of action.
- Immediate notice regarding the discovery should be made to the appropriate local law enforcement agency, BOEM, BSEE, and DHR.
- Within 24-hours of the notification, DHR shall notify any Native American Tribe that has indicated interest in the area of the discovery. The local law enforcement officials shall assess the nature and age of the human skeletal remains. If the coroner determines that the human skeletal remains are not a crime scene and are older than 50 years of age, DHR has jurisdiction over the remains and will work out appropriate plans with appropriate Tribes, living descendants, and other

interested parties to ensure compliance with existing state laws. No remains will be removed until jurisdiction is established, and the appropriate permits obtained from the Department of the Army.

6.0 GUIDANCE FOR SUPPLEMENTAL ARCHAEOLOGICAL INVESTIGATIONS OF POST-REVIEW DISCOVERIES

Targeted geophysical survey, Remotely Operated Vehicle (ROV) inspection, and/or archaeological diver-assisted observation and inspection may be necessary to evaluate and characterize a discovery and to gather sufficient information to support BOEM's determination of a find's eligibility to the NRHP. The following procedures were developed to provide for informed decision-making in the event of a post-review discovery during construction of Offshore Project Components. The procedures account for appropriate decisions at each step in the event of a post-review discovery. Appropriate resolution of a post-review discovery may not require completion of all the steps described below.

1. *Review available geophysical data in the vicinity of the discovery and determine if supplemental HRG survey or ROV inspection is needed and appropriate.*
 - a. Conduct HRG survey or ROV inspection.
 - i. QMA to evaluate potential significance of find in consultation with BOEM.
 - ii. May result in BOEM's determination that the find is not associated with a NRHP-eligible resource and no further consideration or protective measures are required.
 - iii. May result in a recommendation for avoidance and/or further evaluations

1. *Determine appropriate avoidance area based on supplemental HRG survey or ROV inspections.*
 - a. No seabed disturbance may occur within any avoidance area recommended by the QMA or determined by BOEM, until such time as BOEM provides Dominion Energy written authorization to proceed with construction.
 - b. Dominion Energy should assess potential micro-siting of activities to avoid seabed disturbances within the avoidance area. If so, Dominion Energy will submit to BOEM revised design parameters and/or construction methods demonstrating the feasibility of avoiding the find.

2. *Identify the source of the find, delineate any associated elements of a potential submerged historic property, and assess potential damage or disturbance to the resource.*

- a. May be accomplished by ROV inspections or archaeological diver observations and inspections.
 - i. ROV inspections would be accomplished using an ROV and payload system designed to achieve the Project objectives.
 - ii. Diving operations would only occur if following a formal operational risk assessment and management process, it's determined that diving operations can be safely conducted to achieve the desired objectives.
 - iii. Operations will not commence until BOEM provides Dominion Energy written approval of ROV and Diving Operations Plans.
- b. May result in BOEM's determination that no further conservation/preservation actions are warranted.

3. *NRHP-eligibility evaluation*

- a. Where feasible, would be supported by archaeological diving.
- b. May require intrusive excavations.
- c. May require supplemental archival research.
- d. Will require consultations among BOEM, Dominion Energy, DHR, and THPOs.

4. *Mitigation Plan development*

- a. Will draw upon data collected from all previous, relevant investigations and comments shared by the consulting parties to resolve adverse effects to a submerged historic property.
- b. Will prioritize feasible and practicable avoidance and minimization measures.
- c. May include on-site monitoring of seabed disturbing activities to avoid further damage to a submerged historic property.

7.0 NOTIFICATION LIST

Dominion Energy Services, Inc.

Mitchell M. Jabs, Environmental Manager
120 Tredegar Street
Richmond, VA 23219
M: (804) 297-8154
Mitchell.M.Jabs@dominionenergy.com

Tetra Tech, Inc.

Nathalie Schils, Director of Offshore Energy
Tetra Tech, Inc.
10 Post Office Square, 11th Floor,
Boston, MA 02109
Direct: 617.443.7579
Cell: 216.469.4288
Nathalie.Schils@tetrattech.com

Principle Investigator

James Schmidt
R. Christopher Goodwin & Associates, Inc.
241 East 4th Street, Suite 100
Frederick, MD 21701
(Work) 301-694-0428, ext. 226
(Cell) 301-514-9014
sschmidt@rcgoodwin.com

Project Archaeologists

Olivia Ayers, Ghavin Deonarain and Ashley
Himmelstein
R. Christopher Goodwin & Associates, Inc.
241 East 4th Street, Suite 100
Frederick, MD 21701
(Work) 301-694-0428
Ayers@rcgoodwin.com
GDeonarain@rcgoodwin.com
AHimmelstein@rcgoodwin.com

BOEM

Christopher Horrell
Marine Archaeologist
Bureau of Ocean Energy Management
Office of Renewable Energy Programs
45600 Woodland Road (VAM-OREP)
Sterling, VA 20166
703-787-1577
Christopher.Horrell@boem.gov

Department of Historic Resources

Ms. Julie Langan, SHPO
2801 Kensington Avenue
Richmond, VA 23221
Phone: 804-482-6087
julie.langan@dhr.virginia.gov

BSEE

W. Shawn Arnold
Federal Preservation Officer, Archaeologist
1201 Elmwood Park Blvd
New Orleans, LA 70123-2394
504-736-2416
William.Arnold@bsee.gov

Barry Bleichner
Archaeologist
1201 Elmwood Park Blvd
New Orleans, LA 70123-2394
504-736-2947
Barry.Bleichner@bsee.gov

Chickahominy Tribe

Chief Steve Adkins
8200 Lott Cary Road
Pamunkey Reservation
Providence Forge, VA 23140
804-829-5548
stephenradkins@aol.com

Chickahominy Indians Eastern Division

First Assistant Chief Gerald Stewart
2895 Mt. Pleasant Road
Providence Forge, VA 23140
804-966-7815

Monacan Indian Nation

Chief Dean Branham
104 Walnut Place
Lynchburg, VA 24502
434-907-2600
MNation538@aol.com

Nansemond Tribe
Chief Keith F. Anderson
1001 Pembroke Lane
Suffolk, VA 23434
757-619-0670
chief@nansemond.org
chief@nansemond.gov

Pamunkey Tribe
Chief Robert Gray
191 Lay Landing Road
King William, Virginia 23086
804-339-1629
rgray58@hughes.net

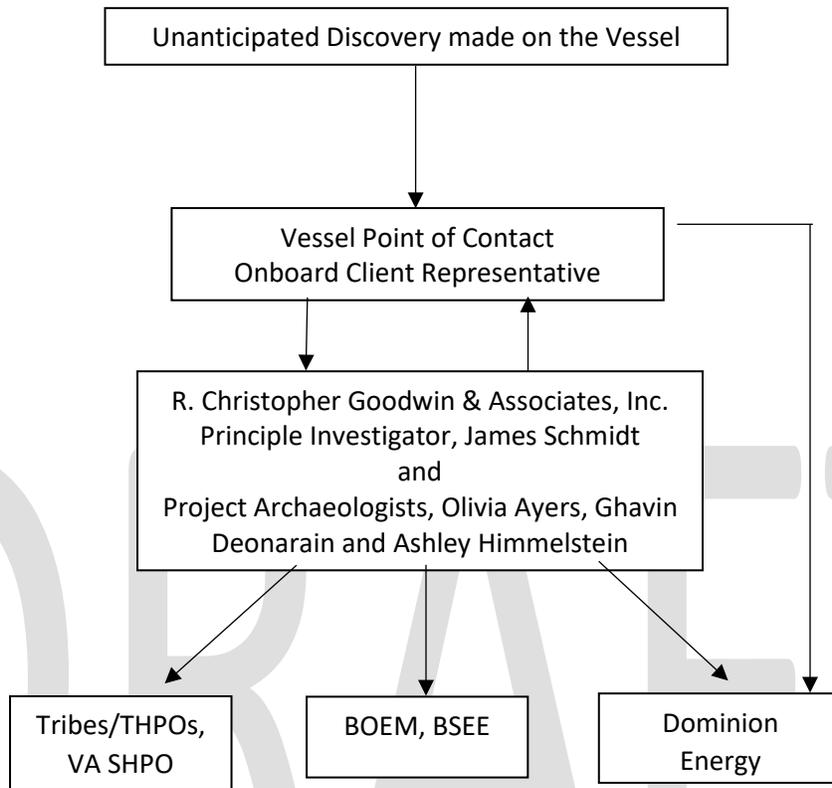
Rappahannock Indian Tribe
Chief Anne Richardson
5036 Indian Neck Road/HCR 1, Box 402
Indian Neck, VA 23148
804-769-0260
chiefannerich@aol.com

Upper Mattaponi Tribe
Chief Frank Adams
5932 East River Road
King William, VA 23086
804-690-1694
wfrankadams@verizon.net

Virginia Beach Sheriff's Office
Sheriff Ken Stolle
2501 James Madison Blvd.
Virginia Beach, VA 23456
757-385-4555

Tidewater District, Virginia Department of
Health, Medical Examiner
830 Southampton Ave., Suite 100
Norfolk, VA 23510
Phone: (757) 683-8366
Fax: (757) 683-2589
OCME_TIDE@vdh.virginia.gov

8.0 COMMUNICATIONS AND NOTIFICATIONS PLAN FOR UNANTICIPATED DISCOVERIES



Memorandum of Agreement Among the Bureau of Ocean Energy Management, the State Historic Preservation Officers of Virginia and North Carolina, and the Advisory Council on Historic Preservation Regarding the Coastal Virginia Offshore Wind Commercial Project

**ATTACHMENT 9 – UNANTICIPATED DISCOVERIES PLAN – PLAN FOR UNANTICIPATED
DISCOVERIES OF CULTURAL RESOURCES AND HUMAN REMAINS – TERRESTRIAL
ARCHAEOLOGICAL RESOURCES**

DRAFT

Attachment G-1 Plan for Unanticipated Discoveries of Cultural Resources and Human Remains – Terrestrial Archaeological Resources

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G-1.1 Introduction

Virginia Electric and Power Company, d/b/a Dominion Energy Virginia (Dominion Energy), is proposing the Coastal Virginia Offshore Wind (CVOW) Commercial Project (the Project), an offshore wind energy project located within the area leased by Dominion Energy in the Commercial Lease of Submerged Lands for Renewable Energy Development on the Outer Continental Shelf offshore Virginia (Lease No. OCS-A 0483), as well as in federal and state territorial waters of Virginia and onshore in the independent cities of Virginia Beach and Chesapeake, Virginia (Figure DD-1-1).

In consultation with the Bureau of Ocean Energy Management (BOEM) and the Virginia Department of Historic Resources (VDHR), Dominion Energy has developed this Unanticipated Discoveries Plan—Terrestrial Archaeological Resources (UDP-T) to provide a protocol for responding to the unplanned discovery of cultural resources, including archaeological deposits, human remains, and other evidence of past human activities, during the construction and operation of the onshore portion of the Project between the Cable Landing Location on the Atlantic Ocean shoreline of the City of Virginia Beach and Dominion Energy’s existing Fentress substation in the City of Chesapeake, including portions located within Naval Air Station (NAS) Oceana and the Virginia National Guard State Military Reservation (SMR [formerly Camp Pendleton]).

G-1.1.1 Project Description

The proposed CVOW Commercial Project will erect up to 202 wind turbine generators over an area of 112,799 acres (45,658 hectares) situated approximately 27 statute miles (23.75 nautical miles, or 43.99 kilometers) off the Virginia Beach coastline. It will have a nameplate generating capacity of approximately 2.6 gigawatts of electrical energy. Energy generated by the Project will be collected via Inter-Array Cables from the individual wind turbine generators to three Offshore Substations, and then transmitted to onshore consumers via nine Offshore Export Cables laid along the Offshore Export Cable Route Corridor within federal and state waters of the Commonwealth of Virginia. To bring the energy onshore at the Cable Landing Location, the Offshore Export Cables will be installed under the beach and dunes using a trenchless installation method (Direct Steerable Pipe Thrusting).

The Onshore Project Components will include, in addition to the Cable Landing Location, an Onshore Export Cable Route, a Switching Station, an Interconnection Cable Route, and an Onshore Substation (Figure DD-1-2).¹ Dominion Energy’s Preferred onshore route option, which was approved by the Virginia State Corporation Commission on August 5, 2022, situates the Cable Landing Location within a Proposed Parking Lot west of the Firing Range at the SMR. At the Cable Landing Location, the nine Offshore Export Cables will interconnect with 27 single-phase 230-kilovolt transmission lines that comprise the Onshore Export Cable that continues to a Common Location north of Harpers Road.

¹ Note that while onshore electrical interconnections are commonly referred to as “circuits,” for consistency with terminology commonly associated with offshore wind projects, “cables” is used throughout.

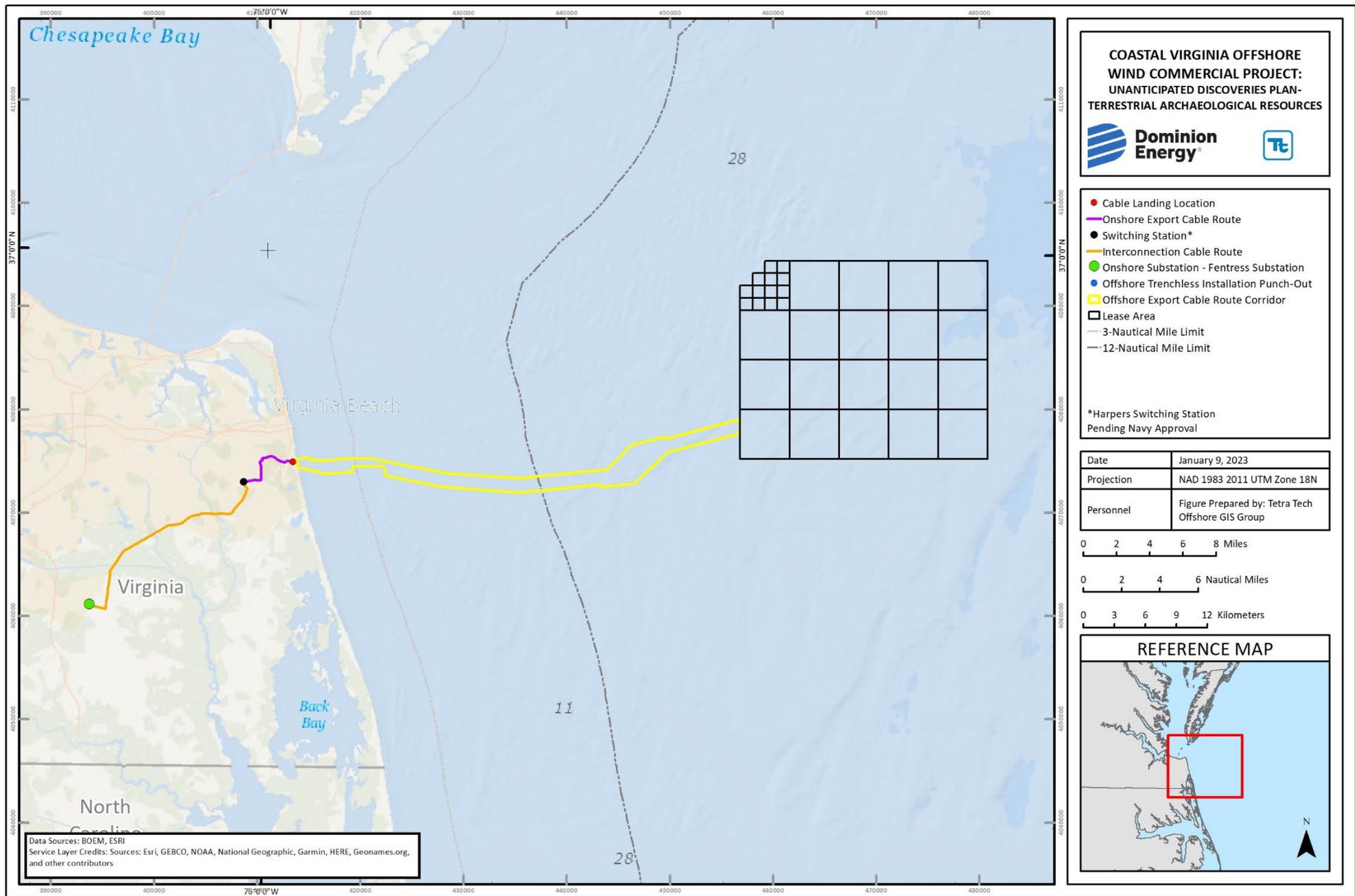
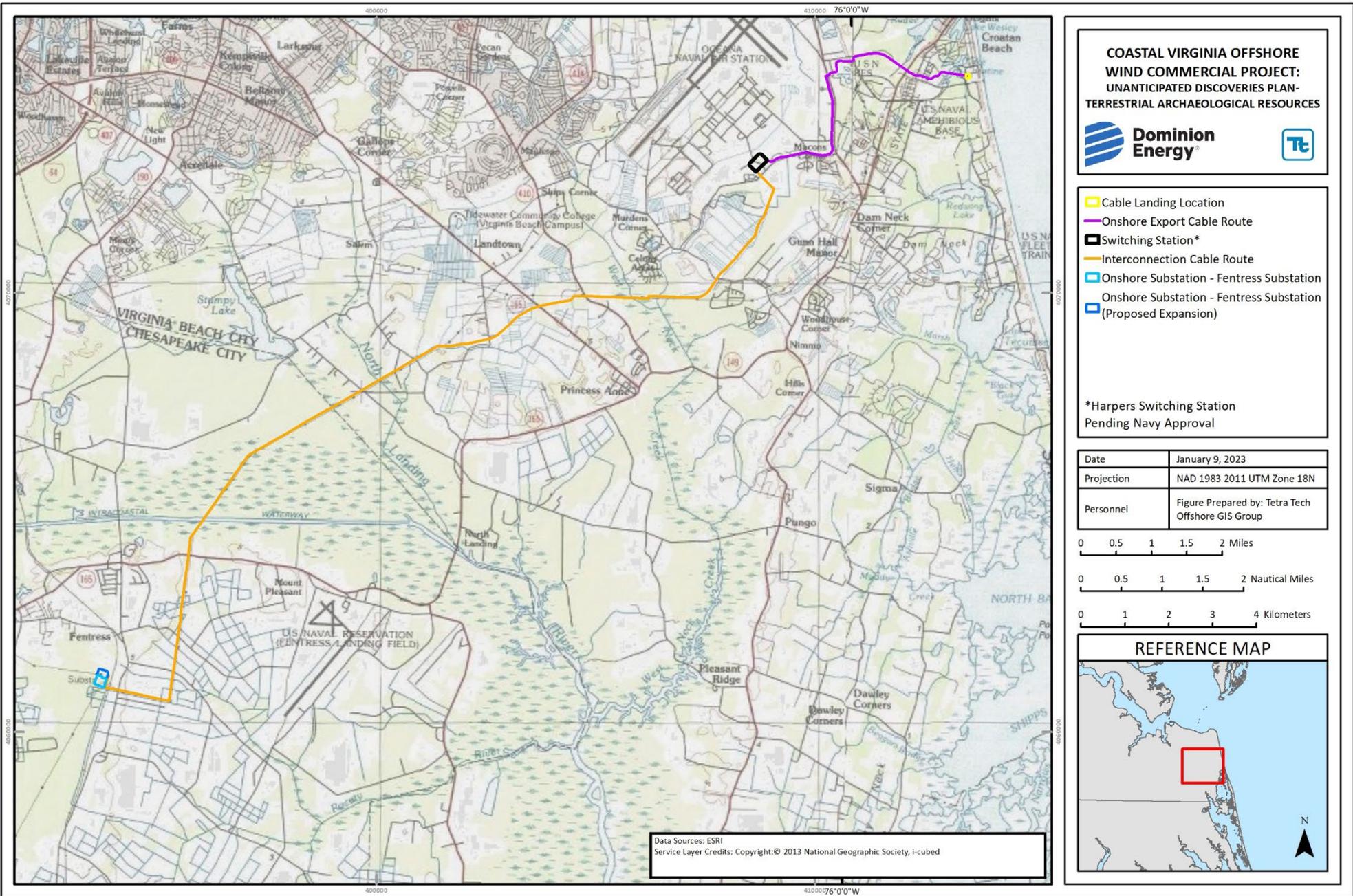


Figure G-1-1. CVOW Commercial Project



NOT FOR CONSTRUCTION
Figure G-1-2. Onshore Project Components

From the Common Location north of Harpers Road the Interconnection Cable Route will continue to the planned Onshore Substation, an expansion of the existing Fentress Substation in the City of Chesapeake, approximately 15 miles (24 kilometers) to the southwest of the Cable Landing Location. According to current planning, the Onshore Export Cable Route will traverse several miles underground beneath existing roads or through previously disturbed ground to the preferred location for the new Switching Station that will be located north of Harpers Road. The Onshore Project Components include portions located within NAS Oceana and SMR properties.

The Switching Station will serve as the transition point where power transmitted by the Onshore Export Cable from the Cable Landing Location will be collected to the Interconnection Cable. The Interconnection Cable will connect the Switching Station with the Onshore Substation at Fentress, where the electricity from the offshore wind energy facility will be connected into the PJM power grid for distribution to consumers. The Interconnection Cable will consist of three 230-kilovolt circuits installed as overhead transmission facilities.

G-1.1.2 Purpose of the Unanticipated Discoveries Plan—Terrestrial

The purpose of the UDP-T is to provide a step-by-step guide for all field personnel in the event that unanticipated cultural material or human remains are encountered during the course of Project construction activities. This UDP-T is to be used in conjunction with the Avoidance, Minimization, and Monitoring Plan – Terrestrial Archaeology (Attachment G-9) to ensure the proper protection of cultural resources within the Project Area of Potential Effects.

The UDP-T applies to all Project construction and maintenance activities inshore of the mean high tide line. Under federal law, the mean high tide line marks the marine boundary of the lands beneath navigable waters of the United States (Submerged Lands Act of 1953, as amended, 43 United States Code [U.S.C.] § 1301(a)(2)), and from a practical point of view, it approximates the point at which terrestrial methods of archaeological investigation predominate over marine methods. The elevation of Mean High Water Datum is taken to be a convenient approximation of the “mean high tide line.” As of September 2021, the National Oceanic and Atmospheric Administration, National Ocean Service, Center for Operational Oceanographic Products and Services lists the elevation of Mean High Water at Rudee Inlet, Virginia Beach, Virginia (Tidal Station 8639208), a location approximately 0.8 mile (1.3 kilometers) north of the Project’s proposed Cable Landing Location, as +0.92 foot (+0.281 meter) North American Vertical Datum of 1988, based on the current National Tidal Datum Epoch, 1983-2001, now under revision (NOAA 2021).

G-1.2 Guidelines, Regulations, and Legislation for Unanticipated Cultural Resources and Human Remains

The UDP-T will be followed if cultural resources and/or human remains are encountered during construction of the Onshore Project Components. The stipulations of the Plan as set forth below are in accordance with the current guidelines detailed in the following federal and state guidelines, regulations, and legislation, as well as BOEM’s recommendation:

G-1.2.1 Federal

- Sections 106 and 110 of the National Historic Preservation Act, as amended (54 U.S.C. §§ 306108 and 306101 *et seq.*)
- Archaeological Resources Protection Act, as amended (16 U.S.C. §§ 470aa *et seq.*)
- Archaeology and Historic Preservation: Secretary of the Interior’s Standards and Guidelines (September 29, 1983, 48 Federal Register 44716-42)
- Advisory Council for Historic Preservation: Policy Statement Regarding Treatment of Burial Sites, Human Remains, and Funerary Objects (February 23, 2007)
- Native American Graves Protection and Repatriation Act (25 U.S.C. §§ 3001 *et seq.*)
- As of October 2021, BOEM has not issued specific regulations or guidance for completing Section 106 compliance archaeological investigations in terrestrial areas; marine archaeological investigations are covered by BOEM’s *Guidelines for Providing Archaeological and Historic Property Information Pursuant to 30 CFR Part 585* (BOEM 2020)
- BOEM Project recommendation for an on-site Archaeological Monitor (AM) during construction activities
- U.S. Department of the Navy guidelines and requirements for portions of the Project located on NAS Oceana property
 - NAVFAC P-73 Real Estate Manual, Chapter 12
 - Regional Integrated Cultural Resources Management Plan for Navy Installations in Hampton Roads (2013, which includes NAS Oceana)
 - OPNAV 5090.1E and the Environmental Readiness Program Manual, Chapter 14 Cultural Resources

G-1.2.2 Commonwealth of Virginia

- *Guidelines for Conducting Historic Resources Survey in Virginia*, revised (VDHR 2017)
- Section 2305 of the Virginia Antiquities Act (Virginia Code Annotated [VCA] § 10.1-2305) “Permit required for the archaeological excavation of human remains” —provides a permit process for archaeological field investigations involving the removal of human remains and artifacts from graves. These permits are issued through VDHR’s Office of Review and Compliance. The following state statutes pertain to human remains, graves, and cemeteries:
 - VCA § 8.01-44.6, action for injury to cemetery property
 - VCA § 15.2-2258, plat of proposed subdivision and site plans to be submitted for approval
 - VCA § 18.2-125, trespass at night upon any cemetery
 - VCA § 18.2-126, violation of sepulture; defilement of dead human body
 - VCA § 18.2-127, injuries to churches, church property, cemeteries, burial grounds, etc.
 - VCA § 33.1-241, roads not to be established through a cemetery or seminary of learning without owners’ consent

- VCA § 45.1-252, designating areas unsuitable for coal surface mining
- VCA § 57-27.1, access to cemeteries located on private property; cause of action for injunctive relief
- VCA § 57-36, abandoned cemeteries may be condemned; removal of bodies
- VCA § 57-38.1, proceedings by landowner for removal of remains from abandoned family graveyard
- VCA § 57-38.2, proceedings by heir at law or descendant for removal of ancestor’s remains from abandoned family cemetery
- VCA § 57-39, proceedings for removal of remains and sale of land vacated
- VCA § 57-39.1, improvement of abandoned and neglected graveyards
- Virginia Army National Guard guidelines and requirements for portions of the Project located on SMR property

G-1.2.3 Local

Both the City of Virginia Beach and the City of Chesapeake have active historic preservation commissions. Virginia Beach is a Certified Local Government under the National Park Service program; Chesapeake is not. Neither city has a local ordinance specifically addressing archaeological resources. Virginia Beach has a local historic preservation plan that serves to establish the vision, goals, and actions for the City of Virginia Beach historic preservation program for the next 10 years and to identify strategic areas for partnerships with internal and external stakeholders. The plan is in the process of being revised, as of October 8, 2021, Draft 4 of the plan was released (Commonwealth Preservation Group 2021; City of Virginia Beach 1994). Chesapeake does not have a local historic preservation plan. An archaeological survey for historic preservation planning purposes was completed in Virginia Beach in the northern part of the city in 2018 (Blondino et al. 2018) and in the southern portion in 2020 (Blondino and McCoy 2020). An archaeological survey of Chesapeake was completed in 1999 (Underwood and Blanton 1999).

G-1.2.4 Archaeological Permits Checklist

If an unanticipated archaeological find is made or if human remains are found, one or more of the following permits may be required if archaeological excavation is necessary:

- Archaeological Resources Protection Act Permit (federal land, issued by federal agency responsible for land management)
 - Required for monitoring on NAS Oceana property
- Permit for Archaeological Field Investigation on State-Controlled Land (Virginia’s state and state-controlled land;² issued by VDHR)

² State-controlled land “means any land owned by the Commonwealth or under the primary administrative jurisdiction of any state agency. ‘State agency’ shall not mean any locality or any board or authority organized under state law to perform local or regional functions. ‘State-controlled land’ includes state parks, state wildlife areas, state recreation areas, highway rights-of-way, and state-owned easements” (VCA § 10.1-2300).

- Permit for the Archaeological Excavation of Human Remains (removal of human remains from a grave in Virginia requires a court order or a permit issued by VDHR)
- Additional permits may be required, depending on circumstances

G-1.3 Training and Orientation

Dominion Energy’s on-site Project Manager (PM), in coordination with the AM will be responsible for advising construction-contractor personnel on the procedures to follow in the event of an unanticipated discovery. Training will occur as part of the pre-construction on-site training program for all construction personnel. The PM will advise all personnel, including operators of equipment involved in grading, stripping, or drilling activities, to:

1. Stop work immediately if they observe indications of the presence of cultural artifacts, animal bones, or human remains.
2. Contact the AM and PM immediately.
3. Comply with unanticipated discovery procedures.
4. Treat human remains with dignity and respect.

G-1.3.1 Procedure When Potential Cultural Materials Are Observed

Cultural materials include man-made historic objects (precontact pottery or chipped stone tools and waste flakes) and historic period items (items that are approximately 50 years old or greater such as architectural debris, fragments of dishes, bottle glass, old farm equipment, etc.) and features (e.g., alignments, walls, floors, including those that are constructed of cobbles, rough or quarry-dressed masonry, brick, concrete, or other materials), or other remnants of cultural activity.

If artifacts are found on **federal lands**, including NAS Oceana, procedural regulations for permitted excavations and inadvertent discoveries as outlined in the Archaeological Resources Protection Act (ARPA) and the Native American Graves Protection and Repatriation Act (NAGPRA) will be followed. Both of these regulations mandate consultation with Tribal communities and the development of recovery, and disposition plans.

If artifacts are found on **state lands**, procedures for the removal of archaeological materials stipulated in the Virginia Antiquities Act (§ 10.1-2300 Code of Virginia) Code will be followed.

If potential cultural material is encountered during the course of construction activities:

1. **Stop work in the immediate vicinity of the observed potential cultural materials.**
2. **Notify the AM and PM of the discovery.**
3. **If the AM determines that the materials are not human made and historic, features, or other remnants of cultural activity that constitute an anticipated discovery, work will resume.**
4. **If the AM determines that an unanticipated discovery may have been made:**
 - a. **The AM directs all ground-disturbing activities that may affect area of discovery to stop.**

- b. The AM will protect and secure the evidence in place by delineating the find with flagging or fencing.**
- c. Project activities can continue outside of the delineated unanticipated find area.**

Make Immediate Notifications

The PM will notify the designated Dominion Energy contacts as soon as practicable by telephone with written confirmation via email, fax, or overnight mail. If the primary contact cannot be reached, the PM will notify the indicated alternate. Written notifications should be accompanied by photographs and maps or geographic coordinates of the find.

The **CONTACTS LIST** is at the end of this document.

Professional Archaeologist Will Assess the Find

As soon as practicable, a professional archeologist (PA)³, likely the same individual acting as the AM, will examine the location of the discovery.

1. If the PA determines that the discovery is not a cultural resource, the PA will promptly communicate the basis for this professional judgment to the PM. The PM will be allowed to remove the stop work order with concurrence from the PM's management at Dominion Energy. This concurrence may be provided initially by telephone and will be followed by a concurrence email from Dominion Energy. The PA will document the communication with the PM by a letter report including photographs of the discovery to the PM, Dominion Energy, and Tetra Tech contacts within 14 business days.
2. If the PA determines that the discovery is a potentially significant cultural resource, the PA will immediately advise the PM who will make the appropriate notifications to Dominion Energy and Tetra Tech. Together the PA and the PM will then notify VDHR, BOEM and BSEE, and Tribes as applicable, by telephone and written confirmation by email, fax, or overnight mail. In consultation with Dominion Energy, VDHR, and BOEM, the PA will develop a scope of work for evaluating the significance of the resource and evaluating potential Project effects on the resource. The written, draft scope of work will be prepared by the PA and submitted to the PM and Dominion Energy within 2 business days of notifying the PM of the cultural resource determination. The PM will provide the scope of work to VDHR and BOEM following Dominion Energy review. Once approved by VDHR, work may commence immediately on the cultural resource investigations.
3. In accordance with construction or other permits or applicable regulations, additional parties such as federal or state land managers, may need to be notified, provided with copies of evaluative letter reports and/or field investigation plans, or afforded the opportunity to issue archaeological excavation permits.

³ A professional archaeologist, also called a Secretary of the Interior-qualified archaeologist, is one who meets the Secretary's qualifications to serve as a principal investigator of an archaeological study for purposes of federally sanctioned historic preservation (48 Federal Register 44739, September 29, 1983).

Initiate Consultation with VDHR

4. Within 10 days of the notification of the cultural resource determination, the PM and PA will consult with Dominion Energy, VDHR, and BOEM by telephone and discuss the PA's results from the evaluation and opinion concerning the potential significance of the resource and possible eligibility of the resource for the National Register of Historic Places or Virginia Landmarks Register. As directed by Dominion Energy, the PM or PA will notify other interested parties about the unanticipated discovery who may include local historical commissions (Chesapeake City Historic Preservation Commission; Virginia Beach Historic Preservation Commission) and interested Native American Tribes.

In consultation with BOEM, a list of Tribes who wish to participate in the consultation process for the UDP will be developed. Tribes will be invited to express their interest in participating in the UDP consultation process at meetings organized by BOEM. When a list of interested Tribes has been developed the contact information either for Tribal Historic Preservation Offices (THPOs) or tribal contact persons will be verified. Tribes who have expressed interest will be consulted in the event of the discovery of unanticipated cultural material of indigenous creation and on avoidance and data recovery proposals.

Potentially Interested Native American Tribes may include:

- Absentee-Shawnee Tribe of Oklahoma
 - Cheroenhaka Nottoway Nation
 - Chickahominy Tribe
 - Delaware Nation
 - Delaware Tribe of Indians
 - Eastern Chickahominy Tribe
 - Eastern Shawnee Tribe of Oklahoma
 - Lenape Tribe of Delaware
 - Mattaponi Tribe
 - Meherrin Tribe
 - Monacan Indian Nation
 - Nansemond Tribe
 - Narragansett Indian Tribe
 - Nottoway Indian Tribe of Virginia
 - Pamunkey Tribe
 - Patawomeck Tribe of Virginia
 - Rappahannock Indian Tribe
 - Shinnecock Indian Nation
 - Upper Mattaponi Tribe
5. Once the scope of work is approved by VDHR, work may commence immediately on the cultural resource investigations. Dominion Energy assumes the VDHR and other consulting parties will provide an expedited 10-day review of scopes-of-work.

6. As soon as possible following the field investigation, the PA will provide the PM and Dominion Energy contacts with a written report describing the results of the fieldwork.
7. If the resource is believed to be significant and cannot be avoided by construction activities, the PA will prepare a proposal for data recovery for submission to the PM, Dominion Energy, VDHR, BOEM, and potentially other interested parties such as federally recognized Native American tribes with a historical interest in the municipality or county in which the find is located. The data recovery proposal will be approved by the PM, Dominion Energy, VDHR, and BOEM. Following completion of the data recovery effort, work in the delineated area will be allowed to re-commence.
8. If the resource is believed to be significant and can be avoided by construction activities, the PA will prepare a proposal for avoidance measures (avoidance plan) for submission to the PM and Dominion Energy. The avoidance plan may specify ongoing monitoring of construction activity by a PA in an area of sensitivity in the vicinity of the unanticipated find. Following review, the PM will provide the avoidance plan to VDHR and BOEM. Once VDHR and BOEM approve the avoidance plan, the Project work will be allowed to re-commence with implementation of the avoidance plan.
9. Dominion Energy will be responsible for all costs associated with the discovery, investigation, reporting, and curation of any unanticipated finds encountered during Project construction.

G-1.3.2 Procedure When Human Remains and/or Potentially Human Skeletal Materials Are Observed

Human remains are physical remains of a human body or bodies including, but not limited to, bones, teeth, hair, and preserved soft tissues (mummified or otherwise preserved) of an individual. Remains may be articulated or disarticulated bones or teeth. Disturbance of human remains, burial places, or burial offerings and other grave furnishings without authorization is a felony.

ESSENTIAL INSTRUCTIONS

Workers shall treat all human remains with dignity and respect.

In Virginia, it is a felony to remove human remains from a grave without a court order or appropriate permit.

It is prohibited to photograph human remains or provide public access to view human remains regardless of affiliation. The only photography allowed will be field documentation by the AM and PA.

Stop Immediately and Establish a Buffer Zone

IMMEDIATELY STOP all ground-disturbing activities in the vicinity of a discovery of human remains or suspected human remains.

An initial buffer of at least 50 feet (15 meters) around the find location shall immediately be established, within which no construction or other ground-disturbing activities shall take place pending evaluation of the find. Be aware that additional discoveries of possible human remains could be made outside the initial buffer, so the boundary of buffer of no construction activities may need to be expanded pending further evaluation of the finds.

Immediately Notify the Archaeological Monitor and Project Manager

Immediately notify the AM and PM about the find.

The Archaeological Monitor and Project Manager Ensure that the Find(s) are Secured from Disturbance and Notifies Additional Personnel

If the AM believes that potentially human skeletal remains have been found, they will:

1. Protect and secure the evidence of the discovery.
2. Delineate the location of the find and the surrounding initial buffer area with flagging or safety fencing.
3. Screen from view both suspected and identified unmarked burials for the duration of their exposure.
4. Immediately notify the designated contacts:

Always

- Dominion Energy
- Local Law Enforcement (for discoveries on Navy property see below)
- Virginia Medical Examiner Tidewater District
- Tribes
- VDHR
- BOEM
- BSEE

As applicable by location of discovery

- U.S. Army Corps of Engineers (USACE), if the unanticipated discovery falls within USACE permit areas
- NCIS in place of local law enforcement if the unanticipated discovery falls within NAS Oceana
- Navy, if the unanticipated discovery falls within NAS Oceana, Dam Neck, or Joint Expeditionary Base Little Creek-Fort Story
- SMR, if the unanticipated discovery falls within Camp Pendleton/State Military Reservation
- Virginia Department of Military Affairs - Virginia Army National Guard, if the unanticipated discovery falls within Camp Pendleton/State Military Reservation

As directed by Dominion Energy, the PM or PA may notify other interested parties about the unanticipated discovery.

Local Law Enforcement will Assess the Find

Local law enforcement will visit the discovery and evaluate whether it represents a crime scene. If determined to be a crime scene, no work will be undertaken in the area until written permission to resume is provided by the investigating agency.

The Professional Archaeologist Assesses the Find, if Not of Concern to Law Enforcement

If law enforcement determines that the find is not of concern, the PA will examine the discovery as soon as practicable to determine if the remains are likely human and make a determination on its archeological association as to aboriginal, non-aboriginal, or indeterminate affiliation.

Tribes who have expressed interest will be notified whether or not the remains uncovered are deemed to be a crime scene or non-human remains.

The Professional Archaeologist Determines the Find is Non-human

Non-human find with no significant archaeological association

If skeletal remains are determined to be non-human and there is no archeological association, the PA making the determination will promptly advise the PM. The PM will advise Dominion Energy of the PA's assessment and with their concurrence, the PM will give an order for construction to resume in the

delineated area. The PA will submit a letter report including photographs of the discovery site to the PM and Dominion Energy contacts within 14 business days of the determination.

Non-human find with an archaeological association

If the skeletal remains are non-human, but are associated with an archeological site, follow the steps described in Section G-1.3.2

The Professional Archaeologist Determines the Find Represents Human Remains

If the skeletal remains are human and not of interest to law enforcement, the PA will notify the PM, Dominion Energy, VDHR, and BOEM and BSEE contacts.

If human remains are found on **federal lands**, procedural regulations for permitted excavations and inadvertent discoveries as outlined in the Archaeological Resources Protection Act (ARPA) and the Native American Graves Protection and Repatriation Act (NAGPRA) will be followed. Both of these regulations mandate consultation with Tribal communities and the development of recovery, and disposition plans.

If artifacts are found on **state lands**, procedures for the removal of archaeological materials and human remains stipulated in the Virginia Antiquities Act (§ 10.1-2300 Code of Virginia) Code will be followed and a *Permit Application for Archaeological Removal of Human Burials* will be obtained from VDHR.

The disposition of unmarked burial sites, human skeletal remains, or burial artifacts shall proceed as follows:

1. Reasonable efforts will be made to restore the unmarked burial site, avoid disturbance to the human skeletal remains or burial artifacts, and preserve the remains in place;
2. Dominion Energy shall be responsible for prompt notification of the owner of any leased property on which an unmarked cemetery or grave or human remains are discovered during construction;
3. BOEM in coordination with VDHR and Dominion Energy will notify and consult with appropriate tribal leaders;
4. If the human skeletal remains must be removed, Dominion Energy and the PA shall obtain a court order from the County Circuit Court and a Permit for Archaeological Removal of Human Burials from VDHR;
5. If the human skeletal are discovered on the NAS Oceana parcel, BOEM, in coordination with Dominion Energy and NAS Oceana, will follow the real estate manual for non-Native American human remains/cemetery especially if relocation is needed.
6. All artifacts found in association with an unmarked burial site shall be considered grave goods and will not be separated from the human remains. The disposition of the burial artifacts shall be made by VDHR in accordance with its regulations;
7. If disturbance to human remains or a burial place cannot be avoided, Dominion Energy and the PA will prepare a treatment plan, in consultation with VDHR, BOEM, and interested tribes or related descendants, as appropriate, outlining measures for excavation, disinterment, study, and re-interment. The treatment plan will discuss the curation of any artifacts recovered in the process of

excavation and provide for appropriate final disposition of the remains in accordance with applicable laws. If human remains and associated funerary objects are uncovered on federal lands and they are deemed to be Native American, their disposition will be regulated under NAGPRA; and

8. Dominion Energy will be responsible for all costs associated with the discovery, evaluation and agency consultation, excavation, investigation and study, disinterment, re-interment, reporting, and curation of any human remains and associated funerary items encountered during Project construction.

G-1.4 References

- Blondino, J. R., M. Klein, and C. McCoy. 2018. *Archaeological Assessment of the Northern Portion of the City of Virginia Beach, Virginia*. Prepared for the Commonwealth of Virginia, Department of Historic Resources, Richmond, by Dovetail Cultural Resource Group I, Inc., Fredericksburg, VA. Redacted version available online at <https://www.vbgov.com/government/departments/planning/boards-commissions-committees/Documents/VA%20Historical%20Preservation/VB%20Archaeological%20Assessment%20Northern%20Half%202018.pdf>.
- Blondino, Joseph R. and Curtis McCoy. 2020. *Archaeological Assessment of the Southern Portion of the City of Virginia Beach, Virginia* On File at VDHR. Accessed May 2022.
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- City of Virginia Beach. 1994. *Virginia Beach Historic Resources Management Plan*. Available online at https://www.vbgov.com/government/departments/planning/boards-commissions-committees/Documents/VA%20Historical%20Preservation/Update%202015%20HR%20Related%20Documents/HistoricResourcesManagmentPlan_web.pdf.
- Commonwealth Preservation Group. 2021. *Virginia Beach Historic Preservation Strategic Plan, Draft 3: June 8, 2021*. Prepared for the City of Virginia Beach and the Virginia Department of Historic Resources. Available at <https://www.vbgov.com/government/departments/planning/boards-commissions-committees/Documents/VA%20Historical%20Preservation/VB%20Preservation%20Plan%20Update%20-%20Draft%206.8.2021-%20By%20pages%20-%20reduced.pdf>.
- NOAA (National Oceanic and Atmospheric Administration). 2021. Tides & Currents: Datums for 8639207, Rudee Inlet VA. Available online at: <https://tidesandcurrents.noaa.gov/datums.html?id=8639207>. Accessed September 13, 2021.
- Underwood, J. R., and D. B. Blanton. 1999. *Preserving Our Past, Protecting Our Future: An Assessment of Archaeological Resources in the City of Chesapeake, Virginia*. Prepared for the Virginia Department of Historic Resources, Richmond, and the City of Chesapeake Planning Department, by the William and Mary Center for Archaeological Research, Department of Anthropology, the College of William and Mary, Williamsburg, VA. Available online at https://www.cityofchesapeake.net/Assets/documents/departments/planning/preserving_out_past_protecting_our_future.pdf.
- VDHR (Virginia Department of Historic Resources). 2017. *Guidelines for Conducting Historic Resources Survey in Virginia*. Revised edition. Available online at https://www.dhr.virginia.gov/wp-content/uploads/2018/06/SurveyManual_2017.pdf.

G-1.5 Contact List

The Contact List will be updated prior to construction and implementation of the UDP-T. The Contact List will be periodically updated while being implemented to ensure contacts are up to date. Contacts for tribes who have expressed interest in consulting on the UDP-T will be added once a list is developed in coordination with BOEM.

<p>Dominion Energy On-Site Project Manager (Name) (Title) (Address) (Address) (Phone) (email)</p>	<p>Contractor On-Site Manager/Foreman (Name) (Title) (Address) (Address) (Phone) (email)</p>
<p>Dominion Contact (Name) (Title) (Address) (Address) (Phone) (email)</p>	<p>Alternate Dominion Contact (Name) (Title) (Address) (Address) (Phone) (email)</p>
<p>Tetra Tech Contact Nathalie Schils Project Manager 10 Post Office Square, Suite 1100 Boston, Massachusetts 02109 (617) 443-7579 Nathalie.schils@tetrattech.com</p>	<p>Alternate Tetra Tech Contact Adam Maskevich Cultural Resources Lead, Archaeologist 6 Century Drive, Suite 300 Parsippany, New Jersey 07054 (908) 451-9838 adam.maskevich@tetrattech.com</p>
<p>VDHR Contact Roger W. Kirchen Director, Review & Compliance Division 2801 Kensington Avenue Richmond, Virginia 23221 Phone: (804) 482-6091 roger.kirchen@dhvirginia.gov</p>	<p>Alternate VDHR Contact (Name) (Title) (Address) (Address) (Phone) (Email)</p>
<p>BOEM Project Contact Bonnie Houghton NEPA Coordinator 45600 Woodland Road Sterling, Virginia 20166 (703) 438-5108 bonnie.houghton@boem.gov</p>	<p>BOEM Archaeology Contact Laura Kate (LK) Schnitzer Archaeologist, Office of Renewable Energy Programs 45600 Woodland Road, VAM-OREP Sterling, Virginia 20166 (Phone) laura.schnitzer@boem.gov</p>
<p>BSEE Contact W. Shawn Arnold Federal Preservation Officer, Archaeologist 1201 Elmwood Park Blvd New Orleans, LA 70123-2394 504-736-2416 William.Arnold@bsee.gov</p>	<p>BSEE Contact Barry Bleichner Archaeologist 1201 Elmwood Park Blvd New Orleans, LA 70123-2394 504-736-2947 Barry.Bleichner@bsee.gov</p>

<p>Virginia Beach Police Department 2509 Princess Anne Road Virginia Beach, Virginia 23456 (757) 385-4141</p>	<p>Chesapeake City Police Department 304 Albemarle Drive Chesapeake, Virginia 23322 (757) 382-6161</p>
<p>Naval Air Station Oceana Police Department (U.S. Navy Property) Oceana Naval Air Station 1750 Tomcat Boulevard Virginia Beach, Virginia 23460 (757) 433-3713</p>	<p>U.S. Navy Contact John Lauterbach Planning Liaison 1750 Tomcat Boulevard Virginia Beach, Virginia 23460 (757) 647-6777 john.lauterbach1@navy.mil</p>
<p>Naval Criminal Investigative Service (Name) (Title) (Address) (Address) (Phone) (email)</p>	<p>U.S. Cultural Resource Management Catherine Lantzas-Olson NAS Oceana Cultural Resources Manager (Address) (Address) (Phone) catherine.lantzas-ol@navy.mil</p>
<p>State Military Reservation Camp Pendleton Susan Smead Cultural Resources Program Manager VDM/NGVA-FMO-ENV Bldg. 1340 (Curation Facility), Fort Pickett Blackstone, Virginia 23824-63 (434) 298-6411 susan.e.smead.nfg@mail.mil</p>	<p>U.S. Army Corps of Engineers Contact (Name) (Title) (Address) (Address) (Phone) (email)</p>
<p>City of Chesapeake, Virginia Historic Preservation Commission Jessica Cosmas Parks, Recreation and Tourism Historical Services Manager 1224 Progressive Drive Chesapeake, Virginia 23320 (757) 382-6411 jcosmas@cityofchesapeake.net</p>	<p>City of Virginia Beach, Virginia Historic Preservation Commission Mark Reed Historic Preservation Planner 2875 Sabre Street Virginia Beach, Virginia 23452 (757) 385-8573 mreed@vbgov.com</p>
<p>Virginia Medical Examiner Tidewater District 830 Southampton Avenue, Suite 100 Norfolk, Virginia 23510 (757) 683-8366 OCME_TIDE@vdh.virginia.gov</p>	<p>Virginia Department of Military Affairs-Virginia Army National Guard (Name) (Title) (Address) (Address) (Phone) (email)</p>

ATTACHMENT 10 – MITIGATION FUNDING AMOUNTS

The mitigation measures proposed in Stipulation III have been developed by individuals who meet the qualifications specified in the SOI's Qualifications Standards for Archaeology, History, Architectural History, and/or Architecture (36 CFR 61) and are based on input from consulting parties. The proposed mitigation measures consider the nature, scope, and magnitude of adverse effects caused by the Project, the qualifying characteristics of each historic property that would be affected. The following funding amounts were considered by signatories, invited signatories, and consulting parties for historic properties mitigation measures based on budgets proposed by Lessee for each mitigation effort. These budgets are good faith estimates, based on the experience of these qualified consultants with similar activities and comparable historic properties. The proposed level of funding is appropriate to accomplish the identified preservation goals and result in meaningful benefits to the affected properties, resolving adverse effects. Therefore, the funding amounts indicated here for activities required by the MOA represent the maximum amounts the Lessee is required to spend to fund these activities.

The mitigation measures outlined in the MOA for the Atlantic Wildfowl Heritage Cottage/De Witt Cottage; Cavalier Hotel and Beach Club; Chesapeake Bay Bridge-Tunnel; Chesapeake Light Tower; Cutty Sark Motel Efficiencies; Econo Lodge/Empress Motel; Hilton Washington Inn/Quality Inn and Suites; House (100 54th Street); House (4910 Ocean Front Avenue); House (5302 Ocean Front Avenue); House (7900 Ocean Front Avenue); House (8304–8306 Ocean Front Avenue); House (8600 Ocean Front Avenue); Oceans II Condominiums/Aeolus Motel; Seahawk Motel; Seatack Lifesaving Station/U.S. Coast Guard Station; Virginia House; the Cavalier Shores Historic District and Sandbridge Historic District; Currituck Beach Lighthouse; First Cape Henry Lighthouse and Second Cape Henry Lighthouse have been developed by individuals who meet the qualifications specified in the SOI's Qualifications Standards for Archeology, History, Architectural History, and/or Architecture (36 CFR 61) in consultation with the consulting parties.

- \$70,000 for mitigation of adverse effects to various historic properties in the City of Virginia Beach through:
 - Contribution to support the preparation of NRHP nominations or Multiple Property Document (MPD) for the Pocahontas Fowling Club and the Princess Anne County Gunning and Hunt Clubs
- \$110,000 for mitigation of adverse effects at the Seatack Lifesaving Station/U.S. Coast Guard Station and the Atlantic Wildfowl Heritage Museum/De Witt Cottage and other adversely affected historic properties in the City of Virginia Beach through:
 - Contribution to support hiring a contractor to develop a Sea Level Rise Mitigation Plan; and
 - to support educational programs and interpretation of the Virginia Beach Surf and Rescue Museum.
- \$110,000 for mitigation of adverse effects at the Cavalier Shores Historic District and Sandbridge Historic District through:
 - Contribution to support the survey and documentation of Doyletown and Queen City, which will support scholarship on these historic resources and further the understanding of the properties by the public.
- \$50,000 for mitigation of adverse effects at the Currituck Beach Lighthouse through:
 - Contribution to support operational expenses and/or restoration.

Memorandum of Agreement Among the Bureau of Ocean Energy Management, the State Historic Preservation Officers of Virginia and North Carolina, and the Advisory Council on Historic Preservation Regarding the Coastal Virginia Offshore Wind Commercial Project

- \$125,000 for mitigation of adverse effects at the First Cape Henry Lighthouse (NHL) and Second Cape Henry Lighthouse through:
 - Contribution to support the development of a renovation and expansion plan for the Cape Henry Lighthouse Visitor Services Center; and
 - to support the interpretation of the lighthouses for the public good.

The total amount of mitigation funding will be \$X,XXX,XXX.

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ATTACHMENT B FIGURES

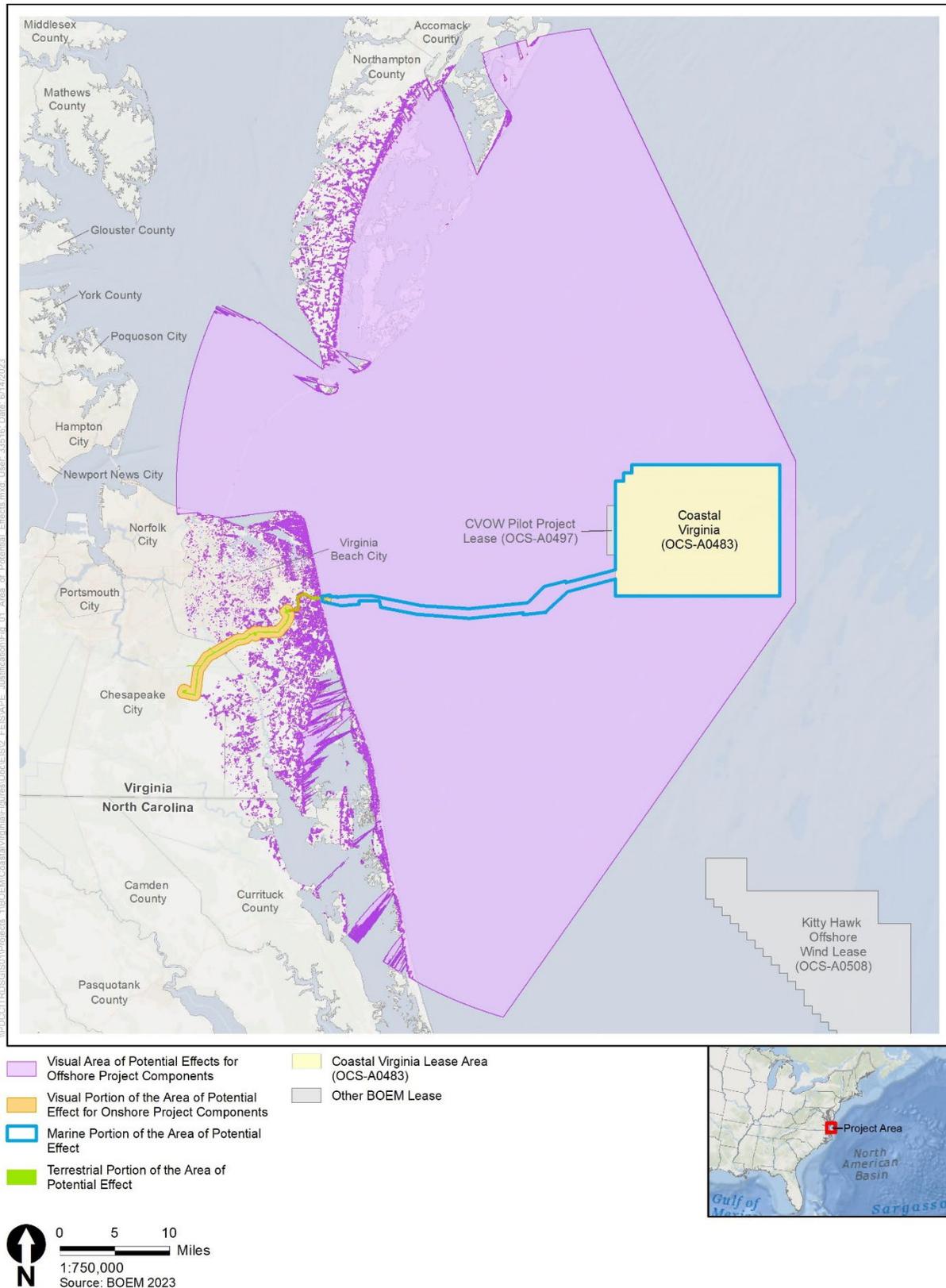


Figure O.B-1 Project APE

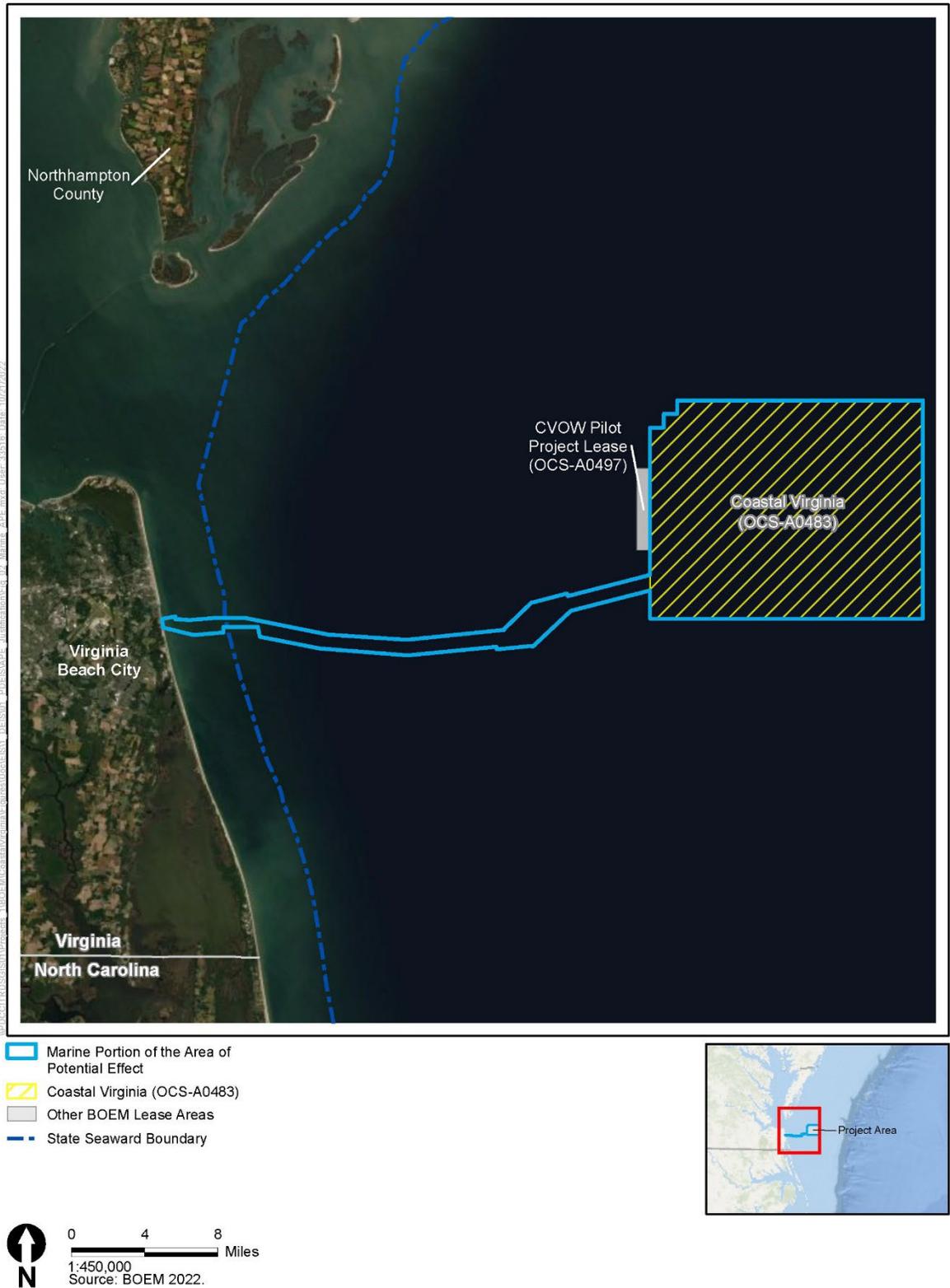


Figure O.B-2 Marine APE

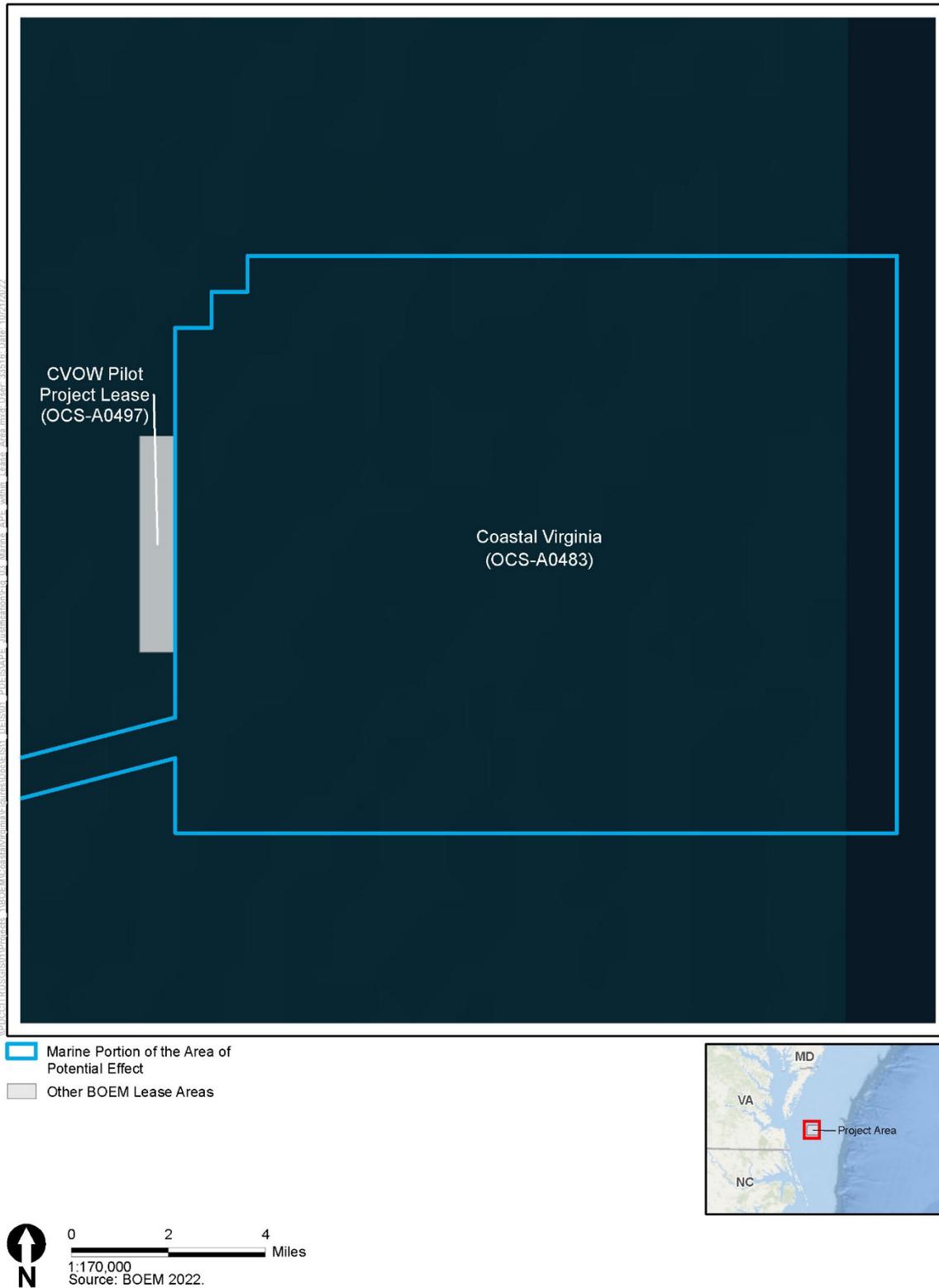
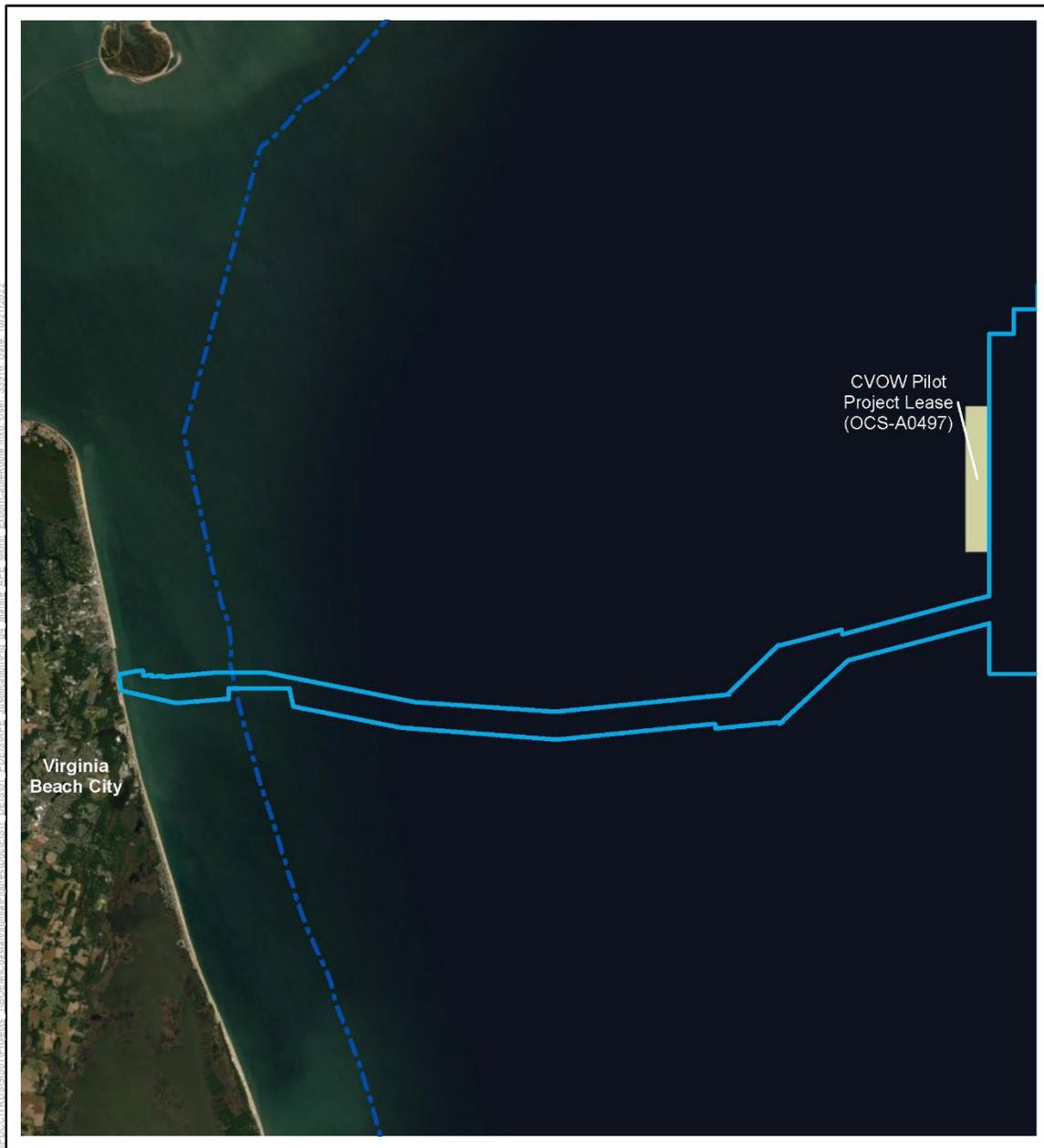


Figure O.B-3 Detail of Marine APE Within the Lease Area



- Marine Portion of the Area of Potential Effect
- Other BOEM Lease Areas
- State Seaward Boundary

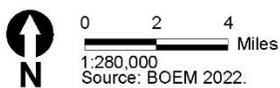


Figure O.B-4 Detail of Marine APE Within Export Cable Route Corridor



Figure O.B-5 Terrestrial APE

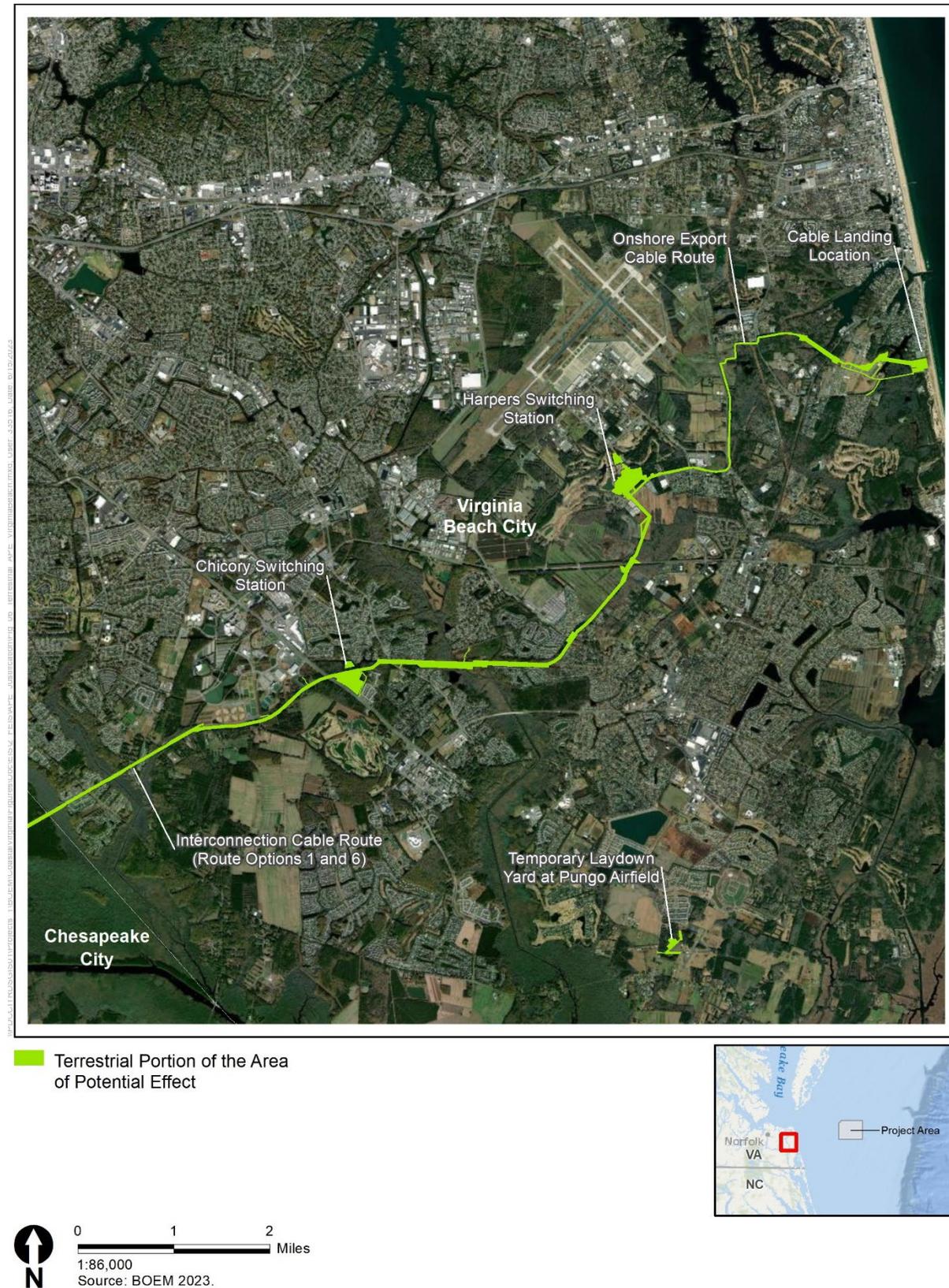
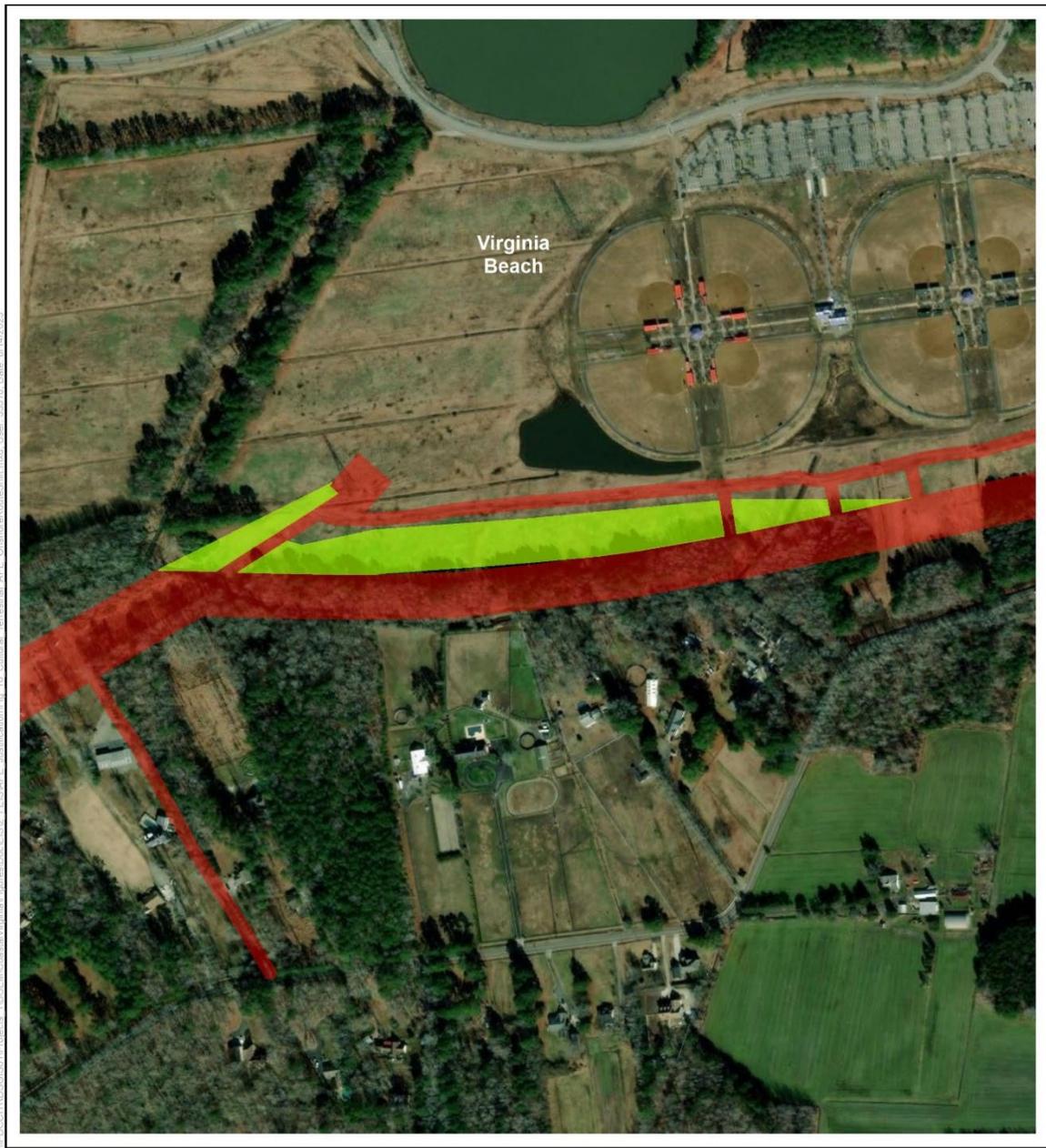


Figure O.B-6 Detail of Easternmost Portion of the Terrestrial APE



Figure O.B-7 Detail of Westernmost Portion of the Terrestrial APE



- Terrestrial Portion of the Area of Potential Effect—New Shifted Route
- Terrestrial Portion of the Area of Potential Effect—Before Route Shift

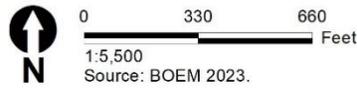


Figure O.B-8 Detail of Terrestrial APE at Interconnection Cable Route Shift in Virginia Beach, Virginia

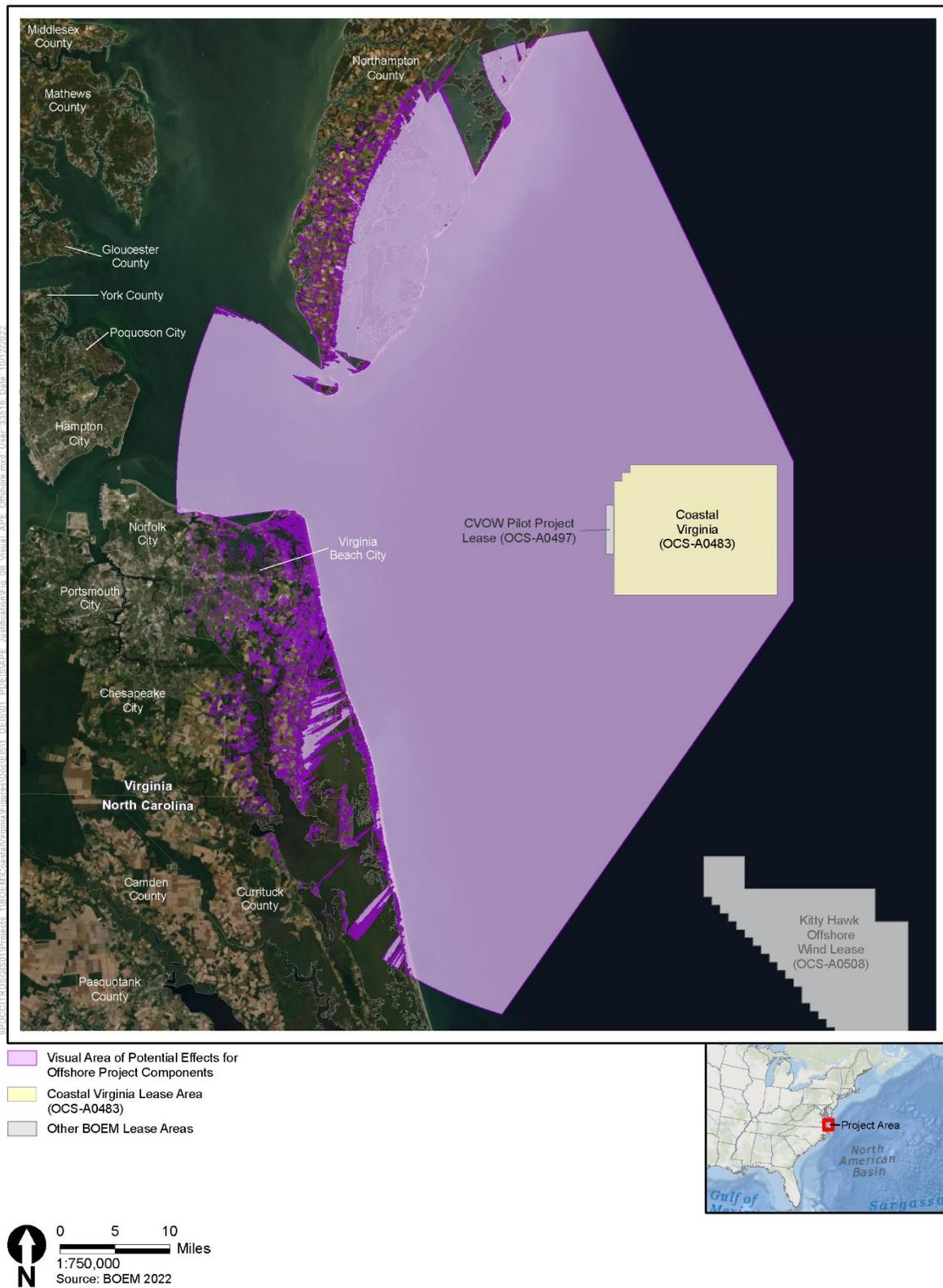


Figure O.B-9 Visual APE for Offshore Project Components



Figure O.B-10 Detail of Northernmost Portion of Visual APE for Offshore Project Components

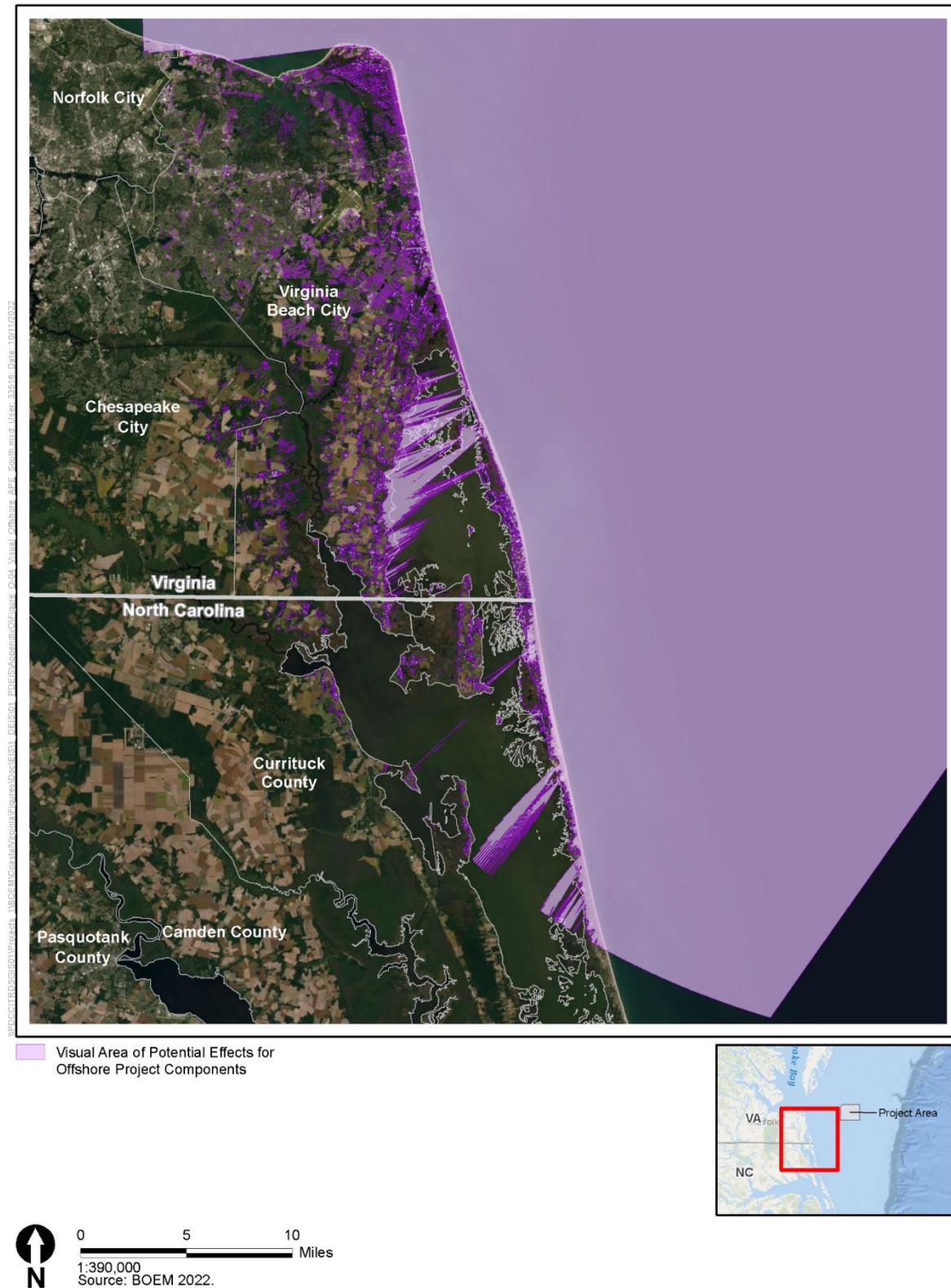


Figure O.B-11 Detail of Southernmost Portion of Visual APE for Offshore Project Components

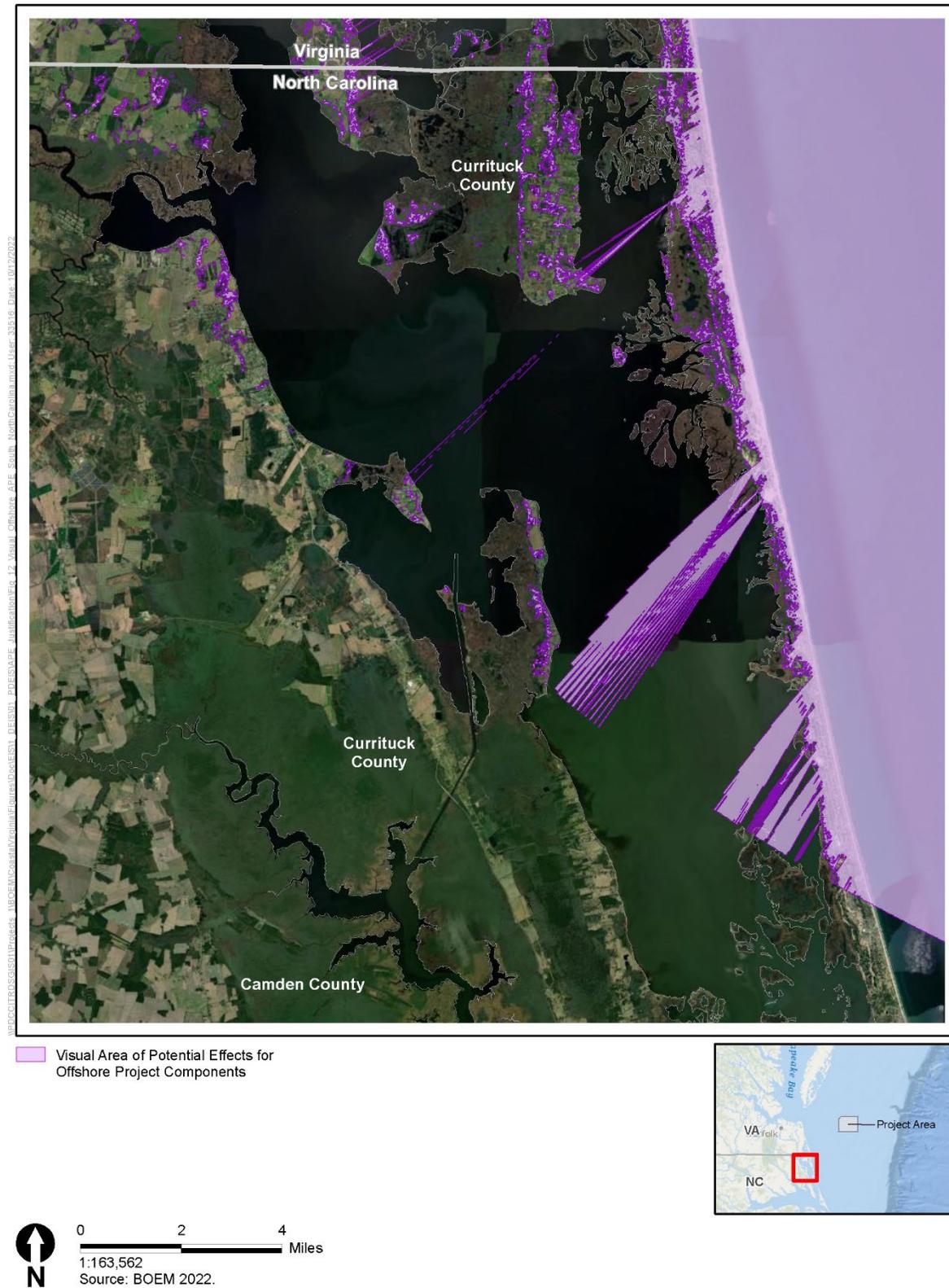
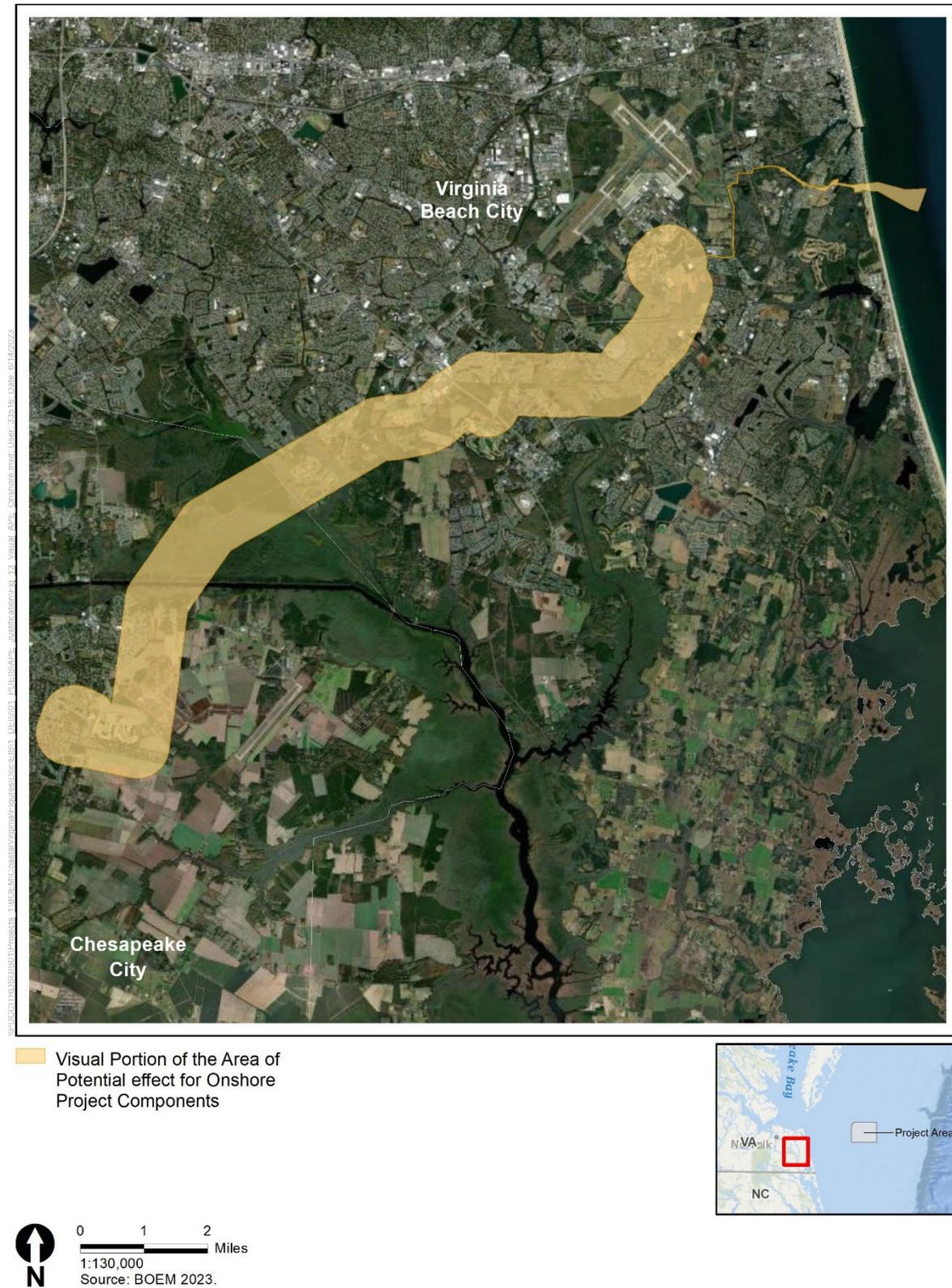


Figure O.B-13 Detail of Visual APE for Offshore Project Components in North Carolina



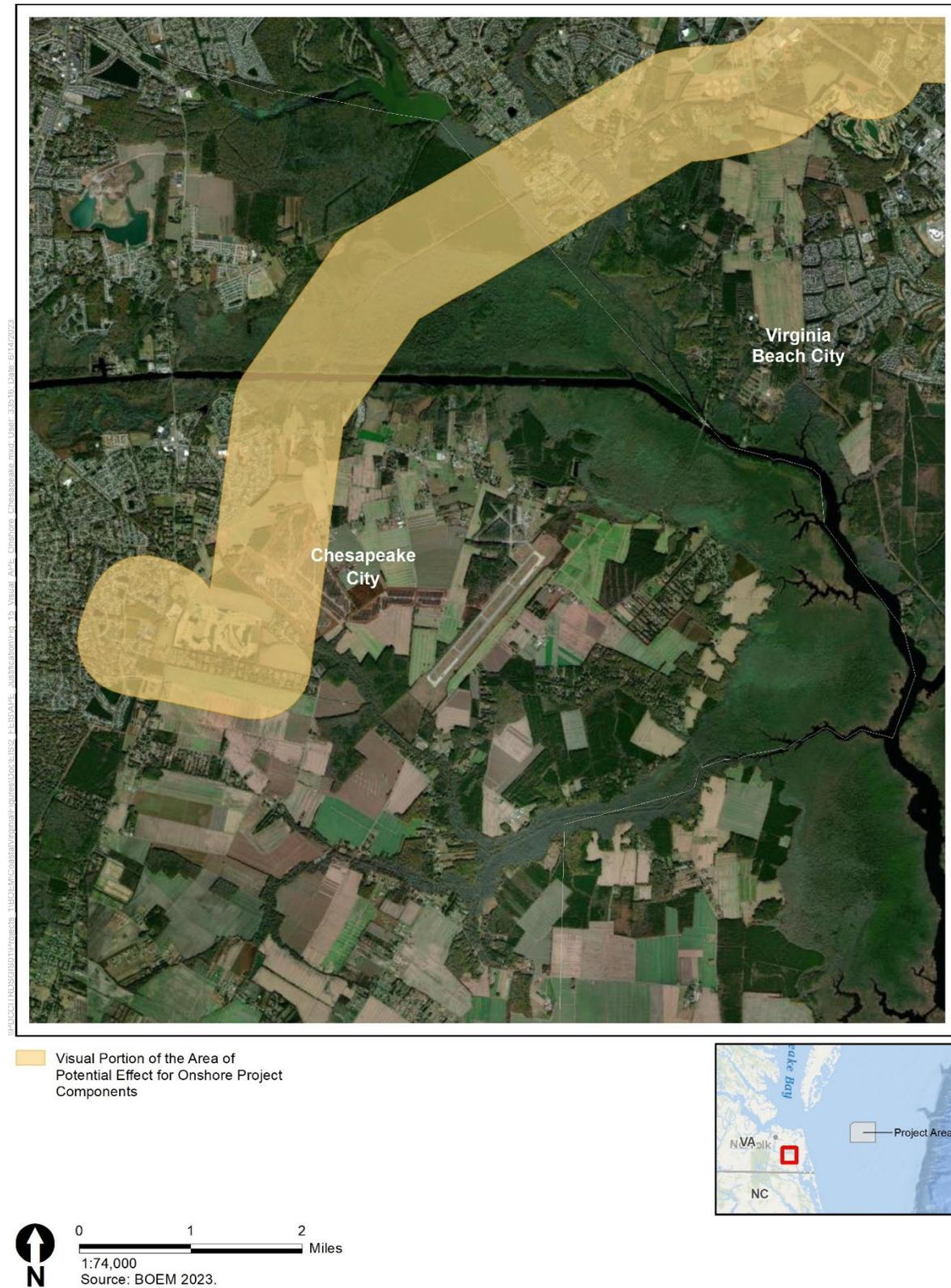


Figure O.B-16 Detail of Southernmost Portion of Visual APE for Onshore Project Components

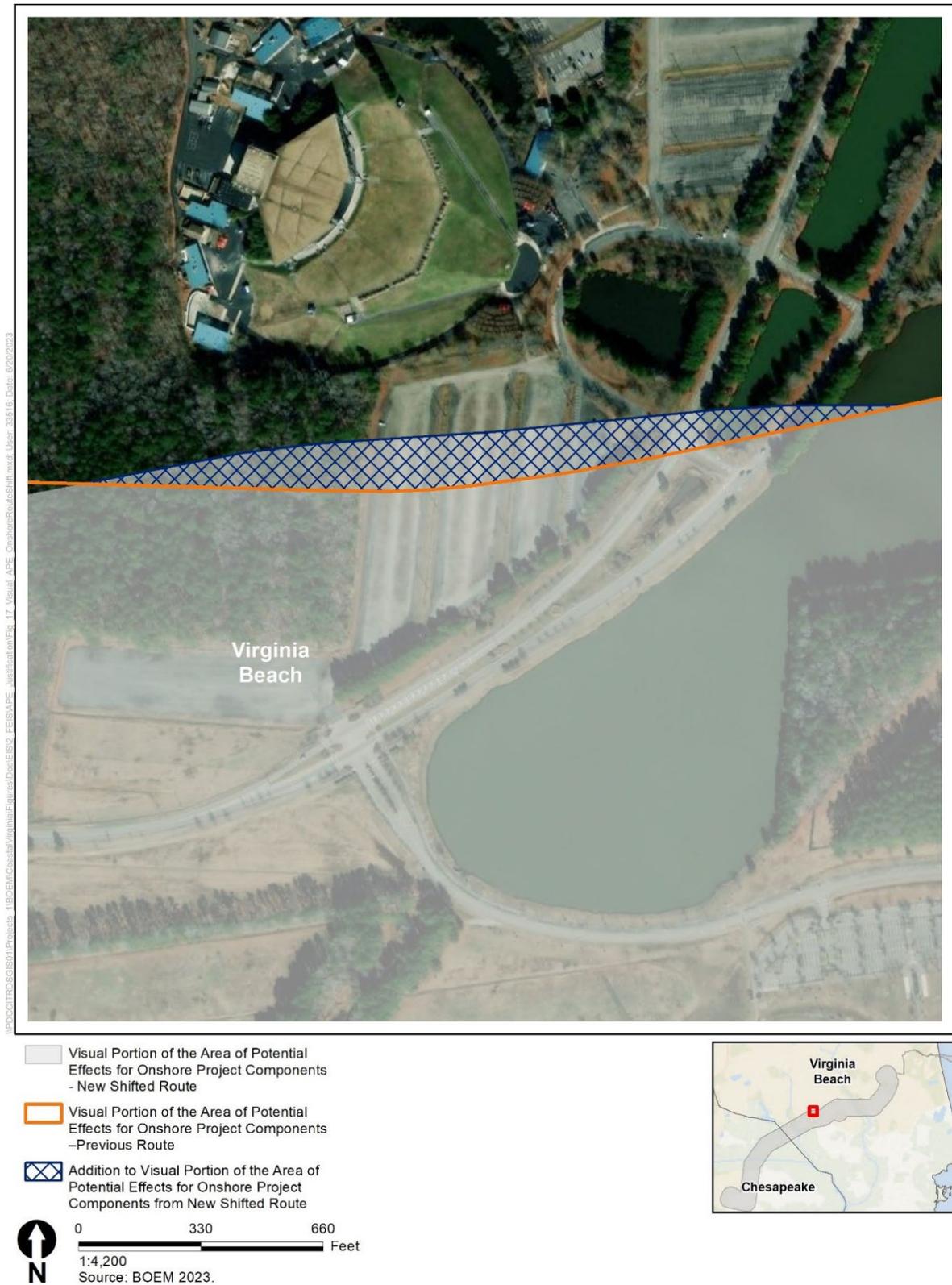


Figure O.B-17. Revised Visual APE Reflecting the Route Shift Near the Princess Anne Athletic Complex in the City of Virginia Beach, Virginia

ATTACHMENT C ENTITIES INVITED TO BE CONSULTING PARTIES

The following is a list of governments and organizations that BOEM contacted and invited to be a consulting party to the NHPA Section 106 review of the CVOW-C Project in July and August 2021 and May 2023. Throughout the consultations, additional parties were made known to BOEM and were added as they were identified.

Organization Type	Organization Name
SHPOs and State Agencies	North Carolina Department of Natural and Cultural Resources, Division of Historical Resources
	Virginia Department of Historic Resources
	Virginia Army National Guard
	False Cape State Park
	First Landing State Park
	Kiptopeke State Park
Federal Agencies	Assateague Island National Seashore
	Captain John Smith Chesapeake National Historic Trail
	Colonial National Historic Park
	Fort Monroe National Monument
	NASA Wallops Flight Facility
	Naval Facilities Engineering Systems Command, Atlantic
	U.S. Advisory Council on Historic Preservation (ACHP)
	U.S. Army Corps of Engineers
	U.S. Coast Guard
	U.S. Fish and Wildlife Service
	U.S. Fleet Forces Command
	U.S. National Park Service
	U.S. Naval Air Station Oceana
	U.S. Navy Region Mid-Atlantic
Volgenau Virginia Coast Reserve	
Federally Recognized Tribes	Absentee-Shawnee Tribe of Indians of Oklahoma
	Cherokee Nation
	Chickahominy Indian Tribe
	Chickahominy Indian Tribe- Eastern Division
	Delaware Tribe of Indians
	Eastern Band of Cherokee Indians
	Eastern Shawnee Tribe of Oklahoma
	Monacan Indian Nation
	Nansemond Indian Nation
	Pamunkey Indian Tribe
	Rappahannock Tribe
	Shawnee Tribe
	The Delaware Nation
	The Narragansett Indian Tribe
	The Shinnecock Indian Nation
	Tuscarora Nation
	United Keetoowah Band of Cherokee Indians in Oklahoma
Upper Mattaponi Indian Tribe	
Non-Federally Recognized Tribe	Cheroenhaka Nottoway Indian Tribe
	Haliwa-Saponi Indian Tribe

Organization Type	Organization Name
	Lumbee Tribe of North Carolina Meherrin Indian Tribe Nottoway Indian Tribe of Virginia Occaneechi Band of the Saponi Nation Patawomeck Indian Tribe of Virginia The Coharie Tribe The Mattaponi Nation The Sappony Waccamaw Siouan Tribe
Local Government	Accomack County City of Chesapeake City of Norfolk City of Virginia Beach Currituck County Currituck County Historic Preservation Commission Currituck County Historical Society Downtown Norfolk Council Northampton County Northampton County Department of Planning, Permitting & Enforcement Town of Accomac Town of Cape Charles Town of Cheriton Town of Chincoteague Town of Eastville Town of Exmore Town of Onancock Town of Onley Town of Parksley Town of Saxis Town of Wachapreague
Nongovernmental Organizations or Groups	100 Black Men of Virginia Peninsula African American Heritage Trail American Battlefield Trust Atlantic Wildfowl Heritage Museum Cape Charles Historical Society Cavalier Associates LLC Cavalier Hotel and Beach Club Chesapeake Bay Bridge and Tunnel District Council of Virginia Archaeologists Eastern Shore of Virginia Barrier Islands Center Eastern Shore of Virginia Historical Society Fort Monroe Authority Hampton Roads Community Action Program Howell Virginia Beach Family LLC, Property Owner of 7900 Ocean Front Avenue, Virginia Beach, Virginia Jamak LLC Joint Expeditionary Base Little Creek-Fort Story; U.S. Navy Museum of Chincoteague Island NAACP Currituck County Branch Nansemond River Preservation Alliance Norfolk Historical Society

Organization Type	Organization Name
	Norfolk County Historical Society of Chesapeake, VA
	North Carolina Maritime History Council
	Northampton Historic Preservation Society
	Ocean 27th LLC
	Piedmont Environmental Council
	Preservation North Carolina
	Preservation Virginia
	Princess Anne County / Virginia Beach Historical Society
	Property Owner of 100 54th Street, Virginia Beach, Virginia
	Property Owner of 4910 Ocean Front Avenue, Virginia Beach, Virginia
	Property Owner of Oceans II Condominiums/Aeolus Motel
	Purcell Cottage LLC, Property Owner of 5302 Ocean Front Avenue, Virginia Beach, Virginia
	Ruffin 86 LLC, Property Owner of 8600 Ocean Front Avenue, Virginia Beach, Virginia
	Sandbridge Beach Civic League
	Sandswept LLC, Property Owner of 8304–8306 Ocean Front Avenue, Virginia Beach, Virginia
	Scenic Virginia
	Seahawk Resort Enterprises Inc.
	Urban League of Hampton Roads Virginia African American Cultural Center
	VAB 435 Oceanfront LLC
	Virginia House Beach Corporation

ATTACHMENT D CONSULTING PARTIES TO THE CVOW-C PROJECT

The following is a current list of consulting parties to the NHPA Section 106 review of the CVOW-C Project, as of July 2023.

Organization Type	Organization Name
SHPOs and State Agencies	North Carolina State Historic Preservation Office
	Virginia Department of Historic Resources
Federal Agencies	Advisory Council on Historic Preservation
	Bureau of Safety and Environmental Enforcement
	Colonial National Historic Park
	NASA Wallops Flight Facility
	Naval History and Heritage Command (Underwater Archaeology Branch)
	U.S. Army Corps of Engineers
	U.S. Coast Guard
	U.S. Fish and Wildlife Service
	U.S. Fleet Forces Command
	U.S. National Park Service
	U.S. Navy Region Mid-Atlantic
	Virginia Army National Guard
Federally Recognized Tribe	Chickahominy Indian Tribe (represented by Cultural Heritage Partners)
	Chickahominy Indian Tribe Eastern Division (represented by Cultural Heritage Partners)
	Delaware Tribe of Indians
	Monacan Indian Nation (represented by Cultural Heritage Partners)
	Nansemond Indian Nation (represented by Cultural Heritage Partners)
	Pamunkey Indian Tribe
	Rappahannock Tribe (represented by Cultural Heritage Partners)
	The Delaware Nation
	Upper Mattaponi Indian Tribe (represented by Cultural Heritage Partners)
State Recognized Tribes	Lumbee Tribe of North Carolina
	Nottoway Indian Tribe of Virginia
	Patawomeck Indian Tribe of Virginia
	The Coharie Tribe
Local Government	Accomack County
	City of Norfolk
	City of Virginia Beach
	Town of Chincoteague
	Town of Eastville
Non-Governmental Organizations or Groups	Atlantic Wildfowl Heritage Museum
	Cavalier Associates, LLC
	Council of Virginia Archaeologists
	Eastern Shore of Virginia Historical Society
	Nansemond River Preservation Alliance
	Outer Banks Conservationists
	Preservation Virginia
	Property owner for House at 4910 Ocean Front Avenue
	Ruffin 86, LLC
Sandbridge Beach Civic League	

Organization Type	Organization Name
	Sandswept, LLC
	The Historic Cavalier Shores Civic League
	Virginia African American Cultural Center
Lessee	Dominion Energy