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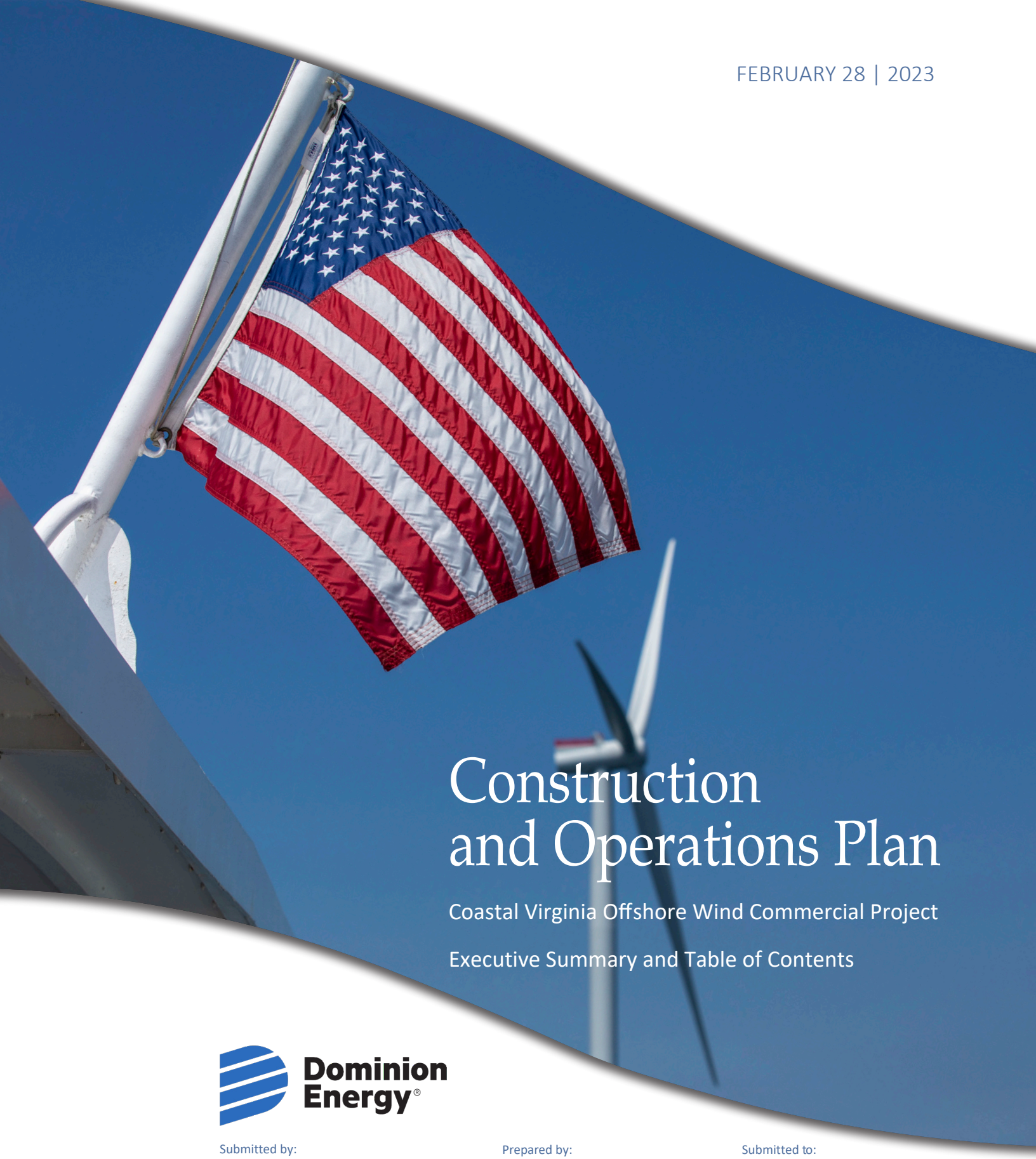

Construction and Operations Plan

Coastal Virginia Offshore Wind Commercial Project

Executive Summary and Table of Contents

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EXECUTIVE SUMMARY

The Virginia Electric and Power Company, doing business as Dominion Energy Virginia (hereinafter referred to as Dominion Energy), is proposing to construct, own, and operate the Coastal Virginia Offshore Wind (CVOW) Commercial Project (hereinafter referred to as the Project). The Project will be 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; 23.5 nautical miles [nm], 43.5 kilometers [km]) off the Virginia Beach coastline (Figure ES-1).

The purpose of this Project is to provide between 2,500 and 3,000 megawatts (MW) of clean, reliable offshore wind energy; to increase the amount and availability of renewable energy to Virginia and North Carolina consumers; to create the opportunity to displace electricity generated by fossil fuel-powered plants, and to offer substantial economic and environmental benefits to the Commonwealth of Virginia. This Project represents a viable and needed opportunity for Virginia to obtain clean renewable energy and realize its economic and environmental goals. The Project also directly supports the goals of the 2020 law passed by the Virginia General Assembly, the Virginia Clean Economy Act (VCEA), which supports development of 2,500 to 3,000 MW of clean, reliable offshore wind energy to be in service by 2028.

The VCEA is intended to build a clean energy future for the Commonwealth of Virginia that reduces carbon emissions and creates significant economic improvement through local job creation and supply chain formation in both the Commonwealth of Virginia and neighboring states. The Project would increase the amount and availability of renewable energy to Virginia consumers while creating the opportunity to displace electricity generated by fossil fuel-powered plants and offering substantial economic and environmental benefits to the Commonwealth of Virginia. This Project, as designed, should provide approximately 8.8 million megawatt-hours of carbon-free power to the grid on an annual basis. This equates to over 5.3 million metric tons of carbon dioxide that will be reduced from the power generating fleet to meet the needs of Dominion Energy's customers. The onshore electrical portion will connect to the Pennsylvania-New Jersey-Maryland regional electric transmission grid, and at peak output, the Project will power approximately 660,000 homes.

Dominion Energy has adopted a Project Design Envelope (PDE) approach to describe Project facilities and activities. A PDE is defined as "a reasonable range of project designs" associated with various components of the project (e.g., foundation and wind turbine generator [or wind turbine] options) (BOEM 2018). The PDE is then used to assess the potential impacts on key environmental and human use resources (e.g., marine mammals, fish, benthic habitats, commercial fisheries, navigation, etc.) focusing on the design parameter (within the defined range) that represents the greatest potential impact (i.e., the "maximum design scenario") for each unique resource (Rowe et al. 2017). The primary goal of applying a design envelope is to allow for meaningful assessments by the jurisdictional agencies of the proposed project elements and activities while concurrently providing the Lessee reasonable flexibility to make prudent development and design decisions prior to construction.

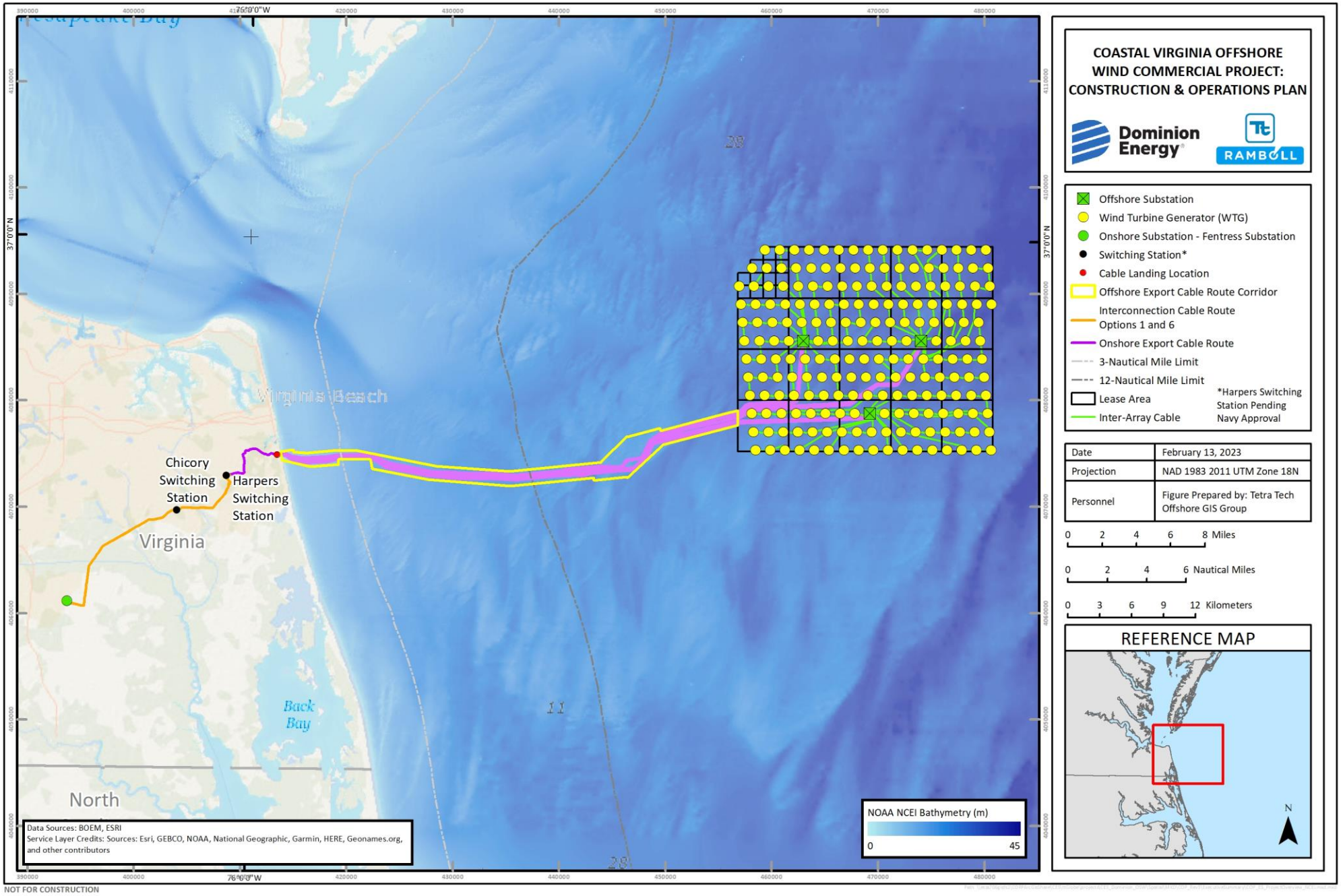

Figure ES-1. Coastal Virginia Offshore Wind Commercial Project Overview

This Construction and Operations Plan (COP) covers the entire Lease Area, Offshore Export Cable Route Corridor, and associated Onshore Project Components and therefore addresses the proposed Project elements and the means and methods used for installing and operating the facilities as well as the potential positive and adverse effects of the Project.

Offshore Project Components will consist of up to 202 wind turbine generators (WTGs) and associated WTG Monopile Foundations; three Offshore Substations and associated Offshore Substation Jacket Foundations; and up to 300.7 mi (484 km) of Inter-Array Cables connecting WTGs and Offshore Substations, all of which will be located in federal waters within the Lease Area. In addition, the Project will include up to nine buried submarine high-voltage alternating-current Offshore Export Cables that will be installed within the Offshore Export Cable Route Corridor (see additional details in Section 3) within federal and state waters of the Commonwealth of Virginia. The Offshore Export Cables will be installed under the beach and dune using Trenchless Installation to the Cable Landing Location in Virginia Beach, Virginia.

The Onshore Project Components will include a Cable Landing Location in Virginia Beach, Virginia, that will be located at the Proposed Parking Lot west of the Firing Range at the State Military Reservation (SMR). At the Cable Landing Location, the nine Offshore Export Cables will transition to 27 Onshore Export Cables that will transfer electricity to a Common Location north of Harpers Road. The Onshore Export Cable Route will be buried within previously disturbed lands or existing roadways or rights-of-way, to the extent practicable and will be up to 4.41 mi (7.10 km) in length. The Switching Station will be located either north of Harpers Road (Harpers Switching Station, up to 26.9 ac [10.9 ha]) or will be located north of Princess Anne Road (Chicory Switching Station, up to 35.5 ac [14.4 ha]) in Virginia Beach, Virginia. From the Common Location north of Harpers Road, the Interconnection Cables would deliver power to the Onshore Substation through a new 230-kilovolt (kV) transmission line, consisting of a three single circuit structure configuration; via either an overhead transmission line or a hybrid (combination of overhead/underground) transmission line for a distance of up to 14.2 mi (22.9 km). The Onshore Substation will be located at the existing Fentress Substation in Chesapeake, Virginia, which will require expansion/upgrades. The current footprint of the Onshore Substation is approximately 11.7 ac (4.7 ha). The expansion/upgrades to the Onshore Substation footprint are anticipated to require an additional approximately 15.2 ac (6.2 ha), for a total of 26.9 ac (10.9 ha). Stormwater management facilities associated with the Onshore Substation will require an additional 6.2 ac (2.5 ha).

Dominion Energy identified the Onshore Substation at Fentress as the most suitable Point of Interconnection (POI) due to its proximity to the Cable Landing Location and Offshore and Onshore Project Components as well as its size and the capacity available for generation injection directly into the grid. The Fentress Substation is also most suitable because it is an integrated 230-kV and 500-kV substation—the only 500-kV substation located within a reasonable distance to the Cable Landing Location. The Pennsylvania-New Jersey-Maryland Interconnection Regional Transmission Organization, the regional electrical power transmission system operator, also considered the Fentress Substation as one of the most feasible options in its evaluation of multiple points along the East Coast for interconnection of a large offshore wind power generation project.

In addition to the proposed infrastructure, Portsmouth Marine Terminal is an existing port facility located on the west bank of the Elizabeth River. Dominion Energy and the Port of Virginia have executed a lease

agreement for Portsmouth Marine Terminal to support the staging of components and construction vessels for the Project. Dominion Energy also is considering locations in Newport News, Portsmouth, and Norfolk, Virginia as the Operations and Maintenance (O&M) Facility for the Project. Lambert's Point, which is located on a brownfield site in Norfolk, is the preferred location. Dominion Energy executed a sublease with Fairwinds Landing for Lambert's Point in January 2023. Dominion Energy intends to lease Pungo Airfield, an abandoned airfield located off of Princess Anne Road in Virginia Beach that would not require any upgrades, for use as a temporary laydown yard during construction. A regional laydown yard, inclusive of two privately owned parcels off of Aviator Drive in Virginia Beach, would also be utilized for construction. Additionally, the Chesapeake and Albemarle railroad spur located in Chesapeake, Virginia, would be used to offload the new transformers to be installed at the Onshore Substation at Fentress. For Portsmouth Marine Terminal, the O&M Facilities, and the railroad spur, in the event that upgrades or a new built-to-suit facility is needed for any purpose, construction would be undertaken by the lessor and would be separately authorized, as needed. For the regional laydown yard, Dominion Energy would undertake any required upgrades or new construction and associated authorizations; however, the laydown yard would be utilized for several other Dominion Energy projects and would be constructed regardless of the CVOW Commercial Project.

The Project Components and locations presented in this COP have been selected based on environmental and engineering site characterization studies completed to date, existing information collection and analysis, as well as extensive engagement with regulators and stakeholders, and will be refined in the Facility Design Report (FDR) and Fabrication and Installation Report (FIR). The FDR/FIR will be reviewed by BOEM in accordance with 30 Code of Federal Regulations (CFR) §§ 585.700-702 prior to Project construction. In addition, a Certified Verification Agent, approved by BOEM, will conduct an independent assessment and verify that the Project components are fabricated and installed in accordance with both this COP and the FIR. Dominion Energy plans to submit the FDR and FIR to both the Certified Verification Agent and BOEM as multiple individual volumes at different milestone points along the Project schedule, consistent with major component fabrication start times at the various fabrication sites.

Within Volume 1, Section 1 provides an Introduction, Section 2 details the Project Siting and Design Development, and Section 3 provides a Description of the Proposed Activity. The Site Characterization and Assessment of Impact-Producing Factors for each resource area that may be impacted by the Project are provided in Section 4. The impacts and mitigation measures have been summarized for each resource area in Table ES-1.

Dominion Energy has provided a quick reference guide after Table ES-1 to aid in review of this COP. The quick reference guide describes Project terms, components, and activities that will be referenced throughout the COP.

Table ES-1. Summary of Potential Impacts and Avoidance, Minimization, Mitigation, and Monitoring Measures for each Resource Area

Potential Impacts	Avoidance, Minimization, Mitigation, and Monitoring Measures
Physical and Oceanographic Conditions	
• Disturbance to seabed; • Disturbance to objects along the seabed; and • Disturbance to onshore geology.	• Dominion Energy would identify the most appropriate locations, based on geologic conditions, for installation that would require the least disturbance to the seabed. By opting for locations that avoid the most challenging geology, Dominion Energy would be able to utilize the least-invasive tools for Project installation to the extent practicable; • Dominion Energy would implement appropriate avoidance buffers to avoid contact with any objects on the seabed, to the extent practicable. Objects that cannot be avoided would be further investigated and an appropriate mitigation would be implemented. For cable crossings, this would include optimization of the crossing geometry as well as engineering of the crossing and associated protection. For potential unexploded ordnance, this would include investigation of contacts and micrositing if possible and further action and mitigation if necessary; • Dominion Energy would minimize disturbance to onshore geology during the installation of Onshore Project Components by optimizing routes along previously disturbed onshore locations to the extent practicable; • Dominion Energy would consider weather forecasts at all times during the construction phase, and would halt operations in the event that extreme weather events are likely to occur; • Dominion Energy would avoid and/or relocate boulders that are too close to the installation of the Offshore Export Cable, if boulder removal is determined necessary; • The Project would site Offshore Project Components to avoid areas of steep and/or unstable seabed where determined to prove a challenge to specific Project features or installation methods during detailed design; • Dominion Energy would incorporate information on the location of mobile sediments and potential for scour into the design and installation of the Offshore Project Components; • The risk related to soft soils would be thoroughly considered when the jack-up vessel is deployed; • Dominion Energy has moved or eliminated some WTGs locations near potential shallow gas from consideration for the Project; • The Project would implement an avoidance buffer around all wrecks, to the extent possible. Shipwrecks of cultural significance would be avoided in accordance to recommendations from the Project's QMA and are discussed in detail in Appendix F, Marine Archaeological Resources Assessment; • The Project would avoid identified debris during Project installation, to the extent possible. In the event that avoidance is not feasible, individual targets may be inspected by a ROV to determine if the object poses a risk to operations and if it may be removed from the seabed; • Dominion Energy will engage with asset owners in order to complete crossing agreements, which will detail the conditions and methodology for each cable crossing; • If UXO investigation and Identification surveys determine UXO is present, and UXO cannot be avoided through micrositing, UXO mitigation will be considered by the Project, subject to agency approval. If UXO mitigation is necessary, it is anticipated that only UXO relocation, and no UXO detonation, would occur in conjunction with Project activities;

Potential Impacts	Avoidance, Minimization, Mitigation, and Monitoring Measures
	• The Offshore Export Cable Route Corridor has been reduced in width while crossing the DNODS in order to minimize the portion of the DNODS impacted by the Project. While seabed processes are likely to disperse dumped sediment through time, the accumulation of deposited dredge material overlying the buried cables could result in thermal and ampacity changes. This would be considered during the detailed design of the Offshore Project Components and installation works; • Operations would occur at locations of previously disturbed seabed to minimize the potential for disturbing new seabed whenever possible; and • Whenever possible, operations and maintenance (O&M) would occur at locations of previously disturbed seabed to minimize the potential for disturbing new objects along the seabed whenever possible. In addition, the Project would conduct routine geophysical surveys to monitor the status of the installed cable on the seabed as discussed in Section 3, Description of Proposed Activity.
Water Quality	
• Short-term disturbance of seabed sediment due to installation of the wind turbine generator (WTG) and Offshore Substation Jacket Foundations, Inter-Array Cables, Offshore Export Cables, and site preparation for installation of scour protection; • Short-term potential for inadvertent release of drilling fluids during Trenchless Installation. • Short-term impacts due to accidental spills and/or releases offshore; • Short-term increase in erosion and runoff due to land disturbance; • Short-term impacts due to dewatering trenches and excavations; and • Short-term potential for accidental releases from onshore construction vehicles or equipment; • Long-term effects due to WTG and Offshore Substation Jacket Foundations and associated scour protection; • Short-term change in water quality due to oil spills or accidental release	• Dominion Energy would develop and implement an inadvertent release plan. Local pollution prevention and spill response procedures would be included in the Stormwater Pollution Prevention Plan (SWPPP) submitted to state agencies for the portions of the land-disturbing activity covered by the Virginia Pollutant Discharge Elimination System Construction General Permit; • Dominion Energy would manage accidental spills or releases of oils or other hazardous wastes through the Oil Spill Response Plan (Appendix Q). Project-related vessels would be subject to U.S. Coast Guard (USCG) wastewater and discharge regulations and would operate in compliance with oil spill prevention and response plans that meet USCG requirements. Specifically, all Project vessels would comply with USCG standards in U.S. territorial waters to legally discharge uncontaminated ballast and bilge water as well as standards regarding ballast water management. While outside the 3.0 nautical mile (nm) (5.6 kilometer [km]) state-border/no-discharge zone (NDZ), vessels would deploy a USCG-certified marine sanitation device (MSD) with certifications displayed. While inside the 3.0 nm (5.6 km) state-border/NDZ, vessels would take normal vessel procedures to close off MSD-effluence discharge piping and redirect it to onboard “Zero-Discharge Tanks” for appropriate disposal either at dock or outside of an NDZ. Additionally, all vessels less than 79 feet (ft) (24 meters [m]) would comply with the Small Vessel General Permit issued by U.S. Environmental Protection Agency (EPA) on September 10, 2014, for compliance with National Pollutant Discharge Elimination System permitting. Prevention and response measures for accidental spills and releases are further described in Appendix Q, Oil Spill Response Plan; • 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 Virginia Department of Environmental Quality (VDEQ) Construction General Permit, Dominion Energy’s approved Annual Standards and Specifications for Erosion and Sediment Control (ESC) and Stormwater Management (SWM) for Electric Transmission Line Development, and local pollution prevention and spill response procedures. The SWPPP would include steps that 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;

Potential Impacts	Avoidance, Minimization, Mitigation, and Monitoring Measures
of fluids from vessels required during operations; and • Long-term effects due to stormwater runoff.	• Dominion Energy would restrict access to only existing paved roads and approved access roads at wetland and stream crossings where possible; • Dominion Energy would restrict access through wetlands and waterbodies to identified construction sites, access roads, and work zones; • Dominion Energy would conduct onshore refueling and/or maintenance of construction equipment and vehicles outside resource areas to the extent practicable; • Dominion Energy would implement an inadvertent release plan to be reviewed and approved by the appropriate regulatory agencies as needed; • Dominion Energy would use scour protection as necessary around the WTG and Offshore Substation Jacket Foundations and cable protection mats to minimize effects of local sediment transport; • Dominion Energy would subject Project-related vessels to USCG wastewater and discharge regulations and ensure they operate in compliance with oil spill prevention and response plans that meet USCG requirements. Specifically, all Project vessels would comply with USCG standards in U.S. territorial waters to legally discharge uncontaminated ballast and bilge water as well as standards regarding ballast water management. While outside the 3.0 nm (5.6 km) state-border/NDZ, vessels would deploy a USCG-certified MSD with certifications displayed. While inside the 3.0 nm (5.6 km) state-border/NDZ, vessels would take normal vessel procedures to close off MSD-effluence discharge piping and redirect it to onboard “Zero-Discharge Tanks” for the appropriate disposal either at dock or outside of an NDZ. Additionally, all vessels less than 79 ft (24 m) would comply with the Small Vessel General Permit issued by EPA on September 10, 2014, for compliance with National Pollution Discharge Elimination System permitting. Prevention and response measures for accidental spills and releases are further described in Appendix Q, Oil Spill Response Plan; and • Dominion Energy would develop an SWM Plan and ESC Plan in accordance with Dominion Energy’s approved Annual Standards and Specifications for SWM and ESC for Electric Transmission Line Development, and local ordinances as applicable. Dominion Energy would also routinely inspect and clean on-site stormwater control features to remove debris or excess vegetation that may impede the designed functionality. The SWM plan would describe how the stormwater control facilities would be operated and maintained after construction is complete.
Air Quality	
• Short-term increase in Project-related emissions; and • Long-term increase in Project-related emissions.	• Most of the vessels and the onboard construction equipment would utilize diesel engines burning ultra-low sulfur fuel, while some larger construction vessels may use fuel containing up to 1,000 ppm sulfur by weight; • Onshore Project Area construction activities would primarily utilize diesel-powered equipment, including Trenchless Installation 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; • Vessels constructed on or after January 1, 2016, would meet Tier III nitrogen oxide requirements when operating within the North American Emission Control Area (200 nm [370.4 km]) established by the International Maritime Organization;

Potential Impacts	Avoidance, Minimization, Mitigation, and Monitoring Measures
	• Vessels would use the highest-tier marine engines available to the Project at the time of vessel deployment; • The jack-up vessel used for WTG installation would use selective catalytic reduction (SCR) for control of NOx emissions from its main engines; • Project-related vessels that are fueled exclusively at U.S.-based terminals would use ultra-low sulfur diesel fuel and vessels fueled at marine terminals outside the U.S. would, at a minimum, be at or below the maximum fuel sulfur content requirement of 1,000 parts per million established per the requirements of 40 Code of Federal Regulations (CFR) § 80.510(k); • Diesel generator engines (i.e., both permanent and temporary non-emergency and emergency engines) would comply with the applicable requirements in the New Source Performance Standards for Stationary Compression Ignition Internal Combustion Engines in 40 CFR 60 Subpart IIII; • The Project would provide the 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,; • The Project would provide vessel engines and emissions control equipment information to the Bureau of Ocean Energy Management (BOEM) and the EPA as applicable with the requirements set forth in the Record of Decision and/or the issued Outer Continental Shelf (OCS) air permit; • As detailed in Appendix N, Air Emissions Calculations and Methodology, O&M activities are assumed to include one service operations vessel, two crew transfer vessels, and several vessels for periodic surveys and maintenance over the operational life of the Project; • O&M support vessels are assumed to operate out of a port located in the Hampton Roads area of Virginia (Lambert's Point in Norfolk Virginia has been used for the purpose of estimating emissions); and • Onshore emergency generators would comply with applicable emission standards in 40 CFR Part 60 Subpart JJJJ and 40 CFR Part 63 Subpart ZZZZ.
In-Air Acoustic Environment	
• Short-term elevated in-air noise levels associated with vibratory pile-driving at the cofferdam for Trenchless Installation exit at the Offshore Trenchless Installation Punch-Out location; • Short-term elevated in-air noise levels associated with Trenchless Installation at the Cable Landing Location and HDD at the onshore cable crossing locations; • Short-term elevated in-air noise levels associated with construction of the Onshore Export Cable Route, Switching Station, Interconnection	• Trenchless Installation and HDD activities would occur during the daytime period unless a situation arises that would require operation to continue into the night or as deemed acceptable from the appropriate regulatory authority; • Dominion Energy would consult with the appropriate regulatory agency regarding nighttime work in the case of an emergency. In the case of nighttime operations, only the drill rig, power unit, and light banks would be used unless otherwise deemed acceptable from the appropriate regulatory authority; • If necessary, subject to regulatory requirements and stakeholder engagement, Dominion Energy would install moveable temporary noise barriers as close to the sound sources as possible, which have been shown to effectively reduce sound levels by 5 to 15 A-weighted decibels; • Dominion Energy would limit construction to the daytime period unless deemed acceptable from the appropriate regulatory authority; • Dominion Energy would ensure construction equipment is well maintained and vehicles using internal combustion engines equipped with mufflers would be routinely checked to ensure they are in good working order;

Potential Impacts	Avoidance, Minimization, Mitigation, and Monitoring Measures
Cable Route, and Onshore Substation; • Short-term elevated in-air noise levels associated with impact pile-driving of WTG and Offshore Substation Jacket Foundations; • Short-term elevated in-air noise levels associated with offshore support vessels; • Long-term elevated in-air sound levels associated with Switching Station and Onshore Substation; • Short-term elevated in-air sound levels associated with O&M activities; and • Long-term elevated in-air sound levels associated with the WTGs, Offshore Substation and, as necessary, operation of sound signals.	• Dominion Energy would ensure construction equipment is located as far as possible from noise-sensitive areas; • If noise issues are identified, Dominion Energy would install moveable temporary noise barriers as close to the sound sources as possible, which have been shown to effectively reduce sound levels by 5 to 15 A-weighted decibels; • Dominion Energy would make a Project Communications Plan available to help actively address all noise-related issues in a timely manner; and • If the final design engineering requires sound mitigation measures, Dominion Energy would implement such measures within the Project footprint as necessary.
Underwater Acoustic Environment	
• Short-term increase in underwater noise levels associated with WTG Monopile Foundations and/or pin pile impact pile-driving activities required for the installation of WTG and Offshore Substation Jacket Foundations; • Short-term increase in underwater noise levels associated with pile-driving for cofferdam Installation; • Short-term increase in underwater noise levels associated with vibratory pile -driving for goal post installation; • Short-term increase in underwater noise levels associated with Offshore Export Cables and Inter-Array Cable laying activities;	• Noise mitigation requirements and methods have not been finalized at this stage of permitting; therefore, two levels of reduction were applied to potentially mimic the use of noise mitigation options such as bubble curtains; • The results of the analysis would be used to inform development of evaluation and mitigation measures that would be applied during construction and O&M of the Project, in consultation with BOEM and National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries); • The Project would obtain necessary permits to address potential impacts to marine mammals, sea turtles and fisheries resources from underwater noise and would establish appropriate and practicable mitigation and monitoring measures through discussions with regulatory agencies; • Dominion Energy understands that the measures required by the final NOAA Fisheries approved Letter of Authorization and Protected Species Mitigation and Monitoring Plan would be incorporated into COP approval, and BOEM and/or Bureau of Safety and Environmental Enforcement will monitor compliance with these measures; and • No mitigation measures are expected to be needed during Project O&M to minimize underwater noise levels.

Potential Impacts	Avoidance, Minimization, Mitigation, and Monitoring Measures
• Short-term increase in underwater noise levels associated with Project-related vessels; • Increase in underwater noise levels associated with WTG operations; and • Increase in intermittent underwater noise levels associated with Project O&M and Project-related vessels.	
Wetlands and Waterbodies	
• Installation of permanent structures within wetlands, wetland transition areas, riparian areas, and protected watersheds; • The permanent conversion of existing wetland cover types; • The temporary removal of vegetation within wetlands, wetland transition areas, riparian buffers, and protected watershed features; • Erosion of sediment from construction activities into adjacent wetlands and waterbodies; • The potential for an inadvertent return of non-toxic drilling fluids to the surface during HDD activities; and • The potential for accidental releases from construction vehicles or equipment.	• Dominion Energy would collocate Onshore Project Components in existing rights-of-way (ROWs), existing roads, previously disturbed areas, and otherwise urbanized locations to the maximum extent practicable; • Dominion Energy would site permanent structures outside of protected watershed features and flood-prone areas to the maximum extent practicable; • Dominion Energy would use a combination of HDD and overhead routing to the best extent practicable to avoid and minimize impacts to natural resources; • Dominion Energy would purchase stream and wetland mitigation credits in the applicable service area of a mitigation bank or contribute to an approved in-lieu-of-fee program, such as the Virginia Aquatic Resources Trust Fund Program, prior to construction to mitigate unavoidable impacts to wetlands and waterbodies; • Dominion Energy would restrict access during construction to existing paved roads or access roads constructed for stream or waterbody crossings. Where necessary, access would also be restricted to avoid alteration of soil properties (compaction) that may result in unintended impacts; • Dominion Energy would use temporary avoidance/minimization efforts for wetland access where avoidance is not possible. These efforts would include use of temporary timber mats (or trestles where high organic soil content is present), using 8 to 12 inches (20 to 30 centimeters)-thick timber, for heavy machinery movement and to avoid unintended impacts to wetlands such as soil compaction, damage to root systems, and development of ruts; • Dominion Energy would develop an invasive species control plan to prevent the spread of invasive species throughout the maintained ROWs 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; • Dominion Energy would develop a landscape restoration plan in accordance with local and regional ordinances, with specific attention paid to re-seeding and replanting with native plant stock; • Dominion Energy would develop a compensatory mitigation plan, where permanent conversion of wetlands is unavoidable, to include on-site mitigation where practicable, off-site mitigation, or purchase of mitigation credits. This mitigation plan would be further refined as a component of the U.S. Army Corps of Engineers permitting package; • Dominion Energy would restrict access through wetlands except where approved by regional and local regulatory entities;

Potential Impacts	Avoidance, Minimization, Mitigation, and Monitoring Measures
	• Dominion Energy would develop and implement ESC plans in compliance with Dominion Energy's VDEQ-approved Standards and Specifications for ESC and SWM for Electric Transmission Line Development and appurtenant facilities such as substations and switching stations, as well as any additional requirements specific to the U.S. Department of Defense (DoD) lands (if applicable); • Dominion Energy would install temporary timber matting for access routes through wetlands to protect vegetation to reduce compaction, minimize ruts, and reduce soil discharge; • Dominion Energy would develop and implement an inadvertent release plan with use of non-toxic drilling fluids to be reviewed and approved by the appropriate regulatory agencies; • Dominion Energy would manage accidental spills or releases of oils through an agency approved spill prevention, control, and countermeasures plan; • Dominion Energy would take protective measures to prevent access to any active operation area including, but not limited to, security and safety fencing; • Dominion Energy would monitor revegetation throughout the life of the Project and leading up to decommissioning. Monitoring would comply with a restoration plan and invasive species control plan. Monitoring would serve as the primary measure for ensuring return of wetland, waterbody, and special area functionality following completion of construction and during necessary O&M; • Dominion Energy would monitor mitigation efforts where appropriate and define via the approved permitting package; and • Dominion Energy would assess and maintain stormwater control and treatment features on a regular interval, as specified in the SWPPP. This would include removal of debris and a determination of functionality.
Terrestrial Vegetation and Wildlife	
• Vegetation removal associated with installation of all Onshore Project Components; • The inadvertent release of drilling fluids to the surface during HDD activities within environmentally sensitive areas; • Noise and light activities associated with construction equipment and other noise-generating activities associated with construction; • Impedance to local migration of terrestrial biota (such as reptiles and amphibians) from installation and placement of erosion- and sediment-control measures such as staggered silt fencing or stabilization matting;	• Dominion Energy would collocate Onshore Project Components in or adjacent to existing ROWs, existing roads, previously disturbed areas, and other urbanized locations to the maximum extent practicable; • Dominion Energy would seed and stabilize construction areas involving temporary vegetation clearing with an appropriate grass seed mix (in urban areas) or native seed mix (in natural areas) and in accordance with Virginia Erosion and Sediment Control Law and Regulations (Virginia Department of Environmental Equity [VDEQ] 2014) and the Virginia Erosion and Sediment Control; Handbook (VDEQ 1992); • Dominion Energy would prepare and submit a mitigation planting plan to the City of Virginia Beach for approval to address unavoidable temporary impacts that would occur within sensitive ecological areas (such as within the Southern Rivers Watershed), or Dominion Energy would provide financial compensation for any unavoidable impacts. The City of Virginia Beach may require native plantings; • Dominion Energy would plant or seed larval host plants and forage plants in the Interconnection Cable Routes after construction efforts have been completed in order to avoid and minimize impacts to pollinator species. A list of regionally appropriate species as well as regional suppliers of native seed mixes are available from the U.S. Department of Agriculture Natural Resources Conservation Service (2020); • Dominion Energy would develop and implement an inadvertent release plan with use of non-toxic drilling fluids to be reviewed and approved by the appropriate regulatory entities;

Potential Impacts	Avoidance, Minimization, Mitigation, and Monitoring Measures
• Accidental releases of petroleum products from construction vehicles or equipment; • Potential for erosion into adjacent vegetation and wildlife habitat; • Conversion of existing vegetation cover types (e.g. forested to herbaceous) where the Onshore Export Cable and Interconnection Routes are not collocated with existing road corridors or utility ROWs; • Permanent fragmentation of habitat as a result of clearing, particularly of large contiguous forested wetland habitats; • Colonization and establishment of invasive vegetation in formerly undisturbed areas due to clearing; • Impacts to locally rare or sensitive species and natural communities; • Conversion of existing vegetation cover types as a result of permanent access roads, structures, and facilities in previously vegetated areas; • Vegetation disturbance as a result of routine or periodic facility maintenance (e.g., invasive species control, herbicide applications, and mowing) throughout the lifetime of the facility; and • Noise or light disturbance associated with routine facility maintenance and activities (at permanent facilities such as substations) throughout the lifetime of the facility.	• Dominion Energy would coordinate with the U.S. Fish and Wildlife Service (USFWS), Virginia Department of Wildlife Resources (VDWR), and Virginia Natural Heritage Program to ensure potential impacts to threatened and endangered (T&E) species are avoided and minimized to the maximum extent practicable; • Dominion Energy would evaluate time-of-year restrictions for applicable T&E species via coordination with the USFWS, VDWR, and Virginia Natural Heritage Program; • Dominion Energy would limit lighting associated with construction vehicles and work zones when possible to reduce interaction with or disturbance of wildlife species such as bats and insectivorous birds; • Dominion Energy would initiate coordination with the VDWR and Virginia Natural Heritage Program to evaluate potential impacts to T&E reptile and amphibian species, including the canebrake rattlesnake; • Dominion Energy would install 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 Virginia Natural Heritage Program; • Dominion Energy would, when applicable, employ 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; • Additional mitigation strategies would be adhered to in accordance with the VDWR permit for impacts to canebrake rattlesnake habitat if determined necessary; • Dominion Energy would restrict vehicular access to paved roads, approved road crossings, and designated construction areas; • Dominion Energy would manage accidental spills or releases of oils through a spill prevention, control, and countermeasures plan approved by the appropriate regulatory entity; • Dominion Energy would develop and implement erosion and sediment control plans in compliance with Dominion Energy's VDEQ-approved Standards and Specifications for Erosion and Sediment Control (ESC) and Stormwater Management (SWM) for Electric Transmission Line Development and appurtenant facilities such as substations and switching stations; • Dominion Energy would prepare and maintain a stormwater pollution prevention plan (SWPPP) in compliance with Virginia Pollution Discharge Elimination System VAR10 Construction General Permit. A permit would be required because the land-disturbing activity would exceed 1.0 acre (0.4 hectare). As a component of the permit, the SWPPP would be prepared and maintained throughout Project construction and retained for 3 years following construction completion as required by Virginia Law; • Dominion Energy would restrict construction access to existing paved roads or access roads constructed for stream or waterbody crossings. Where possible, restrict access to avoid alteration of soil properties (compaction) that may result in unintended impacts; • Dominion Energy would use temporary timber mats (or trestles where high organic soil content is present) in wetlands, using 8 to 12 inch (20 to 30 cm)-thick timber, for heavy machinery movement and to avoid unintended impacts to wetland soils;

Potential Impacts	Avoidance, Minimization, Mitigation, and Monitoring Measures
	• Dominion Energy would develop an invasive species control plan to prevent the spread of invasive vegetation into natural communities via maintained ROWs and recently disturbed locations. Replanting would be an approved use of native species only, and all plans would be guided by desktop and on-site evaluation of invasive species present in the area; • Dominion Energy would develop and implement a landscape restoration plan in compliance with applicable local and regional ordinances, paying specific attention to re-seeding and replanting with native plant stock; • Dominion Energy would revegetate temporary access areas with native plants and/or an appropriate native seed mix; • Dominion Energy would develop standard best management practices (BMPs) to reduce the spread of invasive species to previously uncolonized areas that would be incorporated into the invasive species control plan and implemented during construction. Resources detailing BMPs to prevent the introduction and spread of invasive species are recommended by the U.S. Department of Agriculture (USDA) National Invasive Species Information Center (NISIC), and a comprehensive guide was published by the University of Georgia in 2011 (USDA NISIC 2020; Moorhead et al. 2011). Examples of applicable BMPs include: • Cleaning of construction and transporting equipment, as needed, prior to entering the Onshore Project Area; • Cleaning of equipment and vehicles used within areas infested with invasive species prior to leaving such areas; • Siting staging areas in locations that are free of invasive species; • Avoiding the cleaning of equipment, vehicles, or clothing in the vicinity of waterways; and • Disposing of plant materials appropriately that are removed during cleaning practices discussed above; • Dominion Energy would coordinate with the USFWS, VDWR, and the Virginia Natural Heritage Program to avoid impacts to rare and T&E species or natural communities to the greatest extent practicable, and to identify additional minimization and mitigation measures if necessary; • Dominion Energy would develop and implement invasive species control and landscape restoration plans to prevent the introduction and spread of invasive species and to facilitate restoration of disturbed habitats; and • Dominion Energy would develop a compensatory mitigation plan, where permanent conversion of wetlands is unavoidable, to include on-site mitigation where practical, off-site mitigation, or purchase of mitigation credits or payment of an in-lieu fee mitigation as appropriate. This mitigation plan would be further refined as a component of the U.S. Army Corps of Engineers permitting package. • Dominion Energy would implement an invasive species control plan to avoid the spread of invasive species for the lifetime of the Project, and provide the plan for agency review and approval, as applicable; • Dominion Energy would limit unauthorized access of Onshore Project personnel and vehicles beyond existing disturbed areas and approved access roads to the extent practicable; • Dominion Energy would plant and seed desirable noninvasive native species within the ROWs to reduce establishment of invasive woody vegetation requiring control;

Potential Impacts	Avoidance, Minimization, Mitigation, and Monitoring Measures
	• Dominion Energy would adhere to all federal, state, and local laws and regulations pertaining to herbicide application. If herbicides are to be used in wetland habitats, use wetland-safe herbicide to avoid unintended impacts to sensitive wetland wildlife and vegetation; • During operations, the Project will be in compliance with relevant City of Virginia Beach and City of Chesapeake noise requirements. If the final design engineering requires sound mitigation measures, they will be implemented within the Project footprint, as necessary; • Dominion Energy would implement lighting-reduction measures, such as downward projecting lights, lights triggered by motion sensors, and limiting artificial light to the extent practicable, to avoid disruption to nocturnal avian and bat species; • Dominion Energy would take protective measures to prevent access to any active operation area including, but not limited to, security and safety fencing; • Dominion Energy would monitor revegetation throughout the life of the Onshore Project and leading up to decommissioning. Monitoring would comply with the approved landscape restoration plan and invasive species control plan, as required by the City of Virginia Beach and the City of Chesapeake, as well as an invasive species control plan. Monitoring would serve as the primary measure for ensuring return of natural habitat functionality following completion of construction and necessary operation; and • Dominion Energy would employ vegetation control methods, including application of herbicides for maintenance of ROWs that would comply with all applicable federal, state, and local laws and regulations.
Avian and Bat Species	
• Short-term attraction to, and potential collision with, Project-related vessels and partially installed Offshore Project Components; • Short-term disturbance of, and displacement from, offshore habitat; • Short-term disturbance of, and displacement from, onshore habitat; • Long-term risk of collision with WTGs and Offshore Substations; • Long-term displacement from the Lease Area due to presence of WTGs and Offshore Substations; • Long-term attraction to and displacement from Project-related maintenance vessels; • Long-term risk of collision with overhead Interconnection Cables; and	• To mitigate impacts from lighting, Dominion Energy would use BMPs identified by BOEM Construction and Operations Plan (COP) guidelines and would comply with Federal Aviation Administration (FAA) and USCG requirements for lighting while to the extent practicable using lighting technology (e.g., low-intensity strobe lights) that minimize impacts on avian and bat species; • Dominion Energy would document any dead or injured birds or bats found on Project vessels or structures during the construction stage of the Project and would submit an annual report by January 31 of each year to BOEM (at renewable_reporting@boem.gov), BSEE (at OSWSubmittals@bsee.gov). and USFWS. The report will contain the following information: the name of species, date found, location, a picture to confirm species identity (if possible), and any other relevant information. Carcasses with federal or research bands will be reported to the USGS Bird Band Laboratory. Any occurrence of dead ESA birds or bats will be reported to BOEM, BSEE, and USFWS as soon as practicable (taking into account crew and vessel safety), but no later than 24 hours after the sighting, and if practicable, carefully collect the dead specimen and preserve the material in the best possible state; • Dominion Energy would develop and obtain DOI concurrence on an avian and bat monitoring program during construction with clear goals, monitoring questions, and methods, including monitoring that focuses on areas of uncertainty such as bird and bat presence offshore. Dominion Energy would submit annual monitoring reports to BOEM (at renewable_reporting@boem.gov) and BSEE (at OSWSubmittals@bsee.gov) after each full year of monitoring within 6 months of completion of the last avian survey; • Dominion Energy would avoid potential effects to birds and bats by using trenchless installation techniques in coastal areas at the Cable Landing Location; collocating the Onshore Export Cable Route

Potential Impacts	Avoidance, Minimization, Mitigation, and Monitoring Measures
• Long-term displacement from onshore habitat at Onshore Project Components.	with existing roads as much as possible; and timing construction activities to avoid critical periods when endangered and threatened species may be affected to the extent practicable; • The Harpers and Chicory Switching Stations would be constructed within either previously developed areas associated with an existing golf course or small areas of mixed forest and woody wetland. Some tree and vegetation clearing will be required, but will be minimized to the extent practicable; • To the extent practicable, Dominion Energy would collocate the Interconnection Cable Route within or adjacent to existing transmission line corridors and rights-of-way as much as possible, timing construction activities to avoid critical periods when endangered and threatened species may be affected; • Tree/vegetation clearing would avoid trees favorable for bat maternity roosting locations and would be conducted outside of the breeding/roosting season to avoid nesting birds and bat maternity roosting locations to the extent practicable; • Dominion Energy conducted presence/ absence surveys for bats (acoustic and mist-net) along the Onshore Project Area, pursuant to discussions with Virginia Department of Wildlife Resources (VDWR), USFWS, and appropriate regulatory agencies during the summer of 2022; • Dominion Energy conducted an eagle/osprey/raptor/owl nest survey along the Interconnection Cable Route in March, 2022 along the Onshore Project Area, pursuant to discussions with VDWR, USFWS, and appropriate regulatory agencies; • Where surveys indicate the presence of species of conservation concern, Dominion Energy would work with the VDWR and USFWS to minimize potential impacts prior to construction; • Dominion Energy would maintain a minimum no-tree-clearing buffer around any known NLEB maternity roosts; • Dominion Energy would develop avoidance and minimization measures in coordination with the VDWR, USFWS, and appropriate regulatory agencies to ensure protection of threatened and endangered species or to address the potential for incidental take, that may occur within the Project Area; • To mitigate the potential for collision with WTGs and Offshore Substations during O&M stage of the Project, Dominion Energy would use BMPs identified by BOEM COP guidelines (BOEM 2020c) and comply with FAA and USCG requirements for lighting and, to the extent practicable, use lighting technology (e.g., low-intensity strobe lights, flashing red aviation lights) that minimize impacts on bat species. Additionally, while not required by FAA guidance, Dominion Energy will implement an Aircraft Detection Lighting System (ADLS) to minimize the number of hours/day aviation lighting is in full effect; • To continue the advancement of the understanding of avian and bat activity in the offshore environment, Dominion Energy will continue operation of both ATOMTM systems for two additional years to inform the development of the CVOW Commercial Project as the CVOW Pilot WTGs are installed adjacent to the west side of the CVOW Commercial lease. • Dominion Energy will purchase 25 Motus Wildlife Tracking tags and provide them to researchers that are currently studying the movements of piping plovers in the region. The specific deployment location will be determined in consultation with the USFWS. • Dominion Energy will purchase 15 2g Solar PTT-100 Satellite Tags manufactured by Lotek (2021), or equivalent to be attached to Rufa red knots), which will provide up to 80 precise positions with associated altitude information. These tags will provide accurate data on Rufa red knot movements offshore, and

Potential Impacts	Avoidance, Minimization, Mitigation, and Monitoring Measures
	flight heights that can be related to weather data. The deployment location will be determined in consultation with USFWS. • Dominion Energy will fund a research project to study the Whimbrel (*Numenius phaeopus*). This study will be implemented by The Nature Conservancy (TNC) and Center for Conservation Biology (CCB) and will include purchasing up to 30 Pinpoint GPS Argos Satellite Tags manufactured by Lotek (2021), or equivalent, CCB and TNC staff time associated with project implementation including data analysis, seasonal staff capacity to implement field work, seasonal housing and travel costs, field supplies, and tagging technology. • Dominion Energy plans to upgrade the current Motus network/antennas on both CVOW Pilot wind turbine generator (WTG) platforms to a "dual-mode" (166 and 434 MHz) system with one station prioritized for 434 MHz and the other prioritized for 166 MHz in accordance with the updated USFWS guidance document. This upgrade will increase the monitoring range from approximately 2 kilometers to approximately 15 kilometers and will remain in place for two years, expected to begin Spring 2022. • To minimize attracting birds to operating turbines and offshore substations, Dominion Energy would utilize bird-deterrent devices. The quantity, location, and type of bird-deterrent devices would be proposed by Dominion Energy based on BMPs applicable to the appropriate operation and safe installation of the devices. Dominion Energy would confirm the locations of bird-deterrent devices as part of the as-built documentation it must submit with the FDR; • Dominion Energy would develop and obtain DOI concurrence on a post-construction monitoring plan with clear goals, monitoring questions, and methods, including monitoring that focuses on areas of uncertainty such as bird and bat presence offshore. Dominion Energy would submit annual monitoring reports to BOEM (at renewable_reporting@boem.gov) and BSEE (at OSWSubmittals@bsee.gov) after each full year of monitoring within 6 months of completion of the last avian survey. Dominion Energy would submit post-construction quarterly progress reports during the implementation of the avian and bat monitoring plan to BOEM (at renewable_reporting@boem.gov) and USFWS by the 15th day of the month following the end of each quarter during the first full year that the Project is operational. During operations, Dominion Energy would submit to BOEM (at renewable_reporting@boem.gov) and BSEE (at OSWSubmittals@bsee.gov) an annual report with monthly operational data in tabular format. Dominion Energy and will store the raw data from all avian and bat surveys and monitoring activities according to accepted archiving practices, which will remain accessible to DOI and USFWS upon request for the duration of the Lease and will work with BOEM to ensure the data are publicly available; • Dominion Energy would install automated radio telemetry receiver stations (i.e., Motus towers) on select offshore structures; • Dominion Energy would limit risks of long-term displacement of offshore bird species, to the extent practicable; • Potential impacts would be further minimized by reducing lighting on O&M vessels to the extent practicable. Dominion Energy would reduce potential impacts of the overhead lines by complying with Avian Power Line Interaction Committee best practices to reduce collision and electrocution; and • Dominion Energy would reduce potential impacts of the overhead lines by complying with Avian Power Line Interaction Committee (https://www.aplic.org/) best practices to reduce collision and electrocution.

Potential Impacts	Avoidance, Minimization, Mitigation, and Monitoring Measures
Benthic Resources, Fishes, Invertebrates, and EFH	
• Disturbance of softbottom habitat; • Disturbance, injury, or mortality of benthic and pelagic species, including ESA-Listed fish; • Change in water quality, including turbidity, sediment deposition, and chemical contamination; • Entrainment of plankton and ichthyoplankton; • Increase in underwater noise and vibration; • Long-term conversion of softbottom to artificial hardbottom habitat and introduction of vertical infrastructure to the water column; • Habitat creation for nonindigenous species; • Increase in shading and artificial lights; • Change in water quality, including fuel and chemical spills; and • Introduction of Project-related electric and magnetic fields (EMF).	• Dominion Energy would establish a horizontal buffer of at least 164 ft (50 m) around identified artificial reefs, shipwrecks, and other mapped hardbottom habitat in the Fish Haven area. No other hardbottom or sensitive habitat is known or expected to occur in the Offshore Project Area. Dominion Energy would further micro-site within the Offshore Export Cable Route Corridor to avoid such habitats where feasible to minimize the probability of adverse interactions with sensitive benthic resources; • The release of non-toxic drilling muds during Trenchless Installation activities is possible but unlikely. Dominion Energy would develop and implement an Inadvertent Release Plan that would include pollution prevention measures and spill response procedures covered by the Stormwater Pollution Prevention Plan; • Dominion Energy would commit to using a soft-start procedure and noise mitigation systems such as bubble curtain technologies to avoid or minimize impacts to marine mammals, sea turtles, fishes, and mobile invertebrates. During pile-driving activities, Dominion Energy will implement near-field and/or far-field noise mitigation systems to minimize underwater sound propagation. Examples of near-field noise mitigation systems include the Hydro Sound Damper, the Noise Mitigation Sleeve or the AdBm Noise Mitigation System. Dominion Energy is committed to the use of a double big bubble curtain for far field noise mitigation; • The Greater Atlantic Regional Fisheries Office would be notified soon as possible of any observed takes of ESA-fish occurring as a result of any fisheries survey; • Dominion Energy would ensure that all Project personnel complete marine trash and debris awareness training annually. The training consists of two parts: (1) viewing a marine trash and debris training video or slide show, and (2) receiving an explanation from management personnel that emphasizes their commitment to the requirements; • Dominion Energy does not expect the installation of hard structure to introduce nonindigenous species to the Project Area; however, existing species in the area may colonize or become associated with the structures once they are installed (e.g., lionfish); • As required by the USCG for navigational safety, artificial lights would be installed on all Project structures; • Dominion Energy would develop and implement an Oil Spill Response Plan describing measures to avoid accidental spills and protocols to be implemented should a spill occur. Dominion Energy also would require all Project-related vessels to operate in accordance with laws regulating at-sea discharges of vessel-generated waste; • Dominion Energy would commit to burying Project-related cables wherever feasible to minimize detectable EMF; • Dominion Energy would ensure that all Project personnel complete marine trash and debris awareness training annually. The training consists of two parts: (1) viewing a marine trash and debris training video or slide show, and (2) receiving an explanation from management personnel that emphasizes their commitment to the requirements.

Potential Impacts	Avoidance, Minimization, Mitigation, and Monitoring Measures
Marine Mammals	
• Short-term disturbance of habitat; • Short-term loss of local prey species; • Short-term introduction of marine debris; • Short-term increase in risk of entanglement and entrapment; • Short-term increase in underwater noise; • Short-term increase in risk of ship strike due to the increase in vessel traffic; • Short-term change in water quality, including oil spills; • Modification of habitat; • Project-related EMF; • Project-related marine debris; • Project-related underwater noise; • Increase in risk for ship strike due to the increase in vessel traffic; and • Changes in water quality, including oil spills.	• Dominion Energy has sited Offshore Project Components, including WTG and Offshore Substation Jacket Foundations and Offshore Export Cable Route Corridor, to avoid sensitive benthic habitats and minimize disturbance of benthic features to the extent practical; • Dominion Energy would implement practices to prevent Project personnel from commencing or continuing certain construction activities should marine mammals be observed within monitoring and exclusion zones based on required NOAA Fisheries monitoring and mitigation protocols and stipulations of the Lease; • During pile-driving of WTG and Offshore Substation Jacket Foundations, Dominion Energy would apply monitoring and exclusion zones as appropriate to underwater noise assessments and impact thresholds; • Qualified NOAA Fisheries-approved Protected Species Observers, real-time monitoring systems, Passive Acoustic Monitoring systems, and reduced visibility monitoring tools (e.g., night vision, infrared, and/or thermal cameras) would be employed to enforce these zones; • Construction personnel would employ soft starts and shut-down procedures as appropriate to thresholds of noise-emitting survey equipment; soft starts will last 30 minutes at the onset of pile-driving; • Dominion Energy would use commercially and technically available noise-reducing technologies as appropriate and will provide marine mammal sighting and reporting training for each specific stage of construction to emphasize individual responsibility for marine mammal awareness and protection; • Dominion Energy would ensure continued engagement with regulatory agencies regarding potential best practices; • All Project-related fisheries surveys and sampling gear will be hauled at least once every 30 days and all gear will be removed from the water and stored on land between survey seasons to minimize risk of entanglement; • All Project-related vessels larger than 65 ft (20 m) will be required to abide by speed restrictions when transiting within the Seasonal Management Area (SMA) from November 1 to April 30; • Dominion Energy would conduct monitoring of NOAA's website for updates to Dynamic Management Area (DMA) locations; • All Project-related vessels would 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 Marine Mammal Study Area (10 nautical miles per hour [18.5 kilometers per hour] or less for vessels 65 ft [20 m] or longer); • Dominion Energy would require all Project-related vessels to maintain a separation distance of 1,640 ft (500 m) or greater from any sighted ESA-listed whale. All Project-related vessels would maintain a separation distance of 328 ft (100 m) or greater from any sighted non-ESA baleen whale. All Project-related vessels would maintain a separation distance of 164 ft (50 m) or greater from any sighted dolphins or pinnipeds with an exception made for those that approach the vessel (e.g., bow-riding dolphins); • Vessels larger than 300 gross tons (305 metric tons) will receive whale sighting updates and vessel speed reminders when transiting right whale territory by reporting to the right whale Mandatory Ship Reporting System; • Project personnel, particularly marine mammal observers, would check the NOAA Fisheries website for DMA locations;

Potential Impacts	Avoidance, Minimization, Mitigation, and Monitoring Measures

	• Dominion Energy would provide Project personnel with marine mammal sighting, take and harassment, and reporting training to emphasize individual responsibility for marine mammal awareness and protection;
	• Dominion Energy has developed a Protected Species Mitigation and Monitoring Plan (PSMMP, see Appendix FF) with detailed protocols regarding Protected Species Observer (PSO) and Passive Acoustic Monitoring (PAM) coverage to reduce potential negative impacts from Project-related vessel traffic, HRG surveys or construction activities;
	• Dominion Energy would ensure that all Project personnel complete marine trash and debris awareness training annually. The training consists of two parts: (1) viewing a marine trash and debris training video or slide show (described below), and (2) receiving an explanation from management personnel that emphasizes their commitment to the requirements;
	• Dominion Energy has also developed an Oil Spill Response Plan (Appendix Q), proposing measures to avoid inadvertent releases and spills and a protocol to be implemented should an event occur. Project-related vessels would operate in accordance with laws regulating at-sea discharges of vessel-generated waste;
	• Dominion Energy proposes to use high-voltage alternating-current cables for the Project; such cables emit EMF below levels documented to have adverse effects on fish or marine mammal behavior;
	• Dominion Energy would require all Project personnel to implement appropriate practices and protocols to prevent the release of marine debris;
	• Dominion Energy would implement several measures to avoid, minimize, and mitigate marine mammal physical disturbances, strikes, and collisions;
	• All Project-related fisheries surveys and sampling gear will be hauled at least once every 30 days and all gear will be removed from the water and stored on land between survey seasons to minimize risk of entanglement;
	• Project-related vessels would operate in accordance with laws regulating at-sea discharges of vessel-generated waste; and
	• All vessels associated with survey activities (transiting or actively surveying) would comply with the vessel strike avoidance measures specified below. The only exception is when the safety of the vessel or crew necessitates deviation from these requirements.
	  ○ If any ESA-listed marine mammal is sighted within 1,640 ft (500 m) of the forward path of a vessel, the vessel operator must steer a course away from the whale at less than 10 knots (18.5 kph) until the minimum separation distance has been established. Vessels may also shift to idle if feasible.
	  ○ If any ESA-listed marine mammal is sighted within 656 ft (200 m) of the forward path of a vessel, the vessel operator must reduce speed and shift the engine to neutral. Engines must not be engaged until the whale has moved outside of the vessel's path and beyond 1,640 ft (500 m). If stationary, the vessel must not engage engines until the whale has moved beyond 1,640 ft (500 m).

Potential Impacts	Avoidance, Minimization, Mitigation, and Monitoring Measures
Sea Turtles	

• Short-term disturbance of habitat;
• Short-term loss of local prey species;
• Short-term increase in construction-related lighting;
• Short-term accidental release of marine debris;
• Short-term increase in risk of equipment interaction;
• Short-term increase in underwater noise;
• Short-term increase in risk of ship strike due to the increase in vessel traffic;
• Short-term change in water quality, including oil spills;
• Modification of habitat;
• Project-related EMF;
• Project-related lighting;
• Project-related marine debris;
• Project-related underwater noise;
• Project-related vessel traffic and increased risk for shop strike; and
• Changes in water quality, including oil spills.
	• Dominion Energy has sited the Offshore Export Cable Route Corridor to avoid sensitive benthic habitats to the extent practical (including submerged aquatic vegetation) to minimize impacts to sea turtles, particularly juveniles;
	• Dominion Energy would require all offshore personnel and vessel contractors to implement appropriate debris control practices and protocols to prevent the accidental release of marine debris. All Project-related vessels would operate in accordance with regulations pertaining to at-sea discharge of vessel-generated waste;
	• Dominion Energy would implement the following measures as appropriate to avoid, minimize, and mitigate potential impacts of construction-related underwater noise:
	  ○ Implement monitoring and exclusion zones where pile-driven foundations are installed, enforced by qualified NOAA Fisheries-approved Protected Species Observers;
	  ○ Implement real-time monitoring systems;
	  ○ Employ soft starts and shut-down procedures where technically feasible;
	  ○ Employ soft starts for a duration of 30 minutes at the onset of pile-driving activities;
	  ○ Use reduced visibility monitoring tools/technologies (e.g., night vision, infrared, and/or thermal cameras);
	  ○ Use commercially and technically available noise-reducing technologies;
	  ○ Provide sea turtle sighting and reporting procedures for appropriate Project-related personnel specific to construction and its potential impacts to sea turtles;
	• Dominion Energy would also ensure continued engagement with regulatory agencies regarding potential best practices;
	• Dominion Energy has developed a PSMMP (see Appendix FF) with detailed protocols regarding PSO coverage and vessel speed restrictions to reduce potential negative impacts from Project-related vessel traffic, HRG surveys, or other construction activities;
	• Dominion Energy has developed an Oil Spill Response Plan (Appendix Q) detailing all proposed measures to avoid accidental spills and a protocol to be implemented should such an event occur. Additional information may be found in Section 4.4.12, Public Health and Safety. All Project-related vessels would operate in accordance with regulations pertaining to at-sea discharge of vessel-generated waste;
	• Dominion Energy would provide a full decommissioning plan to the appropriate regulatory agencies for approval prior to decommissioning activities, and potential impacts will be re-evaluated at that time;
	• Dominion Energy has identified areas where sufficient cable burial is achievable, further buffering the pelagic environment from cable EMF, and cable protection would serve as an alternative barrier where sufficient cable burial is not feasible;
	• Dominion Energy would consult appropriate regulatory agencies regarding operational lighting requirements;
	• Dominion Energy would require all offshore personnel to implement appropriate practices and protocols to avoid and minimize the accidental release of marine debris;

Potential Impacts	Avoidance, Minimization, Mitigation, and Monitoring Measures

	• Dominion Energy would implement the following measures as appropriate to avoid, minimize, and mitigate potential vessel-related impacts:
	  ○ Dominion Energy has developed a PSMMP (see Appendix FF) with detailed protocols regarding PSO coverage and vessel speed restrictions to reduce potential negative impacts from Project-related operations and maintenance vessel traffic;
	  ○ ; and
	  ○ Vessel collision avoidance measures for vessels working in or transiting to and from the Sea Turtle Study Area, including a 164 ft (50 m) separation distance from all sea turtle species;
	• Dominion Energy has developed an Oil Spill Response Plan (Appendix Q) that details all measures proposed to avoid an inadvertent spill of vessel oil or fuel and a protocol to be implemented should such an event occur; and
	• Dominion Energy would implement the following measures as appropriate to avoid, minimize, and mitigate potential impacts to water quality:
	  ○ Vessel operation in accordance with regulations pertaining to at-sea discharges of vessel-generated waste.

Marine Archaeological Resources	
• Disturbance to submerged marine archaeological and cultural resources. • Disturbance to submerged marine archaeological and cultural resources.	• Dominion Energy will develop an operations plan prior to construction, to ensure that construction activities adhere to the recommended avoidance buffers. • Design and construction methods, including micro-siting opportunities, will continue to be evaluated in order to avoid or minimize the extent of seabed disturbance and adverse effects to historic properties. • Disturbance to known resources that cannot practicably be avoided would only occur with appropriate consultations (i.e., BOEM, State Historic Preservation Offices, Tribal Historic Preservation Offices) and approvals. • Additional archaeological investigation of resources that cannot be avoided may be need to determine whether they are historic properties and to fully assess Project effects on them. • Dominion Energy has developed and will implement an Unanticipated Discoveries Plan (included as an Attachment to Appendix F of the COP). to avoid and mitigate impacts to unknown resources and ancient submerged landform features. As part of the UDP, 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, Tribes, and relevant stakeholders on the manner to proceed. • Repairs and other future activities will only occur within previously disturbed portions of the APE which have been previously assessed by the QMA; • Dominion Energy will establish and comply with requirements for all protective buffers recommended by the Qualified Marine Archaeologist for each marine cultural resource (i.e., archaeological resource and ancient submerged landform feature) based on the size and dimension of the resource. Protective buffers extend outward from the maximum discernable limit of each resource and are intended to minimize the risk of disturbance during construction. A Mitigation Plan outlining the proposed avoidance buffers

Potential Impacts	Avoidance, Minimization, Mitigation, and Monitoring Measures
	associated with marine cultural resources has been included as an Attachment to Appendix F of the COP; and • Adherence to the QMA recommended avoidance buffers would remain in effect during Operations.
Terrestrial Archaeological Resources	
• Ground disturbance within the PAPE for the construction and installation of underground components (e.g., the cable landing location, onshore export cable, site grading), the switching station, and onshore substation.	• Dominion Energy is committed to minimizing impacts to cultural resources through the siting, routing, and design process of the Onshore Project Components to the extent practicable; • Dominion Energy has prepared and will Implement a Mitigation Plan. The Terrestrial Archaeological Resources and the Unanticipated Discoveries Plan (UDP), which is included as part of Appendix G, Terrestrial Archaeological Resource Assessment, will both be implemented throughout construction, O&M, and decommissioning of the Project; • All Project personnel involved in construction activities must be familiar with the UDP and the processes for notification of appropriate individuals if archaeological material is encountered (see Appendix G, Attachment G-1); • Archaeological monitoring will be available during all construction activities including HDD operations and construction within existing roadways. If the archaeological monitor is not present when potential cultural material is encountered, they will be notified immediately and make an on-site assessment of the potential cultural material as soon as possible. Work at the location of the unanticipated discovery will be halted until after the archaeological evaluation has been completed; • 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, an archaeological monitor will be present at this location during construction activities that involve subsurface disturbance; and • On NAS Oceana/Aeropines Golf Course a 10-ft (3-m) buffer will be established around the grave/memorial beginning at the existing fencing. This area will be surrounded by fencing during all construction activities. An archaeological monitor will also be present during construction activities at this site.
Historic Properties Assessment	

• Short-term or long-term visual impacts to maritime settings that are significant to the historical integrity of the resources, including three lighthouses.	• Dominion Energy will work with BOEM to develop and implement one or multiple Historic Property Treatment Plans (HPTPs) to address impacts on historic properties that cannot be avoided. The HPTP(s) will be developed in consultation with property owners and consulting parties who have demonstrated interest in specific historic properties. The HPTP(s) will provide details and specifications for mitigation measures to resolve adverse visual effects, including cumulative effects, on aboveground historic properties.
	• Mitigations may include:
	  ○ Support for preparation of NRHP nominations for Chesapeake Beach, Doyletown, and/or Queen City, Virginia Beach;
	  ○ Support for planning and design studies for the rehabilitation of the St. Teresa's Chapel and/or the 1902 Railroad Station;

Potential Impacts	Avoidance, Minimization, Mitigation, and Monitoring Measures
	○ Support for the recognition and preservation of historic properties associated with African-American history, including Seatack Elementary School and the Mount Olive Baptist Church; ○ Support for updating the publication, 50 Most Significant Houses and Structure in Virginia Beach; ○ Support the development of interpretive signs in the Historic Kempsville mini park in the City of Virginia Beach; ○ Preservation planning support for 302 22nd Street—the C & P Telephone Building; ○ Support for the survey and designation of resources associated with underrepresented communities; and ○ Support for a public lecture series on preservation topics to support regional historic preservation planning objectives. ○ Support documentation and public outreach on the history of the State Military Reservation (formerly Camp Pendleton)
Visual Resources	
• Short-term visual impacts during offshore construction activities; • Short-term visual impacts during onshore construction activities; • Long-term visual effects from the presence of Offshore Project Components; and • Long-term visual effects from the presence of Onshore Project Components.	• Dominion Energy would implement a Fugitive Dust Plan to minimize dust and visual pollution. The Onshore Project Area would be maintained free of debris, trash, and waste to the extent possible during construction, and areas temporarily disturbed during construction will be restored to the conditions required by state and/or local permits; • The WTGs would be uniform in shape and color, and it is anticipated that they would be uniform in size of rotor blades, nacelle and towers; • Dominion Energy would evaluate vegetative screening to help screen views of the Onshore Substation and Switching Station and design the lighting of the Onshore Substation and Switching Station to reduce light pollution where feasible (e.g., downward lighting, motion-detecting sensors); • Dominion Energy would consult with the U.S. Navy, City of Virginia Beach, and the City of Chesapeake to evaluate color treatment and other visual impact mitigations for Switching Station and the Onshore Substation; • Dominion Energy would implement an Aircraft Detection Lighting System (ADLS); • Dominion Energy would develop a lighting, marking, and signal plan for review and concurrence by BOEM and the USCG. The plan is based on consultations with the Fifth Coast Guard District and will conform to applicable federal laws and regulations; • Dominion Energy would use NPS sustainable lighting best practices where practicable; and • Dominion Energy would develop a lighting, marking, and signal plan for review and concurrence by BOEM and the USCG. The plan is based on consultations with the Fifth Coast Guard District and will conform to applicable federal laws and regulations.
Population, Economy, Employment, Housing, and Public Services	
• Short-term increase in spending on construction materials and services and related economic activity in the region (Hamptons Road area) and state (Virginia);	• Project-related vessels transiting to the Lease Area would be consistent with existing vessel traffic off the coast of Virginia; and • Dominion Energy would coordinate with local fire and police departments as needed throughout construction of the Project.

Potential Impacts	Avoidance, Minimization, Mitigation, and Monitoring Measures
• Short-term increase in construction-related employment and income in the region and state; • Short-term increase in tax revenues for state and local governments; • Short-term increase in the demand for housing; • Potential short-term effects to property values; • Short-term increase in the demand for public services; • Long-term increase in spending on O&M and related economic activity in the region; • Long-term increase in O&M-related employment and income in the region; • Long-term increase in tax revenues for state and local governments; • Long-term increase in demand for housing; • Long-term increase in the demand for public services; and • Long-term change in property values due to O&M activities.	
Environmental Justice	
• Short-term increase in construction vehicle traffic and activity; • Temporary shortage of affordable temporary housing due to increased demand; • Short-term increase in tax revenues for state and local governments; • Short-term increase in construction-related employment and income in the region and state; • Short-term increase in the demand for public services;	• Dominion Energy would coordinate with local fire and police departments as needed throughout construction of the Project; • The Project would use existing roads, ROWs, and infrastructure where possible; • 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; • Dominion Energy has attempted to site the Offshore Project Area where it would have the least impact on commercial fishing. Further, the addition of Offshore Project Components (WTGs and scouring) would facilitate natural reef building which can increase overall species abundance and diversity. This may have positive benefits for the fishing industries in the area; • Dominion Energy is committed to coexistence with commercial and recreational fishing and is conducting extensive outreach and engagement with the fishing community as part of this Project, which will assist in

Potential Impacts	Avoidance, Minimization, Mitigation, and Monitoring Measures
• Decrease in availability of long-term housing due to in-migration of operations workers; • Long-term presence of Offshore Project Components in the Lease Area (e.g. WTGs and Offshore Substations); • Long-term presence of Onshore Project Components; • An increase in O&M-related vehicle traffic; • Long-term increase in local and regional government tax revenues; • Long-term increase in O&M-related employment and income in the region; and • Long-term increase in the demand for public services.	identifying additional environmental justice populations that may rely on the Offshore Project Area for fishing and who may require additional engagement; and • Dominion Energy would coordinate with local fire and police departments as needed throughout the operations period of the Project.
Land Use and Zoning	
• Short-term disruption to adjacent land uses at the Cable Landing Location and along the Onshore Export Cable Route and Interconnection Cable Route Corridors, including recreational uses associated with the State Military Reservation (SMR) property within the Onshore Export Cable Route Corridor; • Direct disturbance during construction and installation of the Onshore Export Cable Route, Switching Station, Interconnection Cable Route, and Onshore Substation; and • Long-term conversion of land for the Onshore Export Cable access, Switching Station, Interconnection Cables, and the Onshore Substation.	• A schedule showing the months when construction would occur is provided in Section 1, Table 1.1-3; • To avoid disruption of recreational uses, installation of the Onshore Export Cable would be coordinated with localities and stakeholders to avoid and minimize potential impacts to recreational and tourism uses to the extent practicable. Once construction is complete, the roads and parking lots would be restored to previous conditions; • To further minimize potential construction effects, adjacent landowners would be provided timely information regarding the planned construction activities and schedule, and work also would be coordinated with appropriate regulatory agencies. Dominion Energy would provide regular updates to the local community through social media, public notices, and/or other appropriate communications tools. Potential impacts to traffic are addressed in Section 4.4.4, Land Transportation and Traffic; • Temporary safety zones would be implemented around construction activities to ensure the safety of the public; • Dominion Energy would provide regular updates to the local community through social media, public notices, and/or other appropriate communications tools; • Any additional temporary staging areas necessary to support onshore construction activities are anticipated to be located on either previously disturbed lands or within the area of disturbance for construction, to the extent practicable; • The portion of the Onshore Substation parcel not required for long-term operation of the Onshore Substation would be restored to previous conditions once construction is complete;

Potential Impacts	Avoidance, Minimization, Mitigation, and Monitoring Measures
	• If necessary, permitting, regulatory actions, and other actions would be taken in the future for development of the Interconnection Cable Route as part of the Preferred Option if direct land use displacement, land acquisitions, or re-zonings are required; and • Dominion Energy intends to coordinate with permitting authorities and stakeholders to identify what, if any, land use may continue within land acquired for the Interconnection Route, as well as any additional mitigation measures that may be appropriate related to impacts to local land use and resources during construction and O&M.
Land Transportation and Traffic	
• Short-term increase in Project-related construction vehicle traffic, including workforce commuting trips; • Temporary modification of roadway traffic patterns due to lane closures, street closures, and travel restrictions (e.g., one-way traffic, alternating traffic); and • An increase in operation and maintenance vehicle traffic, including workforce commuting trips.	• Dominion Energy would develop a Traffic Management Plan (TMP) in coordination with, and approved by, the affected federal, state, and local agencies as applicable to offset any anticipated traffic-related impacts associated with increased vehicle demand during construction. As part of the preparation of the TMP, Dominion Energy would coordinate with local and state transportation and public works departments to identify any planned roadway improvements that may impact traffic operations within the Transportation and Traffic Study Area. The TMP would include, but not be limited to, the development of vehicular travel routes to and from the Project construction site; provision of highly visible markings, signage, and lighting of active construction sites; provision of sufficient on-site parking; and implementation of temporary, localized construction zones to minimize areas or sections of road closure; • Dominion Energy would provide regular updates to the local community through social media, public notices, and other appropriate communications methods and schedule construction activities to minimize impacts to the summer peak tourism season to the extent practicable where appropriate and as deemed necessary by local authorities; • Dominion Energy would develop a TMP that would offset any anticipated traffic-related impacts associated with increased vehicle demand during construction in the same manner as described above for Project-related construction vehicle traffic; and • Dominion Energy would provide sufficient on-site parking for Project personnel.
Recreation and Tourism	
• Short-term displacement of marine users due to the establishment of safety zones around Project-related vessels and structures; • Short-term displacement of recreational users onshore due to the establishment of safety zones around Project-related equipment and construction areas; • Minor and temporary increases to local traffic during construction for the Onshore Project Area;	• Dominion Energy would establish a Project-specific website to share information about the Project's construction progress with the community and to give guidance on the construction activities and how they may affect marine traffic in the area. Dominion Energy would also issue specific Local Notices to Mariners (LNTM) in coordination with USCG throughout the construction period. To ensure the safety of commercial and recreational mariners, temporary vessel restrictions may reduce access within the temporary WTG work areas, the Nearshore Trenchless Installation Area, and along the Offshore Installation Corridor during construction. As appropriate, these areas would be marked and illuminated in accordance with USCG requirements and monitored by a security boat available to assist local mariners; • Dominion Energy would coordinate shoreline construction activities with localities and stakeholders to avoid and minimize conflicts with users to the extent practicable. In addition, Dominion Energy intends on coordinating construction activities with the Virginia SMR to avoid and minimize conflicts with recreational uses to the extent practicable; • To avoid disruption of recreational uses, installation of the Onshore Export Cable would be coordinated with localities and stakeholders to avoid and minimize potential impacts to recreational and tourism uses

Potential Impacts	Avoidance, Minimization, Mitigation, and Monitoring Measures
• Long-term modification of existing marine uses in the Offshore Project Area; and • Long-term displacement of recreational activities in the Onshore Project Area.	to the extent practicable. Once construction is complete, the roads and parking lots would be restored to previous conditions; • Dominion Energy intends to coordinate construction activities to minimize impacts to the extent practicable and to provide regular updates to the local community through social media, public notices, and/or other appropriate communications tools; • Dominion Energy would not block roadways to the SMR vehicular traffic for long periods of time for onshore construction activities; • Dominion Energy would notify mariners of the times when safety zones are in effect or when maintenance activities prohibit a vessels close approach. When possible, Dominion Energy would schedule and plan maintenance activities to minimize impact and interruption to recreation and tourism activities in the Project Area. In order to maintain navigational safety for marine recreational users; • Dominion Energy is developing a lighting, marking, and signal plan for review and concurrence by BOEM and the USCG. The plan is based on consultations with the Fifth Coast Guard District and will conform to applicable federal laws and regulations. Dominion Energy will present the plan at least 120 days before installation. Preliminary details of the plan, as currently anticipated, are included in Section 3.5.3 of the COP. Dominion Energy will use NPS sustainable lighting best practices where practicable; and • When possible, Dominion Energy would schedule and plan maintenance activities to minimize impact and interruption to recreation and tourism activities in the Project Area.
Commercial and Recreational Fishing	
• Potential for temporary displacement of fishing activity; • Potential for temporary disturbance to local commercial fish species; • Potential for risk of gear entanglements on partially installed structures; • Potential for increase in Project-related vessel traffic; • Potential for loss of access to traditional fishing grounds; • Potential for modification of habitat and displacement of target commercial species; • Potential for increased Project-related vessel traffic; • Potential for positive beneficial increases in species diversity and abundance; and	• Closures would be limited to discrete segments of the Offshore Project Components that would have restricted access on a temporary basis while construction is active; • Dominion Energy would work with fishermen ahead of marine construction operations to review operational planning and schedules in order to identity any areas where fishing operations may be temporarily displaced. Dominion Energy would also work with the USCG and make notices of area closures publicly available through LNTM posted to Dominion Energy's website and social media; • Dominion Energy would work with those affected fishermen to minimize any potential impact. Dominion Energy would remain committed to coexistence with the commercial and recreational fishing industries; • Dominion Energy would utilize underwater noise mitigation (e.g., bubble curtain or equivalent) to mitigate temporary impacts of pile-driving on marine species; • The Fisheries Communications Plan (Appendix V-1) developed for the Project, combined with the direct outreach activities anticipated during construction, would provide the fishing community with advance notice, prior to formal LNTM, describing the extent and duration of construction activities and locations of all fixed structures within the Offshore Project Area, including partially installed structures within the safety zone; • For the safety of both mariners and Project technicians, Dominion Energy would establish safety zones around construction activities as applicable. Dominion Energy would notify all mariners via LNTM of the presence and location of partially installed structures; • Dominion Energy would ensure that all Project-related vessels follow appropriate navigational routes and communicate to other mariners via LNTM and/or radio communications to mitigate risks to the commercial and recreational fishing industries as well as other mariners;

Potential Impacts	Avoidance, Minimization, Mitigation, and Monitoring Measures
• Potential for impacts to marine radar/navigation instruments due to the presence of WTGs. • Potential for lost income for commercial and recreational fishermen and other eligible fishing interests	• All sampling gear would be hauled at least once every 30 days, and all gear would be removed from the water and stored on land between survey seasons to minimize risk of entanglement; • To facilitate identification of gear on any entangled animals, all trap/pot gear used in the surveys would be uniquely marked to distinguish it from other commercial or recreational gear; • If any survey gear is lost during survey efforts, all reasonable efforts that do not compromise human safety would be undertaken to recover the gear; • Dominion Energy would ensure that vessel operators, employees, and contractors engaged in offshore activities pursuant to the approved COP complete marine trash and debris awareness training annually. The training consists of two parts: (1) viewing a marine trash and debris training video or slide show; and (2) receiving an explanation from management personnel that emphasizes their commitment to the requirements; • At least one of the survey staff onboard the trawl surveys and ventless trap surveys would have completed Northeast Fisheries Observer Program (NEFOP) observer training (within the last 5 years) or other training in protected species identification and safe handling; • Dominion Energy would continue to coordinate with existing commercial fishermen that utilize the Offshore Project Area (largely using fixed gear [pots/traps and gillnets]) and emerging fisheries to ensure they can deploy and recover their gear safely during operations and maintenance; • Dominion will also ensure that the operational WTGs and Offshore Substations comply with USCG safety zones (should they become effective during the operational life of the Project) when offshore service vessels/crew transfer vessels are present and/or WTG technicians are aboard Project components, to ensure safe working conditions and safe vessel operation; • Dominion would also ensure that the operational WTGs and Offshore Substations include adequate marking and lighting in accordance with USCG approved measures to ensure safe vessel operation; • Dominion Energy is in the process of establishing partnerships with local and regional experts from institutions, including the Virginia Institute of Marine Science and the Virginia Aquarium to facilitate preparation of pre- and post-construction monitoring plans, driven by the stakeholders' interests and built upon existing data, as described in Appendix V-2, Fisheries Mitigation and Monitoring Plan; • Dominion Energy would continue to ensure that all Project-related vessels follow appropriate navigational routes and other USCG "rules of the road," communicate via USCG LNTM, issue regular mariner updates and/or direct offshore radio communications to help mitigate risks to the commercial and recreational fishing industry as well as other mariners; • Dominion Energy would leverage its experience on this topic with the Coastal Virginia Offshore Wind Pilot Project and would work with the USCG and the local fishing community to refine site-specific controls or settings that may help to mitigate potential interference of marine radar associated with the presence of Offshore Project Components; and • Dominion Energy would implement a compensation program for lost income for commercial and for-hire 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. A Fisheries Compensation Plan will be included as Appendix V-3.

Potential Impacts	Avoidance, Minimization, Mitigation, and Monitoring Measures
Marine Transportation and Navigation	
• Temporary displacement of existing regional vessel traffic; • Vessel allision risk with partially installed structures; • Long-term displacement of maritime vessels due to new fixed structures; • Temporary diversion of maritime vessel traffic due to occasional O&M activities to the Offshore Export and Inter-Array Cable(s), WTGs, and Offshore Substations; • Long-term vessel collision risk; and • Long-term vessel allision risk with WTGs and Offshore Substations.	• Project-related vessel traffic would follow existing transit routes to the extent practicable and Dominion Energy would coordinate with the USCG and local port authorities during the construction stage of the Project; • Project-related construction and vessel activities would be communicated to the maritime community by use of LNTMs in coordination with the USCG throughout the construction stage. This information would also be posted on Dominion Energy's social media pages and website; • To reduce the risks of vessel allision, Dominion Energy would mark potential hazards in coordination with the USCG; • The Project will require operational Automatic Identification Systems (AIS) on all vessels associated with the construction, operation, and decommissioning of the Project, pursuant to USCG and AIS carriage requirements. AIS will be required to monitor the number of vessels and traffic patterns for analysis and compliance with vessel speed requirements; • Dominion Energy would develop LNTMs that would include locations of partially installed structures. In addition, Dominion Energy would advise mariners of safety zones around all Offshore Project Components under construction and construction-related activities for the safety of mariners; • The WTG layout was designed to have a 397 ft (121 m) buffer to the edges of the Lease Area to ensure that no structures would be outside of the Lease Area including the blades; • Dominion Energy would provide information to the USCG for publication in the LNTM, which provides schedules and locations for major maintenance activities, and would continue to coordinate with the USCG; • All Offshore Project Components (i.e., infrastructure associated with the Project) would be charted on the relevant nautical charts (electronic and print) in conjunction with NOAA. In addition, Dominion Energy would seek to have the construction zone charted and referenced in the U.S. Coast Pilot prior to the commencement of construction activities. This includes precise, planned Offshore Export Cable location information provided in spreadsheet and geographic information system formats; and • Dominion Energy is developing a lighting, marking, and signal plan for review and concurrence by BOEM and the USCG. The plan is based on consultations with the Fifth Coast Guard District and will conform to applicable federal laws and regulations. Dominion Energy will present the plan at least 120 days before installation. Preliminary details of the plan, as currently anticipated, are included in Section 3.5.3 of the COP. Dominion Energy will use NPS sustainable lighting best practices where practicable..
DoD and OCS National Security Maritime Uses	
• Short-term increase in Project-related vessel traffic due to the construction of Offshore Project Components; • Short-term adjustments to military vessel traffic during offshore construction activities;	• Dominion Energy would schedule and track Project-related vessels to best manage congestion and traffic flow in coordination with the USCG, DoD, and other national security stakeholders; • Where practical, Project vessels would utilize transit lanes, fairways, and predetermined passage plans consistent with existing waterway uses; • Dominion Energy would continue to communicate and engage with key national security stakeholders, including the USCG, DoD, and others, to coordinate installation activities; • USCG would publish LNTMs and broadcast LNTMs to inform mariners and aviators of Project activities in the area;

Potential Impacts	Avoidance, Minimization, Mitigation, and Monitoring Measures
• Short-term disturbance at the Cable Landing Location and along the Onshore Export Cable Route Corridor; • Long-term modification of existing waterway use; • Long-term presence of new fixed structures (e.g., WTGs, Offshore Substations, Offshore Export Cables, and Inter-Array Cables) in the Offshore Project Area; and • Occasional diversion of national security maritime vessel traffic due to short-term inspection, repair, or replacement of Offshore Export Cables or Inter-Array Cables, and other such O&M activities.	• Dominion Energy would publish an operations plan on the Project website to inform mariners and other interested parties on what work is being done in the Offshore Project Area; • Dominion Energy would establish and enforce safety zones around active construction areas; • Dominion Energy would utilize a combination of safety vessels, LNTMs, and Convention on the International Regulations for Prevention of Collisions at Sea to promote both awareness of these activities and the safety of the construction equipment and personnel. Project vessels will also send and receive AIS signals for awareness and collision avoidance; • Once construction is complete, the lands, roads, and parking lots would be restored to previous conditions; • To minimize potential construction effects on DoD activities, the DoD would be provided timely information regarding the planned construction activities and schedule; • USCG may need to implement temporary safety zones (e.g., foundation locations and/or cable installation vessels) during O&M activities; • Dominion Energy would maintain regular communications and updates with all key national security stakeholders on timing and locations of maintenance activities in order to avoid, minimize, and mitigate impacts; • Dominion Energy would ensure that WTGs and Offshore Substations are properly marked and lighted. Dominion Energy would develop a lighting, marking, and signal plan for review and concurrence by BOEM and the USCG. The plan would be based on consultations with the Fifth Coast Guard District and would conform to applicable Federal laws and regulations. Dominion Energy will present the plan at least 120 days before installation. Dominion Energy will use NPS sustainable lighting best practices where practicable; • Dominion Energy would provide as-built information to the NOAA National Ocean Service to support necessary updates to navigation charts in coordination with other stakeholders as needed; • Dominion Energy would work with the USCG to facilitate training exercises within the Offshore Project Area as requested. Dominion Energy would also provide regular communications and updates with key national security stakeholders on Project-related activities that may affect national security operations; • Dominion Energy would employ helicopters for O&M activities for the transfer of personnel and materials to the Offshore Project Area. Dominion Energy would control Project vessel and helicopter movements through the Control Center to minimize vessel encounters during training operations in and near the Offshore Project Area; • Dominion Project vessels will also send and receive AIS signals for awareness and collision avoidance; • Dominion Energy would communicate with key national stakeholders on the timing and location of O&M activities. Dominion Energy would also follow the USCG establishment of safety zones around O&M activities; and • Dominion Energy intends to coordinate with the SMR 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 to DoD activities and resources during O&M.

Potential Impacts	Avoidance, Minimization, Mitigation, and Monitoring Measures
Marine Energy and Infrastructure	
• Short-term restricted access to sand resources and dredge disposal sites due to the implementation of safety zones; • Short-term disturbance to seafloor, including existing submarine cables; • Short-term increase in vessel traffic during construction; • Short-term noise impacts during construction; • Short-term restricted access in the vicinity of inspection, survey, maintenance, or repair; and • Long-term restricted access for inspection, maintenance, and repairs to existing cables.	• Dominion Energy would provide advance notice of construction and maintenance activities through LNTMs and broadcast LNTMs as well as on the Project website; • Dominion Energy would monitor and control Project vessel movements to minimize impact to sand-borrowing and dredge spoil dumping activities; • Because safety zones would be implemented during construction activities, marine users are expected to be outside of this potential area of effect and are therefore not anticipated to be affected by this temporary disturbance in the Offshore Project Area, other than temporarily being restricted from accessing these areas during construction activities; • Installation of the Offshore Export Cables in proximity to the four existing submarine cables (the BRUSA fiber optic cable, the MAREA fiber optic cable, the DUNANT fiber optic cable, and the Commercial Virginia Offshore Wind Pilot Export Cable) would be coordinated with these asset owners to avoid impacts to any of these critical seabed assets; • All Dominion Project vessels will send and receive AIS signals for awareness and collision avoidance; • Dominion Energy would schedule and track Project-related vessels to best manage congestion and traffic flow in coordination with the USCG and other maritime stakeholders; • Where practical, Project vessels would utilize traffic separation schemes, fairways (should they be developed), and predetermined passage plans consistent with existing waterway uses; • The USCG would publish LNTM and broadcast LNTMs to inform mariners of Project activities in the area. Additionally, a Project website with the operations plan would be updated so that mariners know what work is being done in the various offshore Project locations; • During pile-driving of WTG Monopile Foundations, Dominion Energy would apply monitoring and exclusion zones as appropriate to underwater noise assessments and impact thresholds; • Construction personnel would employ soft starts and shut-down procedures as appropriate to thresholds of noise-emitting survey equipment; soft starts would last 30 minutes at the onset of pile-driving; • Dominion Energy would use commercially and technically available noise-reducing technologies as appropriate and provide marine mammal sighting and reporting training for each specific stage of construction to emphasize individual responsibility for marine mammal awareness and protection; • Dominion Energy would ensure continued engagement with regulatory agencies regarding potential best practices for noise and mitigation; • Should activity be conducted near the Atlantic Ocean Channel and shipping lanes, Dominion Energy would schedule and control Project-related vessels to best manage congestion and traffic flow in coordination with the USCG, as well as DoD exercises and training activities, as appropriate; • Dominion Energy has proactively sited the Offshore Export Cables to avoid active sand borrow sites and disposal sites to the extent practicable in an effort to avoid impacts; and • Dominion Energy would work with the appropriate federal and state agencies to safeguard the export cable assets.

Potential Impacts	Avoidance, Minimization, Mitigation, and Monitoring Measures
Aviation and Radar	

• Short-term interference with airspace and aviation radar systems due to the temporary presence of construction equipment onshore and offshore, as well as transportation of Project Components to the Offshore Project Area;
• Long-term interference with regulated airspace due to the presence of fixed structures (Onshore and Offshore Project Components);
• Long-term interference with regulated aviation radar systems;
• Long-term interference with military radar operations, and
• Long-term interference with HF radar operations
	• Notice Criteria check (14 CFR § 77.9) and/or additional airspace and aviation radar system assessment would be performed to determine whether there are potential airspace impacts and FAA filing is required during the storage or transit of Project materials and Offshore Project Components. FAA coordination for the onshore portion of the project will occur following further detailed engineering of structures, when structure heights have been determined. It is also possible that the DoD would request to be informed through the Informal Review Process for the transit of large materials. Further coordination with the DoD would occur as a result of the findings of the Informal Review Process and any notifications requested by the DoD will be applied to the Project as needed;
	• Dominion Energy would be in direct communication with applicable agencies and personnel to alert the appropriate parties to planned construction movements and actions;
	• All WTG Components and construction equipment would be properly lighted and marked in accordance with FAA's Advisory Circular 70/7460-1M within FAA jurisdiction and beyond, or other methods as deemed required during consultation and as applicable;
	• All aviation operations, including flying routes and altitude, will be aligned with relevant stakeholders including FAA and state and local regulations;
	• Dominion Energy would coordinate with the FAA to make this required change to the airspace as necessary. In addition, all WTGs would be properly lighted and marked in accordance with FAA's Advisory Circular number 70/7460-1M within FAA jurisdiction and beyond;
	• Dominion Energy would continue to engage and coordinate with applicable military contacts to assess and address potential impacts as needed;
	• Dominion Energy would continue to engage and coordinate with applicable owners and operators of these HF radar systems to assess and address potential impacts as needed;
	• All aviation operations, including flying routes and altitude, will be aligned with relevant stakeholders including FAA and state and local regulations;
	• Dominion Energy would enter into a mitigation agreement with DoD to mitigate impacts to the NAS Oceana ASR-11, Norfolk ASR-9, and the Oceana ARSR-4 radar sites. Mitigation measures may include the following:
	  ○ Radar Adverse Impact Mitigation (RAM) to manually adjust radar parameters in the ASR-11 and ARSR-4 radar systems.
	  ○ Curtailment in the event of a National Security Emergency.
	• Dominion Energy would enter into a mitigation agreement with NOAA IOOS to mitigate operational impacts on oceanographic HF radar sites. Mitigation measures may include the following:
	  ○ Installation of supplemental wave and current sensors.

Other Coastal and Marine Resources	
• Short-term change in Project-related vessel traffic; • Short-term displacement of marine users due to the establishment of	• Dominion Energy would take measures to minimize impacts associated with construction vessels, including transiting within existing traffic lanes to the extent feasible, regular communication with stakeholders regarding Project activity, completing construction as quickly as is safely practicable, and limiting vessel activity to necessary transits;

Potential Impacts	Avoidance, Minimization, Mitigation, and Monitoring Measures
safety zones around Project-related vessels and structures; • Short-term interference with access to nearshore and beach area; • Short-term increases in turbidity and water quality; • Short-term disturbance and displacement of local marine wildlife; • Long-term modification of existing uses; • Long-term changes in vessel traffic; • Increase in diving, snorkeling, and other tourism in the wind farm in the Offshore Project Area; and • Increase in recreational fishing (including tournaments) near the WTGs as artificial reefs become established on the WTG and Offshore Substation Jacket Foundations.	• Dominion Energy would continue to coordinate with appropriate personnel from the Navy to ensure construction activities do not conflict with training and testing activities within the Virginia Capes Range Complex, including transits to/from such activities; • Dominion Energy would minimize displacement of other marine users by establishing restricted zones in portions of the Offshore Project Area only for the time required to complete the work; • Dominion Energy would provide frequent and regular updates of construction activity and implemented safety zones to the local marine community through the Project website, social media, and the LNTM and by actively engaging other stakeholders. Impacts to other marine and coastal uses will be short term and localized; • Dominion Energy would minimize the size of safety areas and duration of exclusion to reduce impacts on other users of the area. Dominion Energy is committed to keeping the coastal community informed by providing advance notice of area restrictions and regular updates to the public via local news, onsite signage, social media, and other suitable information outlets; • All Dominion Energy vessel crews would be familiar with practices to avoid and minimize accidental spills as detailed in Dominion Energy's Marine Trash and Debris Prevention Training, Emergency Response Plan, and Oil Spill Response Plan (Appendix Q); • Dominion Energy would avoid and minimize disturbance of wildlife, particularly endangered sea turtles and marine mammals. Avoidance, minimization, and mitigation measures include soft-start pile driving, dedicated marine mammal and sea turtle observers on vessels, and other activities; and • Dominion Energy would minimize and mitigate impacts to other users by notifying local marine users when major maintenance activities are planned and reducing any necessary restriction to the extent that safety precautions allow. The CTV and O&M vessels would use established transit lanes and will not substantially restrict other uses. No measurable impact of vessel traffic is expected.
Public Health and Safety	
• Accidents; • Public access to Project components; • Accidental releases of hazardous materials; • EMF; and • Non-routine emergency events.	• Employees, customers, and vendors engaging in work on the Project would be provided a work environment that would strive to eliminate all injuries and illnesses from recognized hazards through designing, planning, training, and executing safe work BMPs; • Dominion Energy would restrict temporary access along the Inter-Array Cables and Offshore Export Cable construction ROW, the work areas surrounding each Offshore Substation and WTG, and the offshore Trenchless Installation work area to minimize potential impacts to local mariners, including cargo vessels, fishing vessels, recreational vessels, and others. Dominion Energy will provide frequent Project updates on planned work areas, actively engage with maritime stakeholders to communicate the same, and provide information to the USCG for publication in the LNTM; • Public access to all work sites would be limited during construction activities; • The Switching Station and Onshore Substation equipment, including the transformer and shunt reactor, would also contain small amounts of oils, fuel, and other hazardous materials. As described in Appendix A, Safety Management System, each of these pieces of equipment would include secondary containment, as required, in accordance with applicable regulations; • As standard practice, marine vessels involved in construction and O&M of the Project will operate under oil spill prevention and response plans that comply with USCG requirements relating to prevention and

Potential Impacts	Avoidance, Minimization, Mitigation, and Monitoring Measures
	control of oil spills and the discharge of wastes. Secondary containment would be utilized for oils and greases in accordance with all state and federal regulations. Adequate spill response kit(s) will be present on site at the construction port; • The Project would minimize potential impacts through appropriate construction BMPs and compliance with the Project Spill Prevention, Control, and Countermeasures Plan and Oil Spill Response Plan (Appendix Q) that would be provided for agency review and approval prior to construction; • The Project's offshore and onshore cables would be buried to sufficient depths (Inter-Array Cables, Offshore Export Cables, Interconnection Cables, and Onshore Export Cables) or suspended at sufficient heights (Interconnection Cables) to prevent public interaction; • The Switching Station and Onshore Substation would be surrounded by secured perimeter fencing and locked to prevent public access; • Direct access to Project Components will be prohibited and all access points will be locked at all times; • As standard practice, marine vessels involved in O&M of the Project would operate under oil spill prevention and response plans that comply with USCG requirements relating to prevention and control of oil spills and the discharge of wastes. Secondary containment would be utilized for oils and greases in accordance with all state and federal regulations. Adequate spill response kit(s) will be present on site at the construction port; • The Project would minimize potential impacts through appropriate construction BMPs and compliance with the Project Spill Prevention, Control, and Countermeasures Plan and the Oil Spill Response Plan (Appendix Q) that would be provided for agency review and approval prior to construction; • Offshore Export and Inter-Array Cables will be buried beneath the seafloor to the extent possible and therefore will not present an opportunity for interaction with persons coming into close proximity to the submarine cables. Onshore Export and Interconnection Cables will be either buried or run as overhead lines and therefore will not present an opportunity for interaction with persons coming into close proximity to those cables; • For wind speeds beyond the operating range of 6.7 miles per hour (3 meters per second) to 67.1 miles per hour (30 meters per second), the WTG is designed to ramp down power output to ensure safety/protection of the equipment during such conditions (see Section 2, Project Siting and Design Development); • WTG blades would be protected from lightning strike by a receptor at their tip and a conductive cable system leading to the tower and then down to the earth; and • Dominion Energy would have additional O&M safety systems on each WTG to include backup power, FAA- and USCG-compliant aviation and navigation obstruction lighting, fire suppression, and first aid and survival equipment.

QUICK REFERENCE GUIDE

Key Project Terms	Description
Operations and Maintenance Port	Port associated with operations and maintenance activities. Preferred location is in an existing brownfield site at Lambert's Point.
Cable Landing Location	Area where the offshore export cable is spliced and connected to the onshore export cable in a duct bank. Includes Proposed Parking Lot, west of Firing Range at the State Military (SMR).
Cable Protection	Measures to protect cable in instances where sufficient burial is not feasible and/or at existing submarine asset crossings, which can include placement of material, typically stone or rocks on and around the cable.
Foundation	Structure required to secure the wind turbine generator, offshore substation, and other offshore structures vertically—Offshore Substation Jacket Foundation, Wind Turbine Generator (WTG) Monopile Foundation.
Inter-Array Cable	Submarine cable interconnecting the WTGs and Offshore Substation. The cable consists of strings of three-core copper and/or aluminum conductor, with a rated voltage of 72.5 kV and an operating voltage of 66 kV.
Interconnection Cable Route Corridor	Corridor centered on the Interconnection Cable Route from a Common Location north of Harpers Road to the Onshore Substation (located at Fentress) for connection into the grid Point of Interconnection (POI).
Interconnection Cable Route	Interconnection cable route from a Common Location north of Harpers Road to the Onshore Substation (located at Fentress) for connection into the grid (POI).
Lease	Commercial Lease of Submerged Lands for Renewable Energy Development on the Outer Continental Shelf (OCS-A 0483).
Lease Area	Bureau of Ocean Energy Management-designated Renewable Energy Lease Area OCS-A 0483.
Metocean Facilities	Two floating light and detection ranging buoys (FLiDARs) installed in the Lease Area.
Nearshore Trenchless Installation Area	Area between the Offshore Trenchless Installation Punch-Out Location and the Cable Landing Location that includes the beach and dune. Trenchless Installation methods under consideration include horizontal directional drilling and direct steerable pipe thrusting.
Offshore Export Cable(s)	Three 230-kV cable connecting each Offshore Substation to the transition bay at the Cable Landing Location. A single 'cable' consists of a 3-core conductor 230-kV subsea cable, for a total of nine physical cables.
Offshore Export Cable Route	Export cable route from the Offshore Substation in the Lease Area to the Cable Landing Location.
Offshore Export Cable Route Corridor	The overall corridor where the nine Offshore Export Cables will be installed.
Offshore Trenchless Installation Punch-Out	Location where Nearshore Trenchless Installation punches out on the seafloor, located approximately 730 to 3,281 ft (223 to 235 m) from shore. Trenchless Installation methods under consideration include horizontal directional drilling and direct steerable pipe thrusting.
Offshore Project Area	Lease Area and Offshore Export Cable Route Corridor to the Offshore Trenchless Installation Punch-Out location.
Offshore Project Components	The offshore portion of the Project Area to be developed for commercial operation, consisting of 176 to 202 WTGs, three Offshore Substations, Inter-Array Cables located in the Lease Area, and the Offshore Export Cables located within the Offshore Export Cable Route Corridor.
Offshore Substation	Structure that receives the power from the WTGs through the Inter-Array Cables.
Onshore Construction Corridor	Cable Landing Location, Onshore Export Cable Route Corridor, Switching Station, Interconnection Cable Route Corridor, Fentress expansion, construction access roads, and additional area required for construction to install the Onshore Export Cables, Switching Station, and the Interconnection Cables as well as Fentress Substation upgrades to the Onshore Substation for connection into the grid (POI).

Key Project Terms	Description
Onshore Export Cable(s)	230-kV cable connecting the transition bay at Cable Landing Location to a Common Location north of Harper's Road.
Onshore Export Cable Route	Cable route(s) from Cable Landing Location to a Common Location north of Harper's Road.
Onshore Export Cable Route Corridor	Corridor centered on the Onshore Export Cable Route from the Cable Landing Location to a Common Location north of Harpers Road.
Onshore Project Area	Area from Cable Landing Location to the POI. Includes Onshore Export Cable Route, Switching Station, Interconnection Cable Route, and Onshore Substation (Fentress).
Onshore Project Components	The onshore portion of the Project Area to be developed for commercial operation, comprised of the Onshore Export Cable Route, Switching Station, Interconnection Cable Route, and the and the Onshore Substation (Fentress).
Onshore Substation	The facility where the Project will interconnect into the existing grid, or POI, located at existing Dominion Energy Fentress Substation.
Point of Interconnection (POI)	Location(s) where the Project connects into the grid in Chesapeake, Virginia at the Onshore Substation (Fentress).
Preferred Option	Portion of Project Design Envelope that are the preferred options to move forward: 14-MW WTG with power boost, 176 Turbine layout, 208 Inter-Array Cables, 9 Offshore Export Cables, Cable Landing Location at the Proposed Parking Lot, west of the Firing Range at SMR, Interconnection Cable Route 1.
Project	The Coastal Virginia Offshore Wind (CVOW) Commercial Project.
Project Area	The Onshore Project Area and Offshore Project Area.
Scour Protection	Material, typically stone or rocks, placed around/on top of a structure to prevent seabed sediment from being flushed away as a result of water flow.
Seabed Preparation	The preparation of the seabed prior to foundation installation, consisting of removal of soft, mobile, or uneven sediments, the leveling of the seabed, or the installation of a stone or aggregate foundation bed.
Study Area	To be defined specific to resource being assessed when the area differs from the Offshore Project Area, Nearshore Trenchless Installation Area, and Onshore Project Area. Sections will inevitably contain different study areas.
Wind Turbine Generator (WTG)	A machine consisting of a rotor with three blades connected to the nacelle, which contains an electrical generator and other equipment. WTGs transform the kinetic energy created by the rotation of the blades (due to wind energy) into electricity.

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ACRONYMS AND ABBREVIATIONS

°C	degrees Celsius
°F	degrees Fahrenheit
µg	microgram
µm	micrometers
µPa	micropascal
14C-AMS	Carbon-14/Accelerator Mass Spectrometry
AADT	average annual daily traffic
ac	acre
ADLS	Aircraft Detection Lighting System
AGL	above ground level
AIS	Automatic Identification System
ALARP	As Low As Reasonably Practicable
AMAPPS	Atlantic Marine Assessment Program for Protected Species
AOC	Atlantic Ocean Channel
APLIC	Avian Power Line Interaction Committee
ARSR	Air Route Surveillance Radar
ASCE	American Society of Civil Engineers
ASMFC	Atlantic States Marine Fisheries Commission
ASR	Airport Surveillance Radar
AtoN	U.S. Coast Guard Aids to Navigation
AWOIS	NOAA Automated Wreck and Obstruction Information System
BBC	big bubble curtain
BCC	Bird of Conservation Concern
BGEPA	Bald and Golden Eagle Protection Act
BLM	Bureau of Land Management
BMP	best management practices
BOEM	Bureau of Ocean Energy Management
BSB	below seabed
BSEE	Bureau of Safety and Environmental Enforcement
CAA	Clean Air Act
cal BP	calibrated dates before present
CEQ	Council for Environmental Quality
CFR	Code of Federal Regulations
cm	centimeter
CO_2	carbon dioxide
COA	Corresponding Onshore Area

COP	Construction and Operations Plan
CPCN	Certificate of Public Convenience and Necessity
CPP	Coordinated Project Plan
CTV	crew transfer vessel
CVA	Certified Verification Agent
CVOW	Dominion Energy Coastal Virginia Offshore Wind
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
CZMP	Coastal Zone Management Program
dB	decibel
dBA	A-weighted sound level
DIN	dissolved inorganic nitrogen
DIP	dissolved inorganic phosphorus
DMA	Dynamic Management Area
DMME	Virginia Department of Mines Minerals and Energy
DNODS	Dam Neck Ocean Disposal Site
DO	dissolved oxygen
DOAv	Virginia Department of Aviation
DoD	U.S. Department of Defense
DOL	depth of lowering
Dominion Energy	Dominion Energy Virginia
DP	dynamically positioned
DPS	distinct population segments
DSPT	Direct Steerable Pipe Thrusting
DSTBM	direct steerable tunnel boring machine
EFH	essential fish habitat
EJ	environmental justice
EJSCEEN	the EPA's Environmental Justice Screening and Mapping Tool
EMF	Electromagnetic fields
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
ESC	Erosion and Sediment Control
FAA	Federal Aviation Administration
FAST	Fixing America's Surface Transportation
FDR	Facility Design Report
FEMA	Federal Emergency Management Quality
FIN	Fast-41 Initiation Notice
FIR	Fabrication Installation Report

FLO	Fisheries Liaison Officer
FMP	fishery management plan
ft	foot
FT	Federally Threatened
ft/hr	feet per hour
FTE	full-time equivalent
gal	gallon
GARFO	Greater Atlantic Regional Fisheries Office
GBS	Gravity-Based Structure
GHG	greenhouse gas
GIS	geographical information system
GPS	Global Positioning System
GW	gigawatt
ha	hectare
Hampton Roads	Norfolk-Virginia Beach-Newport News
HAP	hazardous air pollutant
HAPC	habitat areas of particular concern
HDD	horizontal directional drilling
HDPE	high-density polyethylene
HF	high frequency
HLV	heavy lift vessel
HMS	Highly Migratory Species
HPOWEB	NCHPO Web Service
HRG	high-resolution geophysical
HVAC	high-voltage alternating-current
HVDC	high-voltage direct-current
Hz	hertz
IAMA	International Association of Marine Aids
IBS	Inner Boundary Structure
IMO	International Maritime Organization
in	inch
IPaC	Information for Planning and Consultation
IPS	Intermediate Peripheral Structure
IS	Interior Structure
ISO	International Organization for Standardization
JUV	jack-up vessel
kHz	kilohertz
km	kilometer

km/h	kilometers per hour
km^2	square kilometers
KOP	Key Observation Point
kV	kilovolt
kW	kilowatt
l	liter
Lease Area	Lease Area OCS-A 0483
Leq	equivalent sound level
LF	low-frequency
LGM	last glacial maximum
LNTM	local notice to mariners
LOS	line of sight
L_{PK}	peak sound pressure level
Lw	sound power level
LWB	local wetland boards
m	meter
m/hr	meters per hour
MABS	Mid-Atlantic Baselines Studies
MAFMC	Mid-Atlantic Fishery Management Council
MARA	Marine Archaeological Resource Assessment
MARCO	Mid-Atlantic Regional Council on the Ocean
MBTA	Migratory Bird Treaty Act
MCL	maximum contaminant level
MCS	Multi-Channel Seismic
MDAT	Marine-life Data and Analysis Team
MF	mid-frequency
mg	milligram
mi	mile
MIS	marine isotope stage
mL	milliliter
mm	millimeter
MMPA	Marine Mammal Protection Act
MSA	Metropolitan Statistical Area
MSD	marine sanitation device
MTBM	microtunnel boring machine
MVA	minimum vectoring altitude
MW	megawatt
n.d.	no date

NAAQS	National Ambient Air Quality Standards
NAS	Naval Air Station
NASO-DNA	Naval Air Station Oceana Dam Neck Annex
Navy	U.S. Navy
NCHPO	North Carolina State Historic Preservation Office
NDBC	National Data Buoy Center
NDZ	no-discharge zone
NEFSC	Northeast Fisheries Science Center
NEPA	National Environmental Policy Act
NHD	National Hydrography Dataset
NHL	National Historic Landmark
NHPA	National Historic Preservation Act
NISIC	National Invasive Species Information Center
NLCD	National Land Cover Database
NLEB	Northern Long-Eared Bat
nm	nautical mile
nm^2	square nautical miles
NMFS	National Marine Fisheries Service
NO_2	nitrogen dioxide
NOAA	National Ocean and Atmospheric Administration
NOI	Notice of Intent
NOS	National Ocean Service
NO_X	nitrogen oxide
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NSAs	noise sensitive area
NSR	New Source Review
NVIC	Navigation and Inspection Circular
NWI	National Wetland Inventory
O&M	operations and maintenance
OBIS	Ocean Biogeographic Information System
OCS	Outer Continental Shelf
OCSLA	Outer Continental Shelf Lands Act
ORF	Norfolk
PAM	Passive Acoustic Monitoring
PAPE	Proposed Area of Potential Effect
PATON	Private Aids to Navigation

PBR	Potential Biological Removal
PDE	Project Design Envelope
PJD	Preliminary Jurisdictional Determination
PJM	Pennsylvania–New Jersey-Maryland
PM_{10}	particulate matter less than 10 microns in diameter
$PM_{2.5}$	particulate matter less than 2.5 microns in diameter
PMT	Portsmouth Marine Terminal
POI	Point of Interconnection
Project	CVOW Commercial Project
PSMMP	Protected Species Mitigation and Monitoring Plan
PSO	Protected Species Observer
PTS	permanent threshold shift
PW	phocids underwater
QMA	Qualified Marine Archaeologist
ROD	Record of Decision
ROV	remotely operated vehicle
ROW	right-of-way
RPS	RPS Ocean Science
RSZ	rotor swept zone
SAFMC	South Atlantic Fishery Management Council
SAR	Stock Assessment Reports
SCC	Virginia State Corporation Commission
SCUBA	self-contained underwater breathing apparatus
SE	State Endangered
SEGB	Southern Expressway and Greenbelt
SEL_{cum}	cumulative sound exposure levels
SERO	Southeast Regional Office
SESEF	Shipboard Electronic Systems Evaluation Facilities
SGCN	Species of Greatest Conservation Need
SGRE	Siemens Gamesa Renewable Energy
SHPO	State Historic Preservation Office
SMA	Seasonal Management Area
SMCS	Southern Migratory Coastal Stock
SMR	State Military Reservation
SMS	Safety Management System
SO_2	sulfur dioxide
SPCC	spill prevention, control, and countermeasures

SPL	sound pressure level
SPL RMS	root mean squared sound pressure level
SPS	Significant Peripheral Structure
ST	State Threatened
SWM	Stormwater Management
SWPPP	Stormwater Pollution Prevention Plan
T&E	Threatened and Endangered
TARA	Terrestrial Archaeological Resources Assessment
TCEQ	Texas Commission on Environmental Quality
TerraSond	TerraSond Ltd.
TEWG	Turtle Expert Working Group
TMDL	total maximum daily load
TMP	Traffic Management Plan
TNC	The Nature Conservancy
TOC	total organic carbon
TRACON	Terminal Radar Approach Control
TSS	total suspended solids
TTS	temporary threshold shift
TUW	sea turtles in water
U.S.C.	U.S. Code
UME	Unusual Mortality Event
USACE	U.S. Army Corps of Engineers
USCG	U.S. Coast Guard
USDA	U.S. Department of Agriculture
USDA NRCS	U.S. Department of Agriculture Natural Resources Conservation Service
USGS	U.S. Geological Survey
UXO	unexploded ordnance
VAC	Virginia Administrative Code
VACAPES	Virginia Capes
VaFWIS	Virginia Fish and Wildlife Information Service
VBHR	Virginia Beach Historical Register
VCEA	Virginia Clean Economy Act
V-CRIS	Virginia Cultural Resource Information System
VCZMP	Virginia Coastal Zone Management Program
VDCR	Virginia Department of Conservation and Recreation
VDEQ	Virginia Department of Environmental Quality
VDH	Virginia Department of Health
VDHR	Virginia Department of Historic Resources

VDOT	Virginia Department of Transportation
VDWR	Virginia Department of Wildlife Resources
VHF	very high frequency
WEA	Wind Energy Area
VIMS	Virginia Institute of Marine Science
VLR	Virginia Landmarks Register
VMRC	Virginia Marine Resources Commission
VMS	Vessel Monitoring System
VNHDE	Virginia Natural Heritage Data Explorer
VOC	volatile organic compound
VPA	Virginia Port Authority
VPD	vehicles per day
VPDES	Virginia Pollutant Discharge Elimination System
VRM	Visual Resource Management
VTR	Vessel Trip Report
WEA	Wind Energy Area
WetCAT	Wetland Condition Assessment Tool
WNAOS	Western North Atlantic Offshore Stock
WTG	wind turbine generator