Appendix M. Seascape, Landscape, and Visual Impact Assessment

M.1. Introduction

This appendix describes the Seascape, Landscape, and Visual Impact Assessment (SLVIA) methodology and key findings that BOEM used to identify the potential impacts of offshore wind structures (wind turbine generators [WTGs] and offshore substations [OSSs]) on scenic and visual resources within the geographic analysis area. This SLVIA methodology applies to any offshore wind energy development proposed for the outer continental shelf (OCS) and incorporates by reference the detailed description of the methodology described in the *Assessment of Seascape, Landscape, and Visual Impacts of Offshore Wind Energy Developments on the Outer Continental Shelf of the United States* (BOEM 2021). Section M.1.1, *Method of Analysis*, describes the specific methodology used to apply the SLVIA methodology to the Construction and Operations Plan (COP) and Section M.3, *Results*, summarizes the wind farm distances, field of view (FOV), noticeable elements, visual contrasts, scale of change, and prominence that contributed to the determination of impact levels for each key observation point (KOP) under the Proposed Action and each of the action alternatives that include modifications to WTG array layouts (Alternatives B, C, and D). An overview map of scenic resources present in the geographic analysis area is included as Attachment M-1, *Scenic Resources Overview Map*. Visual simulations of the Proposed Action alone, other planned offshore wind projects without the Proposed Action, and other offshore wind projects in combination with the Proposed Action are included in Attachment M-2, *Cumulative Visual Simulations*. Visual simulations of Alternatives B, C, and D are included in Attachment M-3, *Visual Simulations of Action Alternatives*. The onshore geographic analysis area includes landfalls, buried onshore export cables, onshore substations, and transmission connections to the electric grid. The visual impacts of onshore components are assessed in Section 3.20, *Scenic and Visual Resources*.

M.1.1 State and Local Codes, Ordinances, and Planning Guidance

State planning documents that refer to scenic resources and visual quality for coastal communities in Virginia and North Carolina within the geographic analysis area are summarized below.

- The Virginia Scenic Rivers Act (Code of Virginia 10.1-400, et seq.) requires all state agencies to "consider the visual, natural, and recreational values of a scenic river in planning and permitting processes," (VDCR 2020) but includes no specific land use or visual controls. A segment of the North Landing River is a Commonwealth-designated Scenic River.
- The State Scenic Highway and Virginia Byways Act of 1966 allows roads "having relatively high aesthetic or cultural value, leading to or within areas of historical, natural or recreational significance" to be designated as a scenic byway (VDOT 2019). The designation does not carry land use of visual impact controls, but instead recognizes roads "controlled by zoning or otherwise, so as to reasonably protect the aesthetic or cultural value of the highway" (Code of Virginia 33.2-406). A segment of Indian River Road crossed by several Project alternatives is a Virginia Byway.

Local land use plans and guidance that address scenic and visual resources include the following:

- Moving Forward City of Chesapeake Comprehensive Plan 2035 (Chesapeake Bay Planning Department 2018) outlines the vision for the City of Chesapeake's physical environment, built environment, and land use for 2023. The plan encourages the location or relocation of utilities underground and recommends working "with private energy providers to plan for high-capacity transmission lines and substations in order to minimize their impact on residences and businesses." (City of Chesapeake 2016; COP, Appendix I-2.3.2; Dominion Energy 2022.)

- PlaNorfolk2030 (City of Norfolk 2021) is the City of Norfolk's comprehensive plan, which serves as a guide for the future physical, social, and economic development and as a basis for land use decisions within the city.
- It's Our Future: A Choice City – City of Virginia Beach Comprehensive Plan (City of Virginia Beach 2020) addresses long-term sustainable and strategic city planning including visual design of new development on the shore and shoreline. The Green Sea Blueway and Greenway Management Plan is a functional component of the Comprehensive Plan that addresses the North Landing River and tributaries and portions of Indian River Road. While the management plan does not establish regulations related to the scenic resources, it treats scenic resources as a contributing factor to environmental protection, agricultural preservation, passive recreation, tourism, growth management, and cultural heritage preservation goals. (City of Virginia Beach 2015.)
- The Imagine Currituck 2040 Vision Plan (Currituck County 2019) satisfies the Coastal Area Management Act requirement to produce and adopt a local land use plan for Currituck County. Geographical areas addressed within the plan relevant to this Project include the Off-Road Area and the Corolla Area.

M.2. Method of Analysis

The SLVIA has two separate but linked parts: seascape, open ocean, and landscape impact assessment (SLIA) and visual impact assessment (VIA). SLIA analyzes and evaluates impacts on both the physical elements and features that make up a landscape, seascape, or open ocean; and the aesthetic, perceptual, and experiential aspects of the landscape, seascape, or open ocean that make it distinctive. These impacts affect the "feel," "character," or "sense of place" of an area of landscape, seascape, or open ocean, rather than the composition of a view from a particular place. In SLIA, the impact receptors (the entities that are potentially affected by the proposed Project) are the seascape/open ocean/landscape itself and its components, both its physical features and its distinctive character.

VIA analyzes and evaluates the impacts on people of adding the proposed development to views from selected viewpoints. VIA evaluates the change to the composition of the view itself and assesses how the people who are likely to be at that viewpoint may be affected by the change to the view. Enjoyment of a particular view is dependent on the viewer, and, in VIA, the impact receptors are people. The inclusion of both SLIA and VIA in the Bureau of Ocean and Energy Management (BOEM) SLVIA methodology is consistent with NEPA's objective of providing Americans with aesthetically and culturally pleasing surroundings and its requirement to consider all potentially significant impacts of development.

The magnitude of effect in a seascape, open ocean, landscape, or view depends on the nature, scale, prominence, and visual contrast of the change and its experiential duration. The SLVIA offshore geographic analysis area consists of the extent of the zone of theoretical visibility and zones of visual influence (COP, Appendix I-1; Dominion Energy 2022), as follows:

- A 40-mile (64.4-kilometer) radius area around the WTGs and OSSs. This distance is the maximum extent within which a seascape, landscape, or visual effect could occur, given visibility of the maximum height of the WTG rotor (869 feet [265 meters]).
- The OSSs (maximum height of 220 feet [67 meters]) would potentially be visible to a distance of 21 miles (33.7 kilometers).

WTG visibility would be variable through the day depending on many factors. View angle, sun angle, and atmospheric conditions would affect the WTG visibility. Visual contrast of WTGs would vary depending on the visual character of the horizon's backdrop and whether the WTGs are backlit, side-lit, or front-lit.

If less visual contrast is apparent in the morning hours, then it is likely that the visual contrast may be more pronounced in the afternoon. The inverse is possible, as well.

When placing WTGs offshore, the visual interplay and contrasting elements in form, line, color, and texture may vary with the ever-changing character of the backdrop. Front-lit WTGs may have strong color contrast against a darker gray sky, giving definition to the WTG vertical form and line contrast to the ocean's horizontal character and the line where the sea meets sky, or visually dissipate against a whiter backdrop created by high levels of evaporative atmospheric moisture during clear sunny days. Partly cloudy skies may create varying degrees of sunlight reflecting off the white color wind turbines, placing some WTGs in the shadow and making them appear darker gray and less conspicuous while highlighting others with a bright white color contrast. The level of noticeability would be directly proportional to the degree of visual contrast and scale of change between the WTGs and the corresponding backdrop.

The magnitude of effect is also influenced by the viewers context including the direction of view, distance between the viewer and the WTGs, and elevation of the viewer. At closer distances, approximately 12 miles or closer, the form of the WTG may be the dominant visual element creating the visual contrast regardless of color. At greater distances, color may become the dominant visual element creating that gives definition to the WTG's form and line. As the elevation of the viewer increases, the less Earth's curvature (EC) screens the visible height of individual WTGs and therefore a greater portion of the WTG is visible.

While the East Coast shoreline has a prevailing eastward viewing direction, localized views may vary from southwest to north-northeast. All cardinal directions are conceivable when viewing from a water vessel while at sea. When viewing from onshore toward a northerly direction and scanning to the south, the color of the horizon backdrop will often vary. Variation will continue as the sun arcs across the sky from sunrise to sunset. Depending on sun angle, the backdrop sky color may have various intensities of white to gray and sky blue to pale blue to dark blue-gray. Partly cloudy to overcast conditions will also influence the color make up of the horizon's backdrop. The sunrise and sunset have varying degrees of light blue to dark blue, light and dark purples intermixed with oranges, yellows, and reds. Partly cloudy skies may increase the remarkable color effects during the sunset and sunrise periods of the day. These variations through the course of the day may result in periods of moderate to major visual effect while at other times of day would have minor or negligible effect.

The visibility variables described above are represented through the visual simulations found in the COP. Table M-1 below identifies the photo simulation for each condition. It should be noted that this EIS analysis treats the potential view at each Key Observation Point represented by the photo simulation as a clear sky day.

Table M-1 Visibility Variables for Key Observation Point Simulations

Visibility Condition	Key Observation Point Photo Simulation
Morning – Back light	KOP 13 Cape Henry Lighthouse
Afternoon – Side light	KOP 22 King Neptune Statue/Boardwalk
Midday – Front light	KOP 31 Picnic Views on Beach at State Military Reservation
Nighttime	KOP 15b North End Beach – Residential View 1 (nighttime) KOP24b Virginia Beach Boardwalk – 16th Street entrance (nighttime)
Sunny and clear	KOP 24a Virginia Beach Boardwalk – 17th Street Park KOP 24d Virginia Beach Boardwalk – 16th Street entrance

Visibility Condition	Key Observation Point Photo Simulation
Overcast and hazy	KOP 15a North End Beach – Residential View 1 KOP 30a Croatan Beach A
Cloudy and rainy	KOP 44 Back Bay National Wildlife Refuge (Little Island Park)

The SLVIA methodology and parameters assessed consider local stakeholders' identity, culture, values, and issues and the understanding of baseline maritime conditions. Project activities for all stages of the Project life cycle (construction and installation, O&M, and decommissioning) are assessed against the environmental baseline to identify the potential interactions between the Project and the seascape, landscape, and viewers. Potential impacts are assessed to determine an impact level consistent with the definitions in Table M-2.

Table M-2 Definitions of Potential Adverse Impact Levels

Impact Level	Historic Properties under Section 106 of the NHPA	Visual Resources
Negligible	No historic properties affected, as defined at 36 CFR 800.4(d)(1).	SLIA: Very little or no effect on seascape/landscape/ocean unit features, elements, or key qualities, either because unit has minimal visibility/susceptibility or lacks value (distinctive character or key features/elements/qualities). VIA: Very little or no effect on viewers experiences, because project visibility/contrast/magnitude of change are minimal, and/or view receptor sensitivity/susceptibility/value is minimal.
Minor	No adverse effects on historic properties could occur, as defined at 36 CFR 800.5(b).	SLIA: The project would introduce features that may have noticeable low to medium levels of visual prominence within the geographic area of an ocean/ seascape/ landscape character unit. The project features may introduce a visual character that is somewhat inconsistent with the character of the unit, which may have minor to medium negative effects to the unit's features, elements, or key qualities, but the unit's features, elements, or key qualities have low susceptibility or value. VIA: The visibility of the project would introduce a small but noticeable to medium level of change to the view's character; have a low to medium level of visual prominence that attracts but may or may not hold the viewer's attention; and have a small to medium effect on the viewer's experience. The viewer receptor sensitivity/ susceptibility/ value is low. If the value, susceptibility, and viewer concern for change is medium or high, then evaluate the nature of the sensitivity to determine if elevating the impact to the next level is justified. For instance, a KOP with a low magnitude of change, but has a high level of viewer concern (combination of susceptibility/value) may justify adjusting to a moderate level of impact.

Impact Level	Historic Properties under Section 106 of the NHPA	Visual Resources
Moderate	Adverse effects on historic properties as defined at 36 CFR 800.5(a)(1) could occur but would be avoided or minimized using a less-impactful scenario contemplated under the PDE.	SLIA: The project would introduce features that would have medium to large levels of visual prominence within the geographic area of an ocean/seascape/landscape character unit. The project would introduce a visual character that is inconsistent with the character of the unit, which may have a moderate negative effect to the unit's features, elements, or the key qualities. In areas affected by large magnitudes of change, the unit's features, elements, or key qualities have low susceptibility and/ or value. VIA: The visibility of the project would introduce a moderate to large level of change to the view's character; may have moderate to large levels of visual prominence that attracts and holds but may or may not dominate the viewer's attention; and has a moderate effect on the viewer's visual experience. The viewer receptor sensitivity/susceptibility/value is medium to low. Moderate impacts are typically associated with medium viewer receptor sensitivity (combination of susceptibility/value) in areas where the view's character has medium levels of change; or low viewer receptor sensitivity in areas where the view's character has large changes. If the value, susceptibility, and viewer concern for change is high, then evaluate the nature of the sensitivity to determine if elevating the impact to the next level is justified.
Major	Adverse effects on historic properties as defined at 36 CFR 800.5(a)(1) could occur; at least some would require mitigation to resolve.	SLIA: The project would introduce features that would have dominant levels of visual prominence within the geographic area of an ocean/seascape/landscape character unit. The project would introduce a visual character that is inconsistent with the character of the unit, which may have a major negative effect to the unit's features, elements, or key qualities. The concern for change (combination of susceptibility/value) to the character unit is high. VIA: The visibility of the project would introduce a major level of character change to the view; will attract, hold, and dominate the viewer's attention; and have a moderate to major effect on the viewer's visual experience. The viewer receptor sensitivity/susceptibility/value is medium to high. If the magnitude of change to the view's character is medium, but the susceptibility or value at the KOP is high, then evaluate the nature of the sensitivity to determine if elevating the impact to major is justified. If the susceptibility and value at the KOP is low in an area where the magnitude of change is large, then evaluate the nature of the sensitivity to determine if lowering the impact to moderate is justified.

M.3. Results

M.3.1 Proposed Action

Atmospheric conditions offshore and near the shoreline limit views more than the typically drier-air conditions in inland areas. Visual simulations from representative viewpoints included as Appendix I-1 to the *Coastal Virginial Offshore Wind Visual Impact Assessment Report* (COP, Appendix I; Dominion Energy 2022) indicate that daytime and nighttime visibility of WTGs would be noticeable to the casual

observer from beach viewpoints. The OSS are not visible from beaches. Although 94-feet of the nearest OSS is visible from the upper floor restaurant of the Marriott Virginia Beach Oceanfront Hotel (KOP-26) it is 30-miles from shore. OSS views are completely obscured from the Cape Henry Lighthouse (KOP-13) and the Currituck Beach Lighthouse (KOP-47). The nearest view beaches are found along Myrtle Island, northwest of the PDE. The farthest view conditions are found along Parramore Island, Virginia, north of the PDE and Corolla Beach, North Carolina, south of the PDE. Distances to the Proposed Action WTG and OSSs array would range from:

- Parramore Island Nature Preserve range from 40 miles (64.4 kilometers) at the nearest WTG to 54.8 miles (88.2 kilometers);
- Myrtle Island Beach range from 23.7 miles (38.14 kilometers) at the northwestern-most WTG to 42 miles (67.5 kilometers) to the southeastern-most WTG; and
- Corolla Beach range from 40 miles (64.4 kilometers) at the nearest WTG to 57.5 miles (92.5 kilometers) on the southern-most WTG.

The noticeable daytime and nighttime elements of the Project's WTGs and their viewshed distances are listed in Table M-3. Each WTG would have two L-864 flashing red obstruction lights on the top of the nacelle, one of which is required to be lit (BOEM 2021). WTGs would have additional intermediate lighting on the tower utilizing low-intensity red flashing (L-810) obstruction lighting (see Section 2.1.1.2, *Offshore Activities and Facilities*). Line-of-sight calculations for onshore viewers (5-foot [1.5-meter] eye level) are based on intervening EC screening (7.98 inches [20.3 centimeters] height per mile). Heights of WTG and substation components are stated relative to MHW and highest astronomical tide (HAT).

Table M-4 and Table M-5 indicate the Proposed Action's effects based on horizontal FOV and vertical FOV, respectively, defined as the extent of the observable landscape seen at any given moment, usually measured in degrees (BOEM 2021). The horizontal FOV for each KOP is listed in COP, Appendix I-1, Attachment I-1-4 (Dominion Energy 2022). FOVs are one of several valid and reliable indicators of the Proposed Action facilities magnitude of impact. Typical human perception extends to 124° in the horizontal axis and 55° in the vertical axis. The nearest shoreline viewers would be 24.1 miles (38.8 kilometers) from the Wind Farm Area. At this distance the EC reduces the observable height of the nearest WTG from 869 feet (265 meters) MHW to 602.3 feet (183.5 meters), resulting in 0.4° and 0.73 percent of the overall view above the horizon. WTGs would further diminish in perceived size with distance and EC.

Table M-3 Heights of Noticeable[1] 16-MW WTG Elements and Substations and Visible Distances[2]

Noticeable Element	Height in Feet (Meters)	Visible Distance[2] in Miles (Kilometers)
Rotor Blade Tip	869 (265) MHW	0–39 (62.8)
Navigation Light	508 (162) MHW	0–30.5 (49.1)
Nacelle	498 (152) MHW	0–30.2 (48.6)
Indicative Hub Height	489 (149) MHW	0–29.9 (48.1)
OSS	177 (54) HAT	0–19.2 (30.9)
Mid-tower Light	244.5 (74.5) MHW	0–22 (35.4)
Yellow Tower Base Color	50 (15) MHHW	0–11.5 (18.5)

[1] Perception of Project elements, from 5.5-foot (1.7 meter) human eye level while standing at mean sea level, involves static distance-related sizes, forms, lines, colors, and textures; variable daytime lighting conditions; variable nighttime light conditions; and variable meteorological conditions.
[2] Based on intervening EC and clear-day conditions.
HAT = highest astronomical tide

Table M-4 Horizontal FOV Occupied by the Proposed Action

Noticeable Element	Width in Miles (Kilometers)	Distance in Miles (Kilometers)	Horizontal FOV	Human FOV	Percent of FOV
Wind Farm	17.8 (28.6)	24.1 (38.8)	36.4°	124°	29%

Table M-5 Vertical FOV Occupied by the Proposed Action

Noticeable Element	Height in Feet (Meters)	Distance in Miles (Kilometers)	Height Above Horizon[1] in Feet (Meters)	Vertical FOV	Human FOV	Percent of FOV
Rotor Blade Tip	869 feet (265) MHW	24.1 (38.8)	569 (173.4)	0.28°	55°	.01%

[1] Based on intervening EC and clear-day conditions.

The visual analysis considers the introduction of WTGs and OSSs to an open ocean baseline. The scale, size, contrast, and prominence of change focuses on the:

- Arrangement of WTGs and OSSs in the view;
- Horizontal FOV and vertical FOV scale of the wind farm array, based on WTG and OSS size and number;
- Position of the array in the open ocean;
- Position of the array in the view; and
- Turbine array's distance from the viewer.

Visibility, character-changing effects, and visual contrasts reduce steadily with distance from the observation point. Visibility, character-changing effects, scale, prominence, and visual contrasts increase with elevated observer position in comparison with the wind farm. Visibility thresholds have been described and rated through the research by Robert Sullivan at the Argonne Nation Laboratory based on WTGs in England. Table M-6 describes Visibility Threshold levels and ratings based on this work. This research along with distance and observer elevation considerations, informed by the VIA simulations (COP, Appendix I-1, Attachment I-1-5; Dominion Energy 2022), EC calculations, horizontal FOV, and vertical FOV in undeveloped open ocean provide the basis for evaluating visibility. The wind farm and nearest WTGs would be:

- Unavoidably dominant features in the view between 0 and 12 miles (0 and 19.3 kilometers) distance;
- Strongly pervasive features between 12 and 20 miles (19.3 and 32.2 kilometers) distance;
- Clearly visible features between 20 and 28 miles (19.3 and 45.1 kilometers) distance;
- Low on the horizon, but persistent features in the view between 28 and 31 miles (45.1 and 49.9 kilometers) distance;
- Intermittently noticed features between 31 and 39.6 miles (49.9 and 63.7 kilometers) distance; and
- Below the horizon beyond 39.6 miles (63.7 kilometers) distance.

Table M-7 lists the wind farm's distances, horizontal FOVs, noticeable features based on their heights and EC, and visual contrasts.

Table M-6 Visibility Threshold Levels

Visibility Rating	Description
Visibility level 1. Visible only after extended, close viewing; otherwise, invisible.	An object/phenomenon that is near the extreme limit of visibility. It could not be seen by a person who was

Visibility Rating	Description
	unaware of it in advance and looking for it. Even under those circumstances, the object can be seen only after looking at it closely for an extended period.
Visibility level 2. Visible when scanning in the general direction of the subject; otherwise, likely to be missed by casual observers.	An object/phenomenon that is very small and/or faint, but when the observer is scanning in the horizon or looking more closely at an area, can be detected without extended viewing. It could sometimes be noticed by casual observers; however, most people would not notice it without some active looking.
Visibility level 3. Visible after a brief glance in the general direction of the study subject and unlikely to be missed by casual observers.	An object/phenomenon that can be easily detected after a brief look and would be visible to most casual observers, but without sufficient size or contrast to compete with major landscape/seascape elements.
Visibility level 4. Plainly visible, so could not be missed by casual observers, but does not strongly attract visual attention or dominate the view because of its apparent size, for views in the general direction of the study subject.	An object/phenomenon that is obvious and with sufficient size or contrast to compete with other landscape/seascape elements, but with insufficient visual contrast to strongly attract visual attention and insufficient size to occupy most of an observer's visual field.
Visibility level 5. Strongly attracts the visual attention of views in the general direction of the study subject. Attention may be drawn by the strong contrast in form, line, color, or texture, luminance, or motion.	An object/phenomenon that is not large but contrasts with the surrounding landscape elements so strongly that it is a major focus of visual attention, drawing viewer attention immediately and tending to hold attention. Has strong contrasts in form, line, color, and texture. In addition, bright light sources and moving objects contribute substantially to drawing viewer attention. The study subject's visual prominence noticeably interferes with views of nearby landscape/seascape elements.
Visibility level 6. Dominates the view because the study subject fills most of the visual field of views in its general direction. Strong contrasts in form, line, color, texture, luminance, or motions may contribute to view dominance.	An object/phenomenon with strong visual contrasts that is so large this is occupies most of the visual field, and views cannot be avoided except by turning one's head more than 45 degrees from a direct view of the object. The phenomenon is the major focus of visual attention, and its large apparent size is a major factor in its view dominance. The study subject's visual prominence noticeably detracts from views of other landscape /seascape elements.

Source: Sullivan et. al 2013.

Visual contrast determinations involve comparisons of characteristics of the seascape, open ocean, and landscape before and after Project implementation. The range of potential contrasts includes strong, moderate, weak, and none (BOEM 2021). The strongest daytime contrasts would result from tranquil and flat seas combined with front-lit WTG towers, nacelles, flickering rotors, and a yellow tower base color against a dark background sky and an undifferentiated foreground. There would be daily variation in WTG color contrast as sun angles change from backlit to front-lit (sunrise to sunset), and the backdrop would vary under different lighting and atmospheric conditions. The weakest daytime contrasts would result from turbulent seas combined with overcast daylight conditions on WTG towers, nacelles, and rotors against an overcast background sky and a foreground modulated by varied landscape elements. The strongest nighttime contrasts would result from dark skies (absent moonlight) combined with navigation lights, activated lighting on the OSSs, mid-tower lights, and Project lighting reflections on low clouds and active (non-reflective) surf, and the dark-sky light dome. The weakest nighttime contrasts would result

from moonlit, cloudless skies; tranquil (reflective) seas; Aircraft Detection Lighting System (ADLS) is not activated (aviation warning lights off); and mid-tower lights on.

The seascape character units, landscape character units, and viewer experiences would be affected by the Proposed Action's noticeable features, applicable distances and FOV extents, open views versus view framing and intervening foregrounds, and form, line, color, and texture contrasts, scale of change, and prominence in the characteristic seascape and landscape. Higher impact levels would stem from unique, extensive, and long-term appearance of strongly contrasting, large, and prominent vertical structures in the otherwise horizontal seascape environment; where structures are an unexpected element and viewer experience is of formerly open views of high-sensitivity seascape and landscape; and from high-sensitivity view receptors.

Viewer experience would change throughout the life cycle of the project. Construction operations involving moving and stationary barges, cranes, and lighting may have a greater visual effect on viewers than operational and decommissioning activities. However, construction impacts would be temporary and include:

- Daytime and nighttime movement of installation vessels, cranes, and other equipment visible in the seascape in and around the Lease Area;
- Dawn, dusk, and nighttime construction lighting on WTGs and OSSs;
- Beach, other sensitive land-based, and boat and cruise ship views of WTGs and OSSs under construction;
- Laying of the offshore and onshore buried export cables and the connections between offshore and onshore export cables near the Croatan Parking Lot east of Lake Christine, within the State Military Reservation; and
- Activities along the onshore landfalls, export cable routes, Harpers Switching Station, and Fentress onshore substations.

Operational effects of the WTGs and transporting crews for maintenance would be long-term and fully reversible.

Proposed Action impacts on high-sensitivity seascape character would be **moderate**. The daytime and nighttime (lighting) presence of the WTGs, OSSs, and construction and O&M vessel traffic would change perception of this area from natural, undeveloped seascape to a developed wind energy environment characterized by plainly visible WTGs with clear sky conditions in the afternoon.

Maintenance activities would cause **minor** effects on seascape character by increased O&M vessel traffic to and from the Wind Farm Area. Increases in these vessel movements would be noticeable to offshore viewers but are unlikely to have a significant effect.

Decommissioning would involve the removal of all offshore structures and is expected to follow the reverse of the construction activity. Decommissioning activities would cause effects similar to those of construction activities.

Viewshed analyses (COP, Appendix I-1; Dominion Energy 2022) determined that clear-weather visibility of the WTGs would occur within the Proposed Action's zone of visual influence. The Proposed Action would be visible along the eastern beaches. The majority of overland visibility would occur between 24 and 28 miles (39 and 45 kilometers) of the Proposed Action over inland bays. Visibility would diminish significantly between 28 and 40 miles (45 and 64 kilometers), contributing to the zone of visual influence. Due to coastal meteorological conditions, Proposed Action daytime views with visibility at

20 nautical miles for 50-percent of the day would occur approximately 20 percent of the year or 66 days per year, approximately 1 out of 5 days.

Daytime lighting of WTGs is not required. Nighttime aviation warning lights create a **major** impact. ADLS report (COP Appendix T; Dominion Energy 2022) indicates that based on historical air traffic data for flights passing through the light activation zone would activate obstruction lights for a total of 25 hours 33 minutes and 49 seconds over a one-year period. March would have the highest proportion of ADLS night lighting activation and September would have the smallest proportion. Considering the local sunrise and sunset times, an ADLS-controlled obstruction lighting system would result in over a 99% reduction in system activated duration as compared to a traditional always-on obstruction lighting system; therefore, greatly reducing the impact levels from **major** to **minor**. Residual impacts would result from the presence of continuously flashing lights, sky light dome, and reflections on clouds during those limited hours. Lights of the three OSSs, when lit for maintenance, would not be visible from beaches and adjoining land during hours of darkness. Lights from the OSS nearest to shore would be visible from the upper floors of the Marriott Virginia Beach Oceanfront Hotel (KOP-26). The nighttime sky light dome and cloud lighting caused by reflections from the water surface may be seen from distances beyond the 40-mile (64-kilometer) geographic analysis area, depending on variable ocean surface and meteorological reflectivity. Onshore substations' nighttime lighting would be visible in their immediate neighborhoods during hours of darkness and similar in degree and extent to existing conditions.

Table M-7 Wind Farm Distances, FOVs, Noticeable Elements, Visual Contrasts, Scale of Change, and Prominence

KOP	Offshore Components Distance in Miles (Kilometers) Onshore Components Distance from Viewer in Feet (Meters)				Proposed Action FOV Degrees (% of 124°) Visual Sim FOV Degrees % of image[1]	Noticeable Elements[2] & Impact Level	Contrast, Scale of Change, and Prominence							
	Proposed Action	Alternative B	Alternative C	Alternative D			Proposed Action Form	Proposed Action Line	Proposed Action Color	Proposed Action Texture	Proposed Action Scale	Proposed Action Prominence[3]	Alternatives B and C	Alternative D
KOP-5 Oyster Village Horse Island Trail	32.6 (52.5)	NA	NA	NA	14° (11%) 35.8%	R **Negligible**	Weak	Weak	Weak	None	Negligible	1	Same as Proposed Action	Same as Proposed Action
KOP-8 Eastern Shore of Virginia NWR	28.2 (45.4)	NA	NA	NA	14° (11%) 25.5%	R, NL, N, and H **Negligible**	Weak	Weak	Weak	Weak	Negligible	1	Same as Proposed Action	Same as Proposed Action
KOP-13 (elevated) Cape Henry Lighthouse	29.1 (46.8)	NA	NA	NA	21° (17%) 48.8%	R, NL, N, and H **Moderate**	Moderate	Moderate	Moderate	Weak	Medium	3	Same as Proposed Action	Same as Proposed Action
KOP-15a Beach Residential 1	28.1 (45.2)	NA	NA	NA	22° (18%) 73.3%	R, NL, N, and H **Minor**	Weak	Weak	Weak	Weak	Small	2	Same as Proposed Action	Same as Proposed Action
KOP-15b Beach Residential – Nighttime	28.1 (45.2)	NA	NA	NA	23° (18.5%) 41.8%	R, NL, N, and H **Major**	Weak	Moderate	Strong	Weak	Small	5	Same as Proposed Action	Same as Proposed Action
KOP-22 Neptune Statue/ V. B. Boardwalk	27.9 (45)	NA	NA	NA	23° (18.5%) 57.5%	R, NL, N, and H **Minor**	Weak	Weak	Moderate	Weak	Small	3	Same as Proposed Action	Same as Proposed Action
KOP-23 National Aviation Monument Park	27.9 (45)	NA	NA	NA	23° (18.5%) 57.5%	R, NL, N, and H **Minor**	Weak	Weak	Weak	Weak	Small	2	Same as Proposed Action	Same as Proposed Action
KOP-24a Virginia Beach Boardwalk – 17th St Park	27.8 (33.9)	NA	NA	NA	23° (18.5%) 60.5%	R, NL, N, and H **Minor**	Moderate	Moderate	Moderate	Weak	Small	4	Same as Proposed Action	Same as Proposed Action
KOP-24b Virginia Beach Boardwalk – 16th Street Nighttime	27.8 (33.9)	NA	NA	NA	23° (18.5%) 54.8%	R, NL, N, and H **Major**	Weak	Moderate	Strong	Weak	Small	5	Same as Proposed Action	Same as Proposed Action
KOP-24d Virginia Beach Boardwalk Fishing Pier	27.6 (44.4)	NA	NA	NA	23° (18.5%) 48%	R, NL, N, and H **Minor**	Moderate	Moderate	Strong	Weak	Small	4	Same as Proposed Action	Same as Proposed Action
KOP-24d Virginia Beach Boardwalk Fishing Pier – Nighttime	27.6 (44.4)	NA	NA	NA	23° (18.5%) 48%	R, NL, N, and H **Major**	Weak	Moderate	Strong	Weak	Small	5	Same as Proposed Action	Same as Proposed Action
KOP-26 (elevated) Marriott Virginia Beach	28 (45)	NA	NA	NA	23° (18.5%) 57.5%	R, NL, N, O, and H **Moderate**	Moderate	Moderate	Moderate	Weak	Medium	4	Same as Proposed Action	Same as Proposed Action
KOP-29 Grommet Island Park	27.7 (44.6)	NA	NA	NA	23° (18.5%) 51%	R, NL, N, and H **Minor**	Weak	Weak	Weak	Weak	Small	2	Same as Proposed Action	Same as Proposed Action
KOP-30a Croatan Beach A – North (cloudy)	27.7 (44.6)	NA	NA	NA	22.5° (18%) 46%	R, NL, N, and H **Minor**	Weak	Weak	Weak	Weak	Small	2	Same as Proposed Action	Same as Proposed Action
KOP-30c Croatan Beach C – South (cloudy)	27.7 (44.6)	NA	NA	NA	22.5° (18%) 35%	R, NL, N, and H **Minor**	Weak	Weak	Weak	Weak	Small	2	Same as Proposed Action	Same as Proposed Action
KOP-31 Picnic Views at State Military Reserve	27.7 (44.6)	NA	NA	NA	22° (18%) 55%	R, NL, N, and H **Minor**	Weak	Weak	Weak	Weak	Small	3	Same as Proposed Action	Same as Proposed Action
KOP-44 Little Island Park (raining)	26.8 (43.1)	NA	NA	NA	26° (21%) 66.7%	R, NL, N, and H **Moderate**[4]	Weak	Weak	Weak	Weak	Small	2	Same as Proposed Action	Same as Proposed Action
KOP-47 Currituck National Wildlife Refuge	34.7 (55.8)	NA	NA	NA	12.5° (10%) 35.7%	R **Negligible**	Weak	Weak	Weak	None	Small	1	Same as Proposed Action	Same as Proposed Action

KOP	Offshore Components Distance in Miles (Kilometers) Onshore Components Distance from Viewer in Feet (Meters)				Proposed Action FOV Degrees (% of 124°) Visual Sim FOV Degrees % of image[1]	Noticeable Elements[2] & Impact Level	Contrast, Scale of Change, and Prominence							
	Proposed Action	Alternative B	Alternative C	Alternative D			Proposed Action Form	Proposed Action Line	Proposed Action Color	Proposed Action Texture	Proposed Action Scale	Proposed Action Prominence[3]	Alternatives B and C	Alternative D
KOP-48 Currituck Beach Lighthouse (elevated)	36.8 (59.2)	NA	NA	NA	22.5° (18%) 55%	R **Minor**	Moderate	Weak	Moderate	Weak	Small	3	Same as Proposed Action	Same as Proposed Action
KOP-49a Whale Head Bay – Residential	36.6 (58.9)	NA	NA	NA	14.5° (12%) 30.2%	R **Negligible**	Weak	Weak	Weak	Weak	Small	1	Same as Proposed Action	Same as Proposed Action
KOP-49g Whale Head Bay – Albacore Street	39.1 (62.9)	NA	NA	NA	9° (7%) 24.3%	R **Negligible**	Weak	Weak	Weak	Weak	Small	1	Same as Proposed Action	Same as Proposed Action
KOP-50 Fishing and Tour Boats	0–40 (0–64)	NA	NA	NA	NA	R, NL, N, H, and Y **Major**	Strong	Strong	Strong	Strong	Large	6	Same as Proposed Action	Same as Proposed Action
KOP-51 Commercial and Cruise Ships	0–40 (0–64)	NA	NA	NA	NA	R, NL, N, H, and Y **Major**	Strong	Strong	Strong	Strong	Large	6	Same as Proposed Action	Same as Proposed Action
Onshore Components														
HF Route 1 KOP-3 Harpers Switching Station	1,000 (304.8)	Same as Prop. Act.	Same as Prop. Act.	NA	NA	SS **Major**	Strong	Strong	Strong	Strong	Large	6	Same as Proposed Action	NA
KOP-5	WPC	Same as Prop. Act.	Same as Prop. Act.	NA	NA	IC **Major**	Strong	Strong	Moderate	Moderate	Large	5	Same as Proposed Action	NA
KOP-10 Fentress Substation	1,056 (231.8)	Same as Prop. Act.	Same as Prop. Act.	NA	NA	S **Major**	Moderate	Moderate	Strong	Moderate	Large	5	Same as Proposed Action	NA
KOP-11	1584 (482.8)	Same as Prop. Act.	Same as Prop. Act.	NA	NA	IC **Moderate**	Moderate	Moderate	Moderate	Moderate	Medium	4	Same as Proposed Action	NA
KOP-12	1584 (482.8)	Same as Prop. Act.	Same as Prop. Act.	NA	NA	IC **Negligible**	None	None	None	None	Not Visible	0	Same as Proposed Action	NA
KOP-13	1,000 (304.8)	Same as Prop. Act.	Same as Prop. Act.	NA	NA	IC **Negligible**	None	None	None	None	Not Visible	0	Same as Proposed Action	NA
KOP-14a	WPC	Same as Prop. Act.	Same as Prop. Act.	NA	NA	IC **Moderate**	Moderate	Major	Moderate	Moderate	Large	4	Same as Proposed Action	NA
KOP-14b	WPC	Same as Prop. Act.	Same as Prop. Act.	NA	NA	IC **Moderate**	Moderate	Moderate	Moderate	Moderate	Large	3	Same as Proposed Action	NA
KOP-17	WPC	Same as Prop. Act.	Same as Prop. Act.	NA	NA	IC **Moderate**	Moderate	Moderate	Moderate	Moderate	Medium	5	Same as Proposed Action	NA
HF Hybrid Route 6 KOP-10 Fentress Substation	1,056 (231.8)	Same as Prop. Act.	Same as Prop. Act.	Same as Prop. Act.	NA	S **Major**	Moderate	Moderate	Strong	Moderate	Large	5	Same as Proposed Action	Same as Proposed Action
KOP-11	1584 (482.8)	Same as Prop. Act.	Same as Prop. Act.	Same as Prop. Act.	NA	IC **Minor**	Minor	Minor	Moderate	Moderate	Medium	3	Same as Proposed Action	Same as Proposed Action
KOP-12	1584 (482.8)	Same as Prop. Act.	Same as Prop. Act.	Same as Prop. Act.	NA	IC **Negligible**	None	None	None	None	Not Visible	0	Same as Proposed Action	Same as Proposed Action
KOP-13	1,000 (304.8)	Same as Prop. Act.	Same as Prop. Act.	Same as Prop. Act.	NA	IC **Negligible**	None	None	None	None	Not Visible	0	Same as Proposed Action	Same as Proposed Action

KOP	Offshore Components Distance in Miles (Kilometers) Onshore Components Distance from Viewer in Feet (Meters)				Proposed Action FOV Degrees (% of 124°) Visual Sim FOV Degrees % of image[1]	Noticeable Elements[2] & Impact Level	Contrast, Scale of Change, and Prominence							
	Proposed Action	Alternative B	Alternative C	Alternative D			Proposed Action Form	Proposed Action Line	Proposed Action Color	Proposed Action Texture	Proposed Action Scale	Proposed Action Prominence[3]	Alternatives B and C	Alternative D
KOP-14a	WPC	Same as Prop. Act.	Same as Prop. Act.	Same as Prop. Act.	NA	IC **Moderate**	Moderate	Major	Moderate	Moderate	Large	4	Same as Proposed Action	Same as Proposed Action
KOP-14b	WPC	Same as Prop. Act.	Same as Prop. Act.	Same as Prop. Act.	NA	IC **Moderate**	Moderate	Moderate	Moderate	Moderate	Large	3	Same as Proposed Action	Same as Proposed Action
KOP-17	WPC	Same as Prop. Act.	Same as Prop. Act.	Same as Prop. Act.	NA	IC **Moderate**	Moderate	Moderate	Moderate	Moderate	Medium	5	Same as Proposed Action	Same as Proposed Action
KOP- 18 Chicory Switching Station	528 (160)	Same as Prop. Act.	Same as Prop. Act.	Same as Prop. Act.	NA	**Moderate**	Not Visible	Not Visible	Not Visible	Not Visible	Not Visible	0	Same as Proposed Action	Same as Proposed Action

[1] Horizontal Field of View is measure both in human visual perspective as a percentage of 124 degrees. The visual simulations (found in CVOW-C COP, Appendix I-1 Attachment I-1-5, Dominion 2022) calculate and illustrate FOV as a percentage of the photographic image.
[2] Noticeable elements: R = rotor, NL = navigation light, N = nacelle, H = hub, O = OSS, M = mid-tower light, Y = yellow tower base color, SS = Switching Station, IC = Interconnecting Cable, S = Substation
[3] WTGs, OSS (onshore), and offshore component visibility based on the visual simulations: 0 = Not visible. 1 = Visible only after extended study; otherwise not visible. 2 = Visible when viewing in general direction of the wind farm; otherwise, likely to be missed by casual observer. 3 = Visible after brief glance in general direction of the wind farm; unlikely to be missed by casual observer. 4 = Plainly visible; could not be missed by casual observer but does not strongly attract visual attention or dominate view. 5 = Strongly attracts viewers' attention to the wind farm, moderate to strong contrasts in form, line, color, or texture, luminance, or motion. 6 = Dominates view; strong contrasts in form, line, color, texture, luminance, or motion fill most of the horizontal FOV or vertical FOV (NAEP 2012).
HF = Harpers to Fentress, WPC = Within Proposed Corridor.

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Table M-8 lists the Proposed Action's noticeable features based on their heights, distances, and EC.

Table M-8 Noticeable Elements and Impacts by Seascape Character Area, Open Ocean Character Area, Landscape Character Areas, and KOP for the Proposed Action

Noticeable Elements[1] Impacts	Seascape Areas, Open Ocean Area, Landscape Areas, and Offshore and Onshore Key Observation Points
R, NL, N, H, O, M, and Y **Major**	SLIA: Open Ocean, Historic Resources (Chesapeake Light Station) KOP-50 Recreational Fishing, Pleasure, and Tour Boat Area KOP-51 Cruise Ship Shipping Lanes
R, NL **Major**	KOP-15b North End Beach – Residential View – Nighttime KOP-24d Virginia Beach Boardwalk – Fishing Pier Nighttime KOP-24a Virginia Beach Boardwalk – 16th Street Entrance Nighttime
R, NL, N, and H **Moderate**	SLIA: Beach, Beachfront Residential, Recreation, Virginia Beach/Tourism, Historic Resources and Disadvantaged Communities, Lower Coastal Plain/Tide Water KOP-13 Cape Henry Lighthouse/Fort Story Military Base KOP-24a Virginia Beach Boardwalk – 17th Street Park KOP-24d Virginia Beach Boardwalk – Fishing Pier KOP-26 Marriott Virginia Beach Oceanfront Hotel KOP-44 Little Island Park/Back Bay National Wildlife Refuge
R, NL, N, and H **Minor**	SLIA: Industrial/Military, Transportation Corridor/Scenic Byways KOP-15a North End Beach – Residential View KOP-22 King Neptune Statue/Boardwalk KOP-23 Naval Aviation Monument Park KOP-29 Grommet Island Park/Boardwalk KOP-30a Croatan Beach A KOP-30b Croatan Beach C KOP-31 Picnic Views at SMR KOP-48 Currituck Beach Lighthouse
Unseen **Negligible**	SLIA: Rural Coastal Plain, Streets and Highways, Inland Bays, Agriculture, Commercial, High Density/Apartment District, Low Density Residential KOP-8 Eastern Shore of Virginia NWR KOP-47 Currituck NWR KOP-49a Whale Head Bay Residential View 4 KOP-49g Whale Head Bay Albacore Street Entrance – Elevated

[1] R = rotor, NL = navigation light, N = nacelle, H = hub, O = OSS, M = mid-tower light, Y = yellow tower base color
SMR = State Military Reservation, NWR = National Wildlife Refuge.

Table M-9 summarizes the Proposed Action's wind farm distance, percent of FOV occupied by the wind farm, and effects on the seascape areas, open ocean area, landscape areas, and KOPs.

Table M-9 Wind Farm Distance Effects by Seascape Character Areas, Open Ocean Character Area, Landscape Character Areas, and KOP for the Proposed Action

Distance in Miles (Kilometers) Effects	Seascape Areas, Open Ocean Area, Landscape Areas, and Offshore and Onshore Key Observation Points
0–40.0 (0–64.4) Dominant/Major to Minor Noticeability	SLIA: Open Ocean Character Area KOP-50 Recreational Fishing, Pleasure, and Tour Boat Area

Distance in Miles (Kilometers) Effects	Seascape Areas, Open Ocean Area, Landscape Areas, and Offshore and Onshore Key Observation Points
5.0–40.0 (8.0–64.4) Dominant/Major to Minor Noticeability	SLIA: Open Ocean Character Area KOP-51 Cruise Ship Shipping Lanes
13 to 28 (20.9 to 45.1) High Noticeability Nighttime Views	SLIA: Historic Resources and Disadvantaged Communities (Chesapeake Light Station) KOP-24d Virginia Beach Boardwalk – Fishing Pier Nighttime KOP-24a Virginia Beach Boardwalk – 16th Street Entrance Nighttime KOP-15b North End Beach – Residential View – Nighttime
24.1 to 27 (38.8 to 43.5) Moderate Noticeability	SLIA: Beach, Beachfront Residential, Recreation, Virginia Beach/Tourism, Historic Resources and Disadvantaged Communities, Lower Coastal Plain/Tide Water KOP-44 Little Island Park/Back Bay National Wildlife Refuge
28 to 29.1 (45.1 to 46.8) Moderate Noticeability Elevated Views	KOP-13 Cape Henry Lighthouse/Fort Story Military Base KOP-26 Marriott Virginia Beach Oceanfront Hotel
27.1 to 31 (43.6 to 49.9) Minor Noticeability	SLIA: Industrial/Military, Transportation Corridor/Scenic Byways KOP-15a North End Beach – Residential View KOP-22 King Neptune Statue/Boardwalk KOP-23 Naval Aviation Monument Park KOP-24a Virginia Beach Boardwalk – 17th Street Park KOP-24d Virginia Beach Boardwalk – Fishing Pier KOP-29 Grommet Island Park/Boardwalk KOP-30a Croatan Beach A KOP-30b Croatan Beach C KOP-31 Picnic Views at SMR
36.8 (59.2) Minor Noticeability Elevated Views	KOP-48 Currituck Beach Lighthouse
31–40.0 (45.1–64.4) Negligible Noticeability	SLIA: Rural Coastal Plain, Streets and Highways, Inland Bays, Agriculture, Commercial, High Density/Apartment District, Low Density Residential KOP-5 Oyster Village Horse Island Trail KOP-8 Eastern Shore of Virginia NWR KOP-47 Currituck NWR KOP-49a Whale Head Bay Residential View 4 KOP-49g Whale Head Bay Albacore Street Entrance – Elevated

SMR = State Military Reservation, NWR = National Wildlife Refuge.

Table M-10 summarizes the Proposed Action's wind farm distance, percent of FOV occupied by the wind farm, and effects on the seascape areas, landscape areas, and KOPs.

Table M-10 Wind Farm Percent of FOV and Effects by Seascape Character Areas, Open Ocean Character Area, Landscape Character Areas, and KOPs for the Proposed Action

Percent (°) of 124° FOV POV[1] Effects	Seascape Areas, Open Ocean Areas, Landscape Areas, and Offshore and Onshore Key Observation Points
100% (124°) to 16% (20°) Dominant/Major to Minor	SLIA: Open Ocean, Historic Resources (Chesapeake Light Station) KOP-50 Recreational Fishing, Pleasure, and Tour Boat Area
41% (51°) to 16% (20°) Dominant/Major to Minor	SLIA: Open Ocean KOP-51 Cruise Ship Shipping Lanes
33% (37.6°) to 29% (36°) Moderate	SLIA: Open Ocean Character Unit
28% (35°) to 20% (25°) Minor	SLIA: Beach, Beachfront Residential, Recreation KOP-44 Little Island Park/Back Bay NWR
20% (25°) to 7% (9°) Minor to Negligible	SLIA: Beachfront Residential, Recreation, Virginia Beach/Tourism, Historic Resources and Disadvantaged Communities, Lower Coastal Plain/Tide Water, Rural Coastal Plain, Industrial/Military, Transportation Corridor/Scenic Byways, Rural Coastal Plain, Streets and Highways, and Inland Bays KOP-5 Oyster Village Hoarse Island Trail KOP-8 Eastern Shore of Virginia NWR KOP-13 Cape Henry Lighthouse KOP-15a North End Beach Residential View 1 KOP-15b North End Beach Residential View 1 nighttime KOP-22 King Neptune Statue/Boardwalk KOP-23 Naval Aviation Monument Park KOP-24a Virginia Beach Boardwalk – 17th Street Park KOP-24b Virginia Beach Boardwalk – 16th Street Entrance nighttime KOP-24d virginal Beach Boardwalk – Fishing Pier & Nighttime KOP-26 Marriott Virginia Beach Oceanfront Hotel KOP-29 Grommet Island Park/Boardwalk KOP-30a Croatan Beach A KOP-30b Croatan Beach C KOP-31 Picnic Views at SMR KOP-47 Currituck Beach Lighthouse KOP-48 Currituck NWR KOP-49a Whale Head Bay Residential View 4 KOP-49g Whale Head Albacore Street Entrance – Elevated

[1] Percent of view.
SMR = State Military Reservation, NWR = National Wildlife Refuge.

Foreground influence assessments, involving the presence of intervening or framing elements and their influence on effects of Project characteristics, are based on each KOP's locale photography and visual simulations (COP, Appendix I; Dominion Energy 2022) and are summarized in Table M-11.

Table M-11 Foreground View Framing and Intervening Elements for the Proposed Action

Foreground Element(s) Influence	Seascape, Open Ocean, Landscape, and Offshore and Onshore Key Observation Points
Open Ocean Negligible Influence	SLIA: Open Ocean, KOP-26 Marriott Oceanfront Hotel KOP-24d Virginia Beach Boardwalk Fishing Pier KOP-24d Virginia Beach Boardwalk Fishing Pier Nighttime KOP-50 Recreational Fishing, Pleasure, and Tour Boat Area KOP-51 Cruise Ship Shipping Lanes
Beach, Dunes, and Ocean Minor Influence	SLIA: Beach, Beachfront Residential, Recreation KOP-15a Beach Residential 1 KOP-15b Beach Residential 1 nighttime KOP-22 Neptune Statue Boardwalk KOP-23 National Aviation Monument Park KOP-24a Virginia Beach Boardwalk 17th Street Park KOP-29 Grommet Island Park KOP-30a Croatan Beach A – North KOP-30c Croatan Beach A – South KOP-31 Picnic Views at SMR KOP-44 Little Island Park KOP-48 Currituck NWR KOP-49a Whale Head Beach Residential KOP-49g Whale Head Beach Albacore Street Entrance
Buildings, Vegetation, and Topography Moderate to Dominant Influence	SLIA: Virginia Beach/Tourism, Historic Resources and Disadvantaged Communities, Lower Coastal Plain/Tide Water, Rural Coastal Plain, Industrial/Military, Transportation Corridor/Scenic Byways, Rural Coastal Plain, Streets and Highways, Inland Bays, Agriculture, Commercial, High Density/Apartment District, Low Density Residential KOP-5 Horse Island Trail KOP-8 Eastern Shore Virginia NWR KOP-13 Cape Henry Lighthouse KOP-24b Virginia Beach Boardwalk 16th Street Entrance Nighttime KOP-48 Currituck Beach Lighthouse *Onshore Components* SLIA: Developed Commercial, Developed Industrial, Developed Recreation, Developed Rural Residential, Developed Suburban, Transportation Corridor, Forested KOP-3 (HF Route 1) KOP-5 (HF Route 1) KOP-10 (HF Routes 1and 6 Hybrid) KOP-11 (HF Route 1and 6 Hybrid) KOP-12 (HF Routes 1 and 6 Hybrid) KOP-13 (HF Routes 1 and 6 Hybrid) KOP-14a (HF Routes 1 and 6 Hybrid) KOP-14b (HF Routes 1 and 6 Hybrid) KOP-17 (HF Routes 1and 6 Hybrid) KOP-18 (HF Route 6 Hybrid)

Foreground Element(s) Influence	Seascape, Open Ocean, Landscape, and Offshore and Onshore Key Observation Points
Buildings, Vegetation, and Topography Minor Influence	*Onshore Components* SLIA: Agriculture/Undeveloped Land, Open Water

SMR = State Military Reservation, NWR = National Wildlife Refuge, HF = Harpers to Fentress.

Proposed Action contrasts in the characteristic seascape and landscape, as perceived in views from each KOP, are based on visual simulations (COP, Appendix I, Attachment I-1-5; Dominion Energy 2022). Seascape unit view contrasts are estimated based on similar open view conditions in ocean environments. Landscape and seascape compatibility and photography conditions for each viewpoint are presented in COP, Appendix I, Attachment I-1-4 (Dominion Energy 2022). The COP landscape and seascape evaluation scale ranges from faint, apparent, conspicuous, and prominent to dominant. No onshore viewpoints would result in either prominent or dominant conditions. Offshore potential viewpoints' evaluations range from faint to dominant. Visual contrast determinations involve comparisons of characteristics of the seascape and landscape before and after Proposed Action implementation. The range of potential contrasts includes strong, moderate, weak, and none. The strongest daytime contrasts would result from tranquil and flat seas combined with sunlit WTG towers, nacelles, flickering rotors, and the yellow tower 50-foot (15.2-meter) base color against a dark background sky and an undifferentiated foreground. The weakest daytime contrasts would result from turbulent seas combined with overcast daylight conditions on WTG towers, nacelles, and rotors against an overcast background sky and a foreground modulated by varied landscape elements. The strongest nighttime contrasts would result from dark skies (absent moonlight) combined with navigation lights, activated lighting on the OSSs, mid-tower lights, and Project lighting reflections on low clouds and active (non-reflective) surf, and the dark-sky light dome. The weakest nighttime contrasts would result from moonlit, cloudless skies, tranquil (reflective) seas, ADLS activation, and only mid-tower lights.

Photographic comparisons of characteristics of the seascape's and landscape's existing conditions and Proposed Action implementation are included in Attachment I-1-5 of COP Appendix I-1 (Dominion Energy 2022) for each of the KOPs in the following summary tables. Visual contrast determinations are listed in Table M-12.

Table M-12. Visual Contrasts to Seascape, Open Ocean, Landscape, and KOPs for the Proposed Action

Contrast Rating Effects	Seascape, Open Ocean, Landscape, and Offshore and Onshore Key Observation Points
Strong Contrasts **Major**	SLIA: Open Ocean Character Area, Beach, Beachfront Residential, Lower Coastal Plain/Tide Water, Recreation, Low Density Residential, Rural Coastal Plain KOP-50 Recreational Fishing, Pleasure, and Tour Boat Area KOP-51 Cruise Ship Shipping Lanes KOP-15b North End Beach Residential View 1 nighttime KOP-24b Virginia Beach Boardwalk – 16th Street Entrance nighttime KOP-24d Virginia Beach Boardwalk – Fishing Pier nighttime *Onshore Components* SLIA: Agriculture/Open Land, Developed – Rural Residential, Forested, and Open Water KOP-3 (HF Routes 1) KOP-4a/b (HF Route 1 and 6 Hybrid)

Contrast Rating Effects	Seascape, Open Ocean, Landscape, and Offshore and Onshore Key Observation Points
Moderate Contrasts **Moderate**	SLIA: Historic Resources and Disadvantaged Communities (Chesapeake Light Station), Industrial/Military, Virginia Beach/Tourism, Low Density Residential, Transportation Corridor/Scenic Byway KOP-13 Cape Henry Lighthouse KOP-24a Virginia Beach Boardwalk – 17th Street Park KOP-26 Marriott Virginia Beach Oceanfront Hotel *Onshore Components* SLIA: Developed – Suburban KOP-5 (HF Routes 1) KOP-14b (HF Routes 1 and 6) KOP-17 (HF Routes 1 and 6)
Weak Contrasts **Minor**	SLIA: Agriculture, Commercial, Inland Bay, Streets and Highways, High Density Residential KOP-15a North End Beach Residential View 1 KOP-22 King Neptune Statue/Boardwalk KOP-23 Naval Aviation Monument Park KOP-29 Grommet Island Park/Boardwalk KOP-30a Croatan Beach A KOP-30b Croatan Beach C KOP-31 Picnic Views at SMR KOP-44 Little Island Park (raining) KOP-48 Currituck Beach Lighthouse *Onshore Components* SLIA: Developed – Industrial, Transportation Corridor, Developed Recreation Area KOP-10 (HF Routes 1 and 6) KOP-11 (HF Route 1and 6) KOP-14a (HF Routes 1 and 6)
None (No Contrasts) **Negligible**	KOP-5 Oyster Village Hoarse Island Trail KOP-8 Eastern Shore of Virginia NWR KOP-47 Currituck NWR KOP-49a Whale Head Bay Residential View 4 KOP-49g Whale Head Albacore Street Entrance – Elevated *Onshore Components* KOP-12 (HF Routes 1 and 6) KOP-13 (HF Routes 1 and 6) KOP-18 (HF Route 6)

SMR = State Military Reservation, NWR = National Wildlife Refuge.

Table M-13 summarizes Proposed Action impacts on the seascape character areas, open ocean character area, landscape character areas, and viewer experience (KOP locations) throughout the geographic analysis area. The seascape, open ocean, landscape, and viewer experience criteria listed in Table M-2 and consideration of the preceding assessments would result in impact levels to viewer experience for KOPs as shown in Table M-14.

Table M-13 Proposed Action Impact on Seascape Character, Open Ocean Character, Landscape Character, and Viewer Experience

Impact Level	Seashore Character Areas, Open Ocean, Landscape Character Areas, and Offshore and Onshore Key Observation Points
Major	SLIA: Open Ocean Character Area, KOP-50 Recreational Fishing, Pleasure, and Tour Boat Area KOP-51 Cruise Ship Shipping Lanes *Onshore Components* SLIA: Agriculture/Open Land, Developed – Rural Residential, Developed – Suburban, Forested, and Open Water KOP-3 (HF Routes 1) KOP-5 (HF Routes 1)
Moderate	SLIA: Open Ocean (around Chesapeake Light Station), Beach, Beachfront Residential, Lower Coastal Plain/Tide Water, Historic Resources/Disadvantaged Communities, Recreation, Low Density Residential, Rural Coastal Plain, Virginia Beach/Tourism VIA KOP-13 Cape Henry Lighthouse/Fort Story Military Base KOP-15a North End Beach – Residential View KOP-15b North End Beach – Residential View – Nighttime KOP-22 King Neptune Statue/Boardwalk KOP-23 Naval Aviation Monument Park KOP-24d Virginia Beach Boardwalk – Fishing Pier KOP-24d Virginia Beach Boardwalk – Fishing Pier Nighttime KOP-24a Virginia Beach Boardwalk – 17th Street Park KOP-24a Virginia Beach Boardwalk – 16th Street Entrance Nighttime KOP-26 Marriott Virginia Beach Oceanfront Hotel KOP-29 Grommet Island Park/Boardwalk KOP-30a Croatan Beach A KOP-30b Croatan Beach C KOP-31 Picnic Views at SMR KOP-44 Little Island Park/Back Bay NWR *Onshore Components* SLIA: Transportation Corridor KOP-14a/b (HF Routes 1 and 6) KOP-17 (HF Routes 1and 6) KOP-18 (HF Route 6)
Minor	SLIA: Industrial/Military, Commercial, Inland Bay, Transportation/Scenic Byways VIA: KOP-47 Currituck Beach Lighthouse KOP-48 Currituck NWR KOP-49a Whale Head Bay Residential View 4 KOP-49g Whale Head Bay Albacore Street Entrance – Elevated *Onshore Components* *SLIA:* Developed – Industrial, Developed – Commercial, Developed Recreation Area KOP-11 (HF Route 1and 6)

Impact Level	Seashore Character Areas, Open Ocean, Landscape Character Areas, and Offshore and Onshore Key Observation Points
Negligible	SLIA: Agriculture, Streets and Highways, High Density Residential, Military (inland) KOP-5 Oyster Village Horse Island Trail KOP-8 Eastern Shore of Virginia NWR *Onshore Components* KOP-12 (HF Routes 1 and 6) KOP-13 (HF Routes 1 and 6)

SMR = State Military Reservation, NWR = National Wildlife Refuge, HF = Harpers to Fentress.

Table M-14 Impact Levels on Viewer Experience for the Proposed Action

Impact Level	Seashore Character Units, Open Ocean Unit, Landscape Character Units, and Offshore and Onshore Key Observation Points
Major	SLIA: Open Ocean Character Area, KOP-50 Recreational Fishing, Pleasure, and Tour Boat Area KOP-51 Cruise Ship Shipping Lanes *Onshore Components* SLIA: Agriculture/Open Land, Developed – Rural Residential, Developed – Suburban, Forested, and Open Water KOP-3 (HF Routes 1) KOP-5 (HF Routes 1)
Moderate	SLIA: Open Ocean (around Chesapeake Light Station), Beach, Beachfront Residential, Lower Coastal Plain/Tide Water, Historic Resources/Disadvantaged Communities, Recreation, Low Density Residential, Rural Coastal Plain, Virginia Beach/Tourism VIA KOP-13 Cape Henry Lighthouse/Fort Story Military Base KOP-15a North End Beach – Residential View KOP-15b North End Beach – Residential View – Nighttime KOP-22 King Neptune Statue/Boardwalk KOP-23 Naval Aviation Monument Park KOP-24d Virginia Beach Boardwalk – Fishing Pier KOP-24d Virginia Beach Boardwalk – Fishing Pier Nighttime KOP-24a Virginia Beach Boardwalk – 17th Street Park KOP-24a Virginia Beach Boardwalk – 16th Street Entrance Nighttime KOP-26 Marriott Virginia Beach Oceanfront Hotel KOP-29 Grommet Island Park/Boardwalk KOP-30a Croatan Beach A KOP-30b Croatan Beach C KOP-31 Picnic Views at SMR KOP-44 Little Island Park/Back Bay NWR *Onshore Components* SLIA: Transportation Corridor KOP-14a/b (HF Routes 1 and 6) KOP-17 (HF Routes 1, and 6) KOP-18 (HF Route 6)

Impact Level	Seashore Character Units, Open Ocean Unit, Landscape Character Units, and Offshore and Onshore Key Observation Points
Minor	SLIA: Industrial/Military, Commercial, Inland Bay, Transportation/Scenic Byways, VIA: KOP-47 Currituck Beach Lighthouse KOP-48 Currituck NWR KOP-49a Whale Head Bay Residential View 4 KOP-49g Whale Head Bay Albacore Street Entrance – Elevated *Onshore Components* *SLIA:* Developed – Industrial, Developed – Commercial, Developed Recreation Area KOP-11 (HF Route 1and 6)
Negligible	SLIA: Agriculture, Streets and Highways, High Density Residential, Military (inland) KOP-5 Oyster Village Horse Island Trail KOP-8 Eastern Shore of Virginia NWR *Onshore Components* KOP-12 (HF Routes 1 and 6) KOP-13 (HF Routes 1 and 6)

M.3.1.1. Reasonably Foreseeable Planned Actions

NEPA requires consideration of other reasonably foreseeable activities in the Project's viewshed and the Project's incremental effects on seascape character, open ocean character, landscape character, and viewer experience. These effects include direct physical effects on the seascape, open ocean, and landscape or changes to the distinct character of the seascape, open ocean, and landscape.

Effects on seascape character, open ocean character, and landscape character can occur in the following conditions (BOEM 2021, Chapter 8):

- Multi-project WTGs and OSS visible within or from the open ocean character unit as overlapping or adjacent features and elements
- Multi-project WTGs and OSS visible from seascape character units as overlapping or adjacent features and elements
- Multi-project WTGs and OSS visible from landscape character units as overlapping or adjacent features and elements

Effects on viewer experience can occur in the following conditions (BOEM 2021 Chapter 8):

- Multi-project WTGs and OSS visible as overlapping features and elements
- Multi-project WTGs and OSS visible as adjacent features and elements
- Multi-project WTGs and OSS visible as viewers move through the seascape, open ocean, and landscape

Attachment M-2 presents simulations of the incremental effects of the Project in the context of other planned wind farms.

Consideration of effects of other planned wind farms on seascape character, open ocean character, and landscape character is listed in Table M-15.

Consideration of effects on viewer experience of other planned wind farms is listed in Table M-16.

Consideration of effects on seascape character, open ocean character, and landscape character of other planned wind farms in combination with the Proposed Action is listed in Table M-17.

Consideration of effects on viewer experience of other planned wind farms in combination with the Proposed Action is listed in Table M-18.

Table M-15 Other Planned Wind Farms' Seascape, Open Ocean, and Landscape Units Cumulative Wind Farm Distances, FOVs, Noticeable Elements, Visual Contrasts, Scale of Change, and Prominence

	Character Unit		
	Seascape (Beaches)[1]	**Open Ocean**	**Landscape[4]**
Distance in miles (kilometers)			
Kitty Hawk	28 (45)	0 to 42.5 (0 to 68.4)	Variable to 42.5 (68.4)
Kitty Hawk South	37 (59.5)	0 to 42.5 (0 to 68.4)	Variable to 42.5 (68.4)
FOV Degrees (1% of 124°)	35° (28%)	82° to 360° (66 to 290%)	35° (28%)
Noticeable Elements[2] & Impact Level	R, NL, N, H **Moderate**	R, NL, N, H, O, M, and Y **Major**	R, NL, N, H **Minor**
Contrast, scale of change, and prominence			
Form	Moderate to Weak	Strong	Moderate to Weak
Line	Moderate to Weak	Strong	Moderate to Weak
Color	Strong to Weak	Strong	Moderate to Weak
Texture	Weak	Strong	Weak
Scale	Small	Large	Small
Prominence[3]	3	6	3

[1] The most conservative onshore case involves the seaward edge of the beach nearest the projects. The seascape unit edge is 3.45 miles (5.6 kilometers) offshore (New Jersey jurisdictional boundary).
[2] Noticeable elements: R = rotor, NL = navigation light, N = nacelle, H = hub, O = OSS, M = mid-tower light, Y = yellow tower base color
[3] WTGs and OSS Prominence (visibility): 0 = Not visible. 1 = Visible only after extended study; otherwise not visible. 2 = Visible when viewing in general direction of the wind farm; otherwise, likely to be missed by casual observer. 3 = Visible after brief glance in general direction of the wind farm; unlikely to be missed by casual observer. 4 = Plainly visible; could not be missed by casual observer but does not strongly attract visual attention or dominate view. 5 = Strongly attracts viewers' attention to the wind farm; moderate to strong contrasts in form, line, color, or texture, luminance, or motion. 6 = Dominates view; strong contrasts in form, line, color, texture, luminance, or motion fill most of the horizontal FOV or vertical FOV (NAEP 2012).
[4] The seaward edge between landscape and seascape varies. The most conservative case is a 1.0-mile (1.6-kilometer) distance from the seaward beach edge.

Table M-16 Other Planned Wind Farms' Cumulative Viewer Experience Wind Farm Distances, FOVs, Noticeable Elements, Visual Contrasts, Scale of Change, and Prominence

	KOP[1]				
	KOP-26	**KOP-31**	**KOP-45**	**KOP-47**	**KOP-49a**
Distance in miles (kilometers)					
Kitty Hawk	45.9 (73.8)	43.0 (69.2)	33.2 (53.4)	28.3 (45.5)	27.9 (44.9)
Kitty Hawk South	54.0 (86.9)	52.9 (85.1)	43.5 (70.0)	38.5 (62.0)	38.2 (61.5)

	KOP[1]				
	KOP-26	**KOP-31**	**KOP-45**	**KOP-47**	**KOP-49a**
Cumulative FOV Degrees (% of 124°)	9° (50%)	9° (50%)	13° (11%)	24° (19%)	24° (19%)
Noticeable Elements[2] & Impact Level	R, NL, N, H **Moderate**	Not Visible **Negligible**	R **Minor**	R, NL, N, H, M, O **Moderate**	R, NL, N, H **Minor**
Contrast, scale of change, and prominence					
Form	Moderate	Not Visible	Weak	Moderate	Weak
Line	Moderate	Not Visible	Weak	Moderate	Weak
Color	Moderate	Not Visible	Weak	Moderate	Weak
Texture	Weak	Not Visible	Weak	Moderate	Weak
Scale	Medium	Not Visible	Small	Medium	Small
Prominence[3]	3	0	1	4	3

[1] KOP-26 Marriott Virginia Beach Oceanfront Hotel, KOP-31 Picnic/Beach Views at State Military Reserve; KOP-45 False Cape State Park, KOP-47 Currituck Beach Lighthouse; KOP-49a Whale Head Bay Residential Area.
[2] Noticeable elements: R = rotor, NL = navigation light, N = nacelle, H = hub, O = OSS, M = mid-tower light, Y = yellow tower base color
[3] WTGs and OSS (onshore) visibility: 0 = Not visible. 1 = Visible only after extended study; otherwise not visible. 2 = Visible when viewing in general direction of the wind farm; otherwise, likely to be missed by casual observer. 3 = Visible after brief glance in general direction of the wind farm; unlikely to be missed by casual observer. 4 = Plainly visible; could not be missed by casual observer but does not strongly attract visual attention or dominate view. 5 = Strongly attracts viewers' attention to the wind farm; moderate to strong contrasts in form, line, color, or texture, luminance, or motion. 6 = Dominates view; strong contrasts in form, line, color, texture, luminance, or motion fill most of the horizontal FOV or vertical FOV (NAEP 2012).

Table M-17 CVOW-C and Other Planned Wind Farms' Seascape, Open Ocean, and Landscape Units Cumulative Wind Farm Distances, FOVs, Noticeable Elements, Visual Contrasts, Scale of Change, and Prominence

	Character Unit		
	Seascape (Beaches)[1]	**Open Ocean**	**Landscape[4]**
Distance in miles (kilometers)			
Proposed Action	23.7 (38.14)	0 to 40 (0 to 64.4)	Variable to 40 (64.4)
Alternative B	Same as Proposed Action	Same as Proposed Action	Same as Proposed Action
Alternative C	Same as Proposed Action	Same as Proposed Action	Same as Proposed Action
Alternative D-1 and D-2	Same as Proposed Action	Same as Proposed Action	Same as Proposed Action
Kitty Hawk North	28 (45)	0 to 42.5 (0 to 68.4)	Variable to 42.5 (68.4)
Kitty Hawk South	37 (59.5)	0 to 42.5 (0 to 68.4)	Variable to 42.5 (68.4)
FOV Degrees (% of 124°)	92° (74%)	92° to 124° (74 to 100%)	85° (68%)
Noticeable Elements[2] & Impact Level	R, NL, N, H **Moderate**	R, NL, N, H, O, M, and Y to R **Major**	R, NL, N, H **Moderate**

	Character Unit		
	Seascape (Beaches)[1]	**Open Ocean**	**Landscape[4]**
Contrast, Scale of Change, and Prominence			
Form	Moderate to Weak	Strong	Moderate to Weak
Line	Moderate to Weak	Strong	Moderate to Weak
Color	Moderate to Weak	Strong	Moderate to Weak
Texture	Weak	Strong	Weak
Scale	Small	Large	Small
Prominence[3]	4	6	4

[1] The most conservative onshore case involves the seaward edge of the beach nearest the projects. The seascape unit edge is 3.45 miles (5.6 kilometers) offshore (New Jersey jurisdictional boundary).
[2] Noticeable elements: R = rotor, NL = navigation light, N = nacelle, H = hub, O = OSS, M = mid-tower light, Y = yellow tower base color
[3] WTGs and OSS (onshore) visibility: 0 = Not visible. 1 = Visible only after extended study; otherwise not visible. 2 = Visible when viewing in general direction of the wind farm; otherwise, likely to be missed by casual observer. 3 = Visible after brief glance in general direction of the wind farm; unlikely to be missed by casual observer. 4 = Plainly visible; could not be missed by casual observer but does not strongly attract visual attention or dominate view. 5 = Strongly attracts viewers' attention to the wind farm; moderate to strong contrasts in form, line, color, or texture, luminance, or motion. 6 = Dominates view; strong contrasts in form, line, color, texture, luminance, or motion fill most of the horizontal FOV or vertical FOV (NAEP 2012).
[4] The seaward edge between landscape and seascape varies.

Table M-18 CVOW-C and Other Planned Wind Farms' Cumulative Viewer Experience Wind Farm Distances, FOVs, Noticeable Elements, Visual Contrasts, Scale of Change, and Prominence

	KOP[1]				
	KOP-26	**KOP-31**	**KOP-45**	**KOP-47**	**KOP-49a**
Distance in miles (kilometers)					
Proposed Action	28.0 (45.0)	27.6 (44.4)	27.1 (43.6)	36.8 (59.2)	39.1 (62.9)
Alternative B	Same as Proposed Action	Same as Proposed Action	Same as Proposed Action	Same as Proposed Action	Same as Proposed Action
Alternatives C	Same as Proposed Action	Same as Proposed Action	Same as Proposed Action	Same as Proposed Action	Same as Proposed Action
Alternative D-1 and D-2	Same as Proposed Action	Same as Proposed Action	Same as Proposed Action	Same as Proposed Action	Same as Proposed Action
Kitty Hawk	45.9 (73.8)	43.0 (69.2)	33.2 (53.4)	28.3 (45.5)	27.9 (44.9)
Kitty Hawk South	54.0 (86.9)	65 (52.4)	43.5 (70.0)	38.5 (62.0)	38.2 (61.5)
Cumulative FOV Degrees (1% of 124°)	61° (50%)	64° (52%)	85° (68%)	76° (61%)	84° (68%)
Noticeable Elements[2] & Impact Level	R, NL, N, H **Major**	R, NL, N, H **Minor**	R, NL, N, H **Moderate**	R, NL, N, H **Moderate**	R, NL, N, H **Minor**
Contrast, scale of change, and prominence					
Form	Moderate	Weak	Moderate	Moderate	Weak

	KOP[1]				
	KOP-26	**KOP-31**	**KOP-45**	**KOP-47**	**KOP-49a**
Line	Moderate	Weak	Moderate	Moderate	Weak
Color	Moderate	Weak	Moderate	Moderate	Weak
Texture	Weak	Weak	Moderate	Moderate	Weak
Scale	Medium	Small	Medium	Medium	Small
Prominence[3]	4	3	4	4	3

[1] KOP-26 Marriott Virginia Beach Oceanfront Hotel, KOP-31 Picnic/Beach Views at State Military Reserve; KOP-45 False Cape State Park, KOP-47 Currituck Beach Lighthouse; KOP-49a Whale Head Bay Residential Area.
[2] Noticeable elements: R = rotor, NL = navigation light, N = nacelle, H = hub, O = OSS, M = mid-tower light, Y = yellow tower base color
[3] WTGs and OSS (onshore) visibility: 0 = Not visible. 1 = Visible only after extended study; otherwise not visible. 2 = Visible when viewing in general direction of the wind farm; otherwise, likely to be missed by casual observer. 3 = Visible after brief glance in general direction of the wind farm; unlikely to be missed by casual observer. 4 = Plainly visible; could not be missed by casual observer but does not strongly attract visual attention or dominate view. 5 = Strongly attracts viewers' attention to the wind farm; moderate to strong contrasts in form, line, color, or texture, luminance, or motion. 6 = Dominates view; strong contrasts in form, line, color, texture, luminance, or motion fill most of the horizontal FOV or vertical FOV (NAEP 2012).

M.3.2 Impacts of Alternatives B and C on Scenic and Visual Resources

Visual contrast assessments and form, line, color, and texture comparisons of characteristics of the seascape, open ocean, and landscape before and after implementation of Alternatives B and C are indicated in Table M-7. The difference in contrasts between Alternatives B and C and the Proposed Action due to the removal of between 29 and 34 14-megawatt (MW) WTG positions from the northern end of the Lease Area would have a minor effect on visual resources. Table M-19 and Table M-20 list Alternative B and C wind farm width-, height-, and distance-related occupation of views from the nearest shoreline area. Distance and FOV comparisons with the Proposed Action indicate similar effects. These results indicate perceptible changes to the FOV results compared to the Proposed Action would be minor (Table M-19 and Table M-20).

Table M-19 Horizontal FOV Occupied by Alternatives B and C

Noticeable Element	Width[1] in Miles (Kilometers)	Distance[2] in Miles (Kilometers)	Horizontal FOV	Human FOV	Percent of FOV
14-MW WTGs	17.8 (28.6)	24.1 (38.8)	36.4°	124°	29%

[1] Maximum extent of the wind farm array.
[2] Nearest onshore distance to the wind farm array.

Table M-20 Vertical FOV Occupied by Alternatives B and C

Noticeable Element	Height in Feet (Meters) MHW	Distance in Miles (Kilometers)	Visible Height[1] in Feet (Meters)	Vertical FOV	Human FOV	Percent of FOV
Hub Up	836 (255)	24.1 (38.8)	586 (178.6)	0.26°	55°	0.01%

[1] Based on intervening EC, clear-day, and clear-night conditions.

M.3.2.1. Conclusion

M.3.3 Impacts of Alternative D on Scenic and Visual Resources

Visual contrast assessments include form, line, color, and texture comparisons of characteristics of the seascape, open ocean, and landscape before and after implementation of Alternative D are indicated in Table M-7. There would be a substantial difference in contrasts between Alternative D and the Proposed Action due to the undergrounding of 4.5 miles (7.2 kilometers) of Transmission Corridor and constructing the Chicory Switching Station instead of the Harpers Switching Station. The Interconnection Cable Route 6 (Hybrid) would follow Interconnection Cable Route 1 in its entirety but would remain underground between Harpers Road and the Chicory Switching Station site in Virginia Beach. This would avoid visual impacts on an area of suburban residential development (Castleton and Pine Ridge) at the eastern end of the route. The Chicory Switching Station would replace primarily forested areas adjacent to a Transportation Corridor (Princess Anne Road—a multi-lane divided highway flanked by forest). Existing ROW within or near the subdivisions would be expanded to accommodate the underground portion of the route, but no new structures would be built in these areas. The northern edge of the Chicory Switching Station could be visible from adjacent subdivisions, across an existing transmission ROW and through trees along the facility's northern boundary. As a result, Interconnection Cable Route 6 would have lower impacts on suburban residential Landscape Character Units than other alternatives.

M.4. SLIA Summary

SLIA considers the impacts on the physical elements and features that make up a seascape, open ocean, or landscape and the aesthetic, perceptual, and experiential aspects of the seascape, open ocean, or landscape that contribute to its distinctive character. These impacts affect the "feel," "character," or "sense of place" of an area of seascape, open ocean, or landscape. Table M-21 summarizes the effects of the character of the offshore and onshore components of the Project with the aspects that contribute to the distinctive character of the seascape, open ocean, and landscape areas from which the Project would be visible (BOEM 2021).

M.5. VIA Summary

The VIA considers the characteristics of the view receptor, characteristics of the view toward the Project facilities, and experiential impacts of the Project. Table M-22 summarizes the viewer sensitivity, view receptor susceptibility, view value, and summary of the measures of effects from the visible character and magnitude of the offshore and onshore components of the Project (BOEM 2021).

Table M-21 Seascape Character, Open Ocean Character, Landscape Character and Impact Levels

Character Unit	Affected Environment						Proposed Action															Impact Levels					
	Unit Susceptibility			Unit Value			Project Visibility				Character Key Feature Change			Character Key Element Change			Character Key Quality Change			Proposed Action				Alternatives B and C
	High	Medium	Low	High	Medium	Low	Major	Moderate	Minor	Negligible	High	Medium	Low	High	Medium	Low	High	Medium	Low	Major	Moderate	Minor	Negligible	Impact Level
Open Ocean	X			X			X				X			X			X			X				Same as Proposed Action
Open Ocean – Historic Resources (Chesapeake Light Station Area)		X		X			X					X			X			X			X				Same as Proposed Action
Seascape Character Areas																											
Beach	X			X				X			X			X			X				X				Same as Proposed Action
Beachfront Residential	X			X				X			X			X			X				X				Same as Proposed Action
Historic Resources and Disadvantages Communities	X			X				X				X			X			X			X				Same as Proposed Action
Industrial/ Military		X		X					X			X			X			X				X			Same as Proposed Action
Inland Bay	X			X						X			X			X			X				X			Same as Proposed Action
Lower Coastal Plain/ Tide Water	X			X				X			X			X			X				X				Same as Proposed Action

Character Unit	Affected Environment						Proposed Action														Impact Levels				
	Unit Susceptibility			Unit Value			Project Visibility				Character Key Feature Change			Character Key Element Change			Character Key Quality Change				Proposed Action				Alternatives B and C
	High	Medium	Low	High	Medium	Low	Major	Moderate	Minor	Negligible	High	Medium	Low	High	Medium	Low	High	Medium	Low		Major	Moderate	Minor	Negligible	Impact Level
Recreation	X			X				X			X			X			X					X			Same as Proposed Action
Rural Coastal Plain	X			X						X			X			X			X					X	Same as Proposed Action
Streets and Highways			X		X					X			X			X			X					X	Same as Proposed Action
Transportation Corridor/Scenic Byways		X		X					X			X			X			X				X			Same as Proposed Action
Virginia Beach/ Tourism		X		X				X			X				X		X					X			Same as Proposed Action
Landscape Character Areas																									
Inland Bay	X			X						X			X			X			X					X	Same as Proposed Action
Agriculture	X				X				X			X			X				X					X	Same as Proposed Action
Commercial		X			X					X			X			X			X					X	Same as Proposed Action

Character Unit	Affected Environment						Proposed Action														Impact Levels					
	Unit Susceptibility			Unit Value			Project Visibility				Character Key Feature Change			Character Key Element Change			Character Key Quality Change				Proposed Action				Alternatives B and C
	High	Medium	Low	High	Medium	Low	Major	Moderate	Minor	Negligible	High	Medium	Low	High	Medium	Low	High	Medium	Low		Major	Moderate	Minor	Negligible	Impact Level
High Density/ Apartment District		X			X					X			X			X			X					X	Same as Proposed Action
Low Density Residential		X			X					X	X			X			X				X			X	Same as Proposed Action
Industrial/Military (inland)			X		X						X		X			X			X					X	Same as Proposed Action
Onshore Components																										
Agriculture, Open, and Undeveloped Lands		X			X		X					X		X				X				X			Same as Proposed Action
Developed – Commercial			X		X			X				X			X				X				X		Same as Proposed Action
Developed – Suburban Residential		X		X			X				X			X			X				X				Same as Proposed Action
Developed – Industrial		X			X				X			X				X		X				X			Same as Proposed Action
Developed Recreation Areas		X			X				X			X				X		X				X			Same as Proposed Action

Character Unit	Affected Environment						Proposed Action															Impact Levels				
	Unit Susceptibility			Unit Value			Project Visibility				Character Key Feature Change			Character Key Element Change			Character Key Quality Change			Proposed Action				Alternatives B and C
	High	Medium	Low	High	Medium	Low	Major	Moderate	Minor	Negligible	High	Medium	Low	High	Medium	Low	High	Medium	Low	Major	Moderate	Minor	Negligible	Impact Level
Developed – Rural Residential		X		X			X					X		X				X		X				Same as Proposed Action
Forested	X			X			X				X			X				X		X				Same as Proposed Action
Open Water	X			X			X				X			X				X		X				Same as Proposed Action
Inland Streets and Highways		X		X					X			X			X			X			X			Same as Proposed Action

Table M-22 Viewer Sensitivity, Receptor Susceptibility, View Value, Viewer Experience, and Impact Levels

KOP[1]	Affected Environment									Viewer Experience				Impact Levels			
	Viewer Sensitivity			Receptor Susceptibility			View Value			Distance-Noticeable Elements-HFOV-VFOV-Contrast-Scale-Prominence Effects				Preferred Alternative			
	High	Medium	Low	High	Medium	Low	High	Medium	Low	Dominant	Substantial	Low	Unseen	Major	Moderate	Minor	Negligible
KOP-5	X			X			X					X					X
KOP-8	X			X			X					X					X
KOP-13[2]	X			X			X				X				X		
KOP-15a	X			X			X					X				X	
KOP-15b[3]	X			X			X			X					X		
KOP-22	X			X			X				X	X				X	
KOP-23	X			X			X				X	X				X	
KOP-24a	X			X			X				X	X				X	
KOP-24b[3]	X			X			X			X					X		
KOP-24d	X			X			X				X	X				X	
KOP-24d[3]	X			X			X			X					X		
KOP-26[2]	X			X			X				X				X		
KOP-29		X		X			X				X	X				X	
KOP-30a	X			X			X				X	X				X	
KOP-30b	X			X			X				X	X				X	
KOP-31	X			X			X				X	X				X	
KOP-44	X			X			X				X				X		
KOP-47[2]	X			X			X				X	X					X
KOP-48	X			X			X					X				X	
KOP-49a	X			X			X					X					X
KOP-49g	X			X			X					X					X
KOP-50	X			X			X			X				X			
KOP-51	X			X			X			X				X			
Onshore Components																	
HF Route 1 KOP-3		X			X			X		X				X			
KOP-5		X			X			X			X			X			
KOP-10			X		X				X			X		X			
KOP-11			X		X				X			X			X		
KOP-12			X		X				X				X				X
KOP-13			X		X				X				X				X

KOP[1]	Affected Environment									Viewer Experience				Impact Levels			
	Viewer Sensitivity			Receptor Susceptibility			View Value			Distance-Noticeable Elements-HFOV-VFOV-Contrast-Scale-Prominence Effects				Preferred Alternative			
	High	Medium	Low	High	Medium	Low	High	Medium	Low	Dominant	Substantial	Low	Unseen	Major	Moderate	Minor	Negligible
KOP-14a		X			X			X				X			X		
KOP-14b		X			X			X			X				X		
KOP-17			X		X				X		X			X			
HF Hybrid Route 6 KOP-10			X		X				X			X		X			
KOP-11			X		X				X			X			X		
KOP-12			X		X				X				X		X		
KOP-13			X		X				X				X				X
KOP-14a		X			X			X				X			X		
KOP-14b		X			X			X			X				X		
KOP-17			X		X				X		X			X			
KOP-18		X												X			

[1] KOP-5 Oyster Village Horse Island Trail; KOP-8 Eastern Shore of Virginia NWR; KOP-13 Cape Henry Lighthouse/Fort Story Military Base; KOP-15a North End Beach – Residential View; KOP-15b North End Beach – Residential View – Nighttime; KOP-22 King Neptune Statue/Boardwalk; KOP-23 Naval Aviation Monument Park KOP-24a Virginia Beach Boardwalk – 17th Street Park; KOP-24b Virginia Beach Boardwalk – 16th Street Entrance Nighttime; KOP-24d Virginia Beach Boardwalk – Fishing Pier, KOP-24d Virginia Beach Boardwalk – Fishing Pier – Nighttime, KOP-26 Marriott Virginia Beach Oceanfront Hotel, KOP-29 Grommet Island Park/Boardwalk, KOP-30a Croatan Beach A, KOP-30b Croatan Beach C, KOP-31 Picnic Views at SMR, KOP-44 Little Island Park/Back Bay NWR, KOP-47 Currituck Beach Lighthouse, KOP-48 Currituck National Wildlife Refuge, KOP-49a Whale Head Bay Residential View 4, KOP-49g Whale Head Bay Albacore Street Entrance – Elevated, KOP-3 Harpers Switching Station, KOP-4a Interconnection Cable, KOP-4b Interconnection Cable, KOP-5 Interconnection Cable, KOP-6 Interconnection Cable, KOP-7 Interconnection Cable, KOP-8a Interconnection Cable, KOP-8c Interconnection Cable, KOP-9 Interconnection Cable, KOP-10 Fentress Substation, KOP-11 All Interconnection Cable Route Alternatives, KOP-12 Interconnection Cable (Alternative 1 and Overhead Portion of Hybrid Alternative), KOP-13 Interconnection Cable (Alternative 1 and Overhead Portion of Hybrid Alternative), KOP-14a Interconnection Cable (Alternative 1 and Overhead Portion of Hybrid Alternative), KOP-14b Interconnection Cable (Alternative 1 and Overhead Portion of Hybrid Alternative), KOP-15 Interconnection Cable, KOP-17 Interconnection Cable, KOP-18 Chicory Switching Station.
[2] Elevated observation deck or lighthouse.

M.5.1 Impacts of Alternatives B on Scenic and Visual Resources

Visual contrast assessments include form, line, color, and texture comparisons of characteristics of the seascape, open ocean, and landscape before and after implementation of Alternatives B are indicated in Table M-7. The difference in contrasts between Alternatives B and the Proposed Action due to the removal of between 29 and 34 14-MW WTG positions from the northern end of the Lease Area would have a minor effect on visual resources. Table M-23 and Table M-24 list Alternative B wind farm width-, height-, and distance-related occupation of views from the nearest shoreline area. Distance and FOV comparisons with the Proposed Action indicate similar effects. Although three WTGs at the northwestern corner of the wind farm are removed for navigational safety and eight along the northern edge are

removed to protect a Fish Haven area, views of the northern boundary of the wind farm have limited access. Additional WTGs proposed for removal are located on the interior of the wind farm. These results indicate perceptible changes to the FOV results compared to the Proposed Action would be minor.

Table M-23 Horizontal FOV Occupied by Alternatives B

Noticeable Element	Width[1] in Miles (Kilometers)	Distance[2] in Miles (Kilometers)	Horizontal FOV	Human FOV	Percent of FOV
14-MW WTGs	17.8 (28.6)	24.1 (38.8)	36.4°	124°	29%

[1] Maximum extent of the wind farm array.
[2] Nearest onshore distance to the wind farm array.

Table M-24 Vertical FOV Occupied by Alternatives B

Noticeable Element	Height in Feet (Meters) MHW	Distance in Miles (Kilometers)	Visible Height[1] in Feet (Meters)	Vertical FOV	Human FOV	Percent of FOV
Hub Up	836 (255)	24.1 (38.8)	586 (178.6)	0.26°	55°	0.01%

[1] Based on intervening EC, clear-day, and clear-night conditions.

M.5.1 Impacts of Alternative Con Scenic and Visual Resources

Visual contrast assessments include form, line, color, and texture comparisons of characteristics of the seascape, open ocean, and landscape before and after implementation of Alternative Cis indicated in Table M-7. The difference in contrasts between Alternative C and the Proposed Action due to the removal of four 14-MW WTG positions from the sand ridge habitat area of the Lease Area, resulting in 172 total WTGs, would have a minor effect on visual resources. The horizontal FOV difference between the 14-MW and the 16-MW WTGs of 33 feet (10 meters) is imperceptible at 24.1 miles (38.8 milometers).

Table M-25 and Table M-26 list Alternative C wind farm width-, height-, and distance-related occupation of views from the nearest shoreline area. Although three WTGs at the northwestern corner of the wind farm are removed for navigational safety and eight along the northern edge are removed to protect a Fish Haven area, views of the northern boundary of the wind farm have limited access. Additional WTGs proposed for removal are located on the interior of the wind farm. This may slightly reduce the visible mass of the wind farm from certain shoreline locations during clear afternoons, but it will not reduce the overall horizontal FOV. These results indicate perceptible changes to the FOV results compared to the Proposed Action would be **minor**.

Table M-25 Horizontal FOV Occupied by Alternative C

Noticeable Element	Width[1] in Miles (Kilometers)	Distance[2] in Miles (Kilometers)	Horizontal FOV	Human FOV	Percent of FOV
14-MW WTGs	17.8 (28.6)	24.1 (38.8)	36.4°	124°	29%
16-MW WTGs	17.8 (28.6)	24.1 (38.8)	36.4°	124°	29%

[1] Maximum extent of the wind farm array.
[2] Nearest onshore distance to the wind farm array.

Table M-26 Vertical FOV Occupied by Alternatives C-1, C-2 and C-3

WTG Size	Noticeable Element	Height in Feet (Meters) MHW	Distance in Miles (Kilometers)	Visible Height[1] in Feet (Meters)	Vertical FOV	Human FOV	Percent of FOV
14-MW	Hub Up	836 (255)	24.1 (38.8)	536 (163.4)	0.26°	55°	0.01%
16-MW	Hub Up	869 (265)	24.1 (38.8)	569 (173.4)	0.28°	55°	0.01%

[1] Based on intervening EC, clear-day, and clear-night conditions.

M.5.2 Impacts of Alternatives D-1 and D-2 on Scenic and Visual Resources

Visual contrast assessments include form, line, color, and texture comparisons of characteristics of the seascape, open ocean, and landscape before and after implementation of Alternative D-2 are indicated in Table M-27. There would be a substantial difference in contrasts between Alternative D-2 and the Proposed Action D-1 due to the undergrounding of 4.5 miles (7.2 kilometers) of Transmission Corridor and constructing the Chicory Switching Station instead of the Harpers Switching Station. Alternative D-2 Interconnection Cable Route 6 (Hybrid) would follow Interconnection Cable Route 1 (Alternative D-1) in its entirety but would remain underground between Harpers Road and the Chicory Switching Station site in Virginia Beach. This would avoid visual impacts on an area of suburban residential development (Castleton and Pine Ridge) at the eastern end of the route. The Chicory Switching Station would replace primarily forested lands adjacent to a Transportation Corridor (Princess Anne Road—a multi-lane divided highway flanked by forest). Existing ROW within or near the subdivisions would be expanded to accommodate the underground portion of the route, but no new structures would be built in these areas. The northern edge of the Chicory Switching Station would likely be visible from adjacent subdivisions, across an existing transmission ROW and through trees along the facility's northern boundary. The photo simulation for KOP-18 indicates the Chicory Switching Station is not visible from the street during the summer when trees are in leaf. However, the switching station would clearly be visible to residences from rear and second story windows, especially in the winter months when trees are out of leaf. Overall, Interconnection Cable Route 6 would have lower impacts on suburban residential character areas than other alternatives. This change to Developed – Suburban Residential Character Area is represented in Table M-22.

Table M-27 Landscape Character and Impact Levels for Onshore Components Alternative D-2

Character Unit	Affected Environment						Alternative D-2													Impact Levels			
	Unit Susceptibility			Unit Value			Project Visibility				Character Key Feature Change			Character Key Element Change			Character Key Quality Change			Alternative D-2			
	High	Medium	Low	High	Medium	Low	Major	Moderate	Minor	Negligible	High	Medium	Low	High	Medium	Low	High	Medium	Low	Major	Moderate	Minor	Negligible
Agriculture, Open, and Undeveloped Lands		X			X			**X**				X		X				X				**X**	
Developed – Commercial			X		X					**X**		X			X				X				**X**
Developed – Suburban Residential		X		X				**X**			X			X			X				**X**		
Developed – Industrial		X			X					**X**		X				X		X			X		
Developed Recreation Areas		X			X				X			X				X		X			X		
Developed – Rural Residential		X		X			X					X		X				X				**X**	
Forested	X			X			X				X			X				X		X			
Open Water	X			X			X				X			X				X		X			
Inland Streets and Highways		X		X					X			X			X			X			X		

Bold text indicates a reduced rating or impact as compared to the Proposed Action (D-1)

M.6. References

Bureau of Ocean Energy Management (BOEM). 2021. *Assessment of Seascape, Landscape, and Visual Impacts of Offshore Wind Energy Developments on the Outer Continental Shelf of the United States*. OCS Study BOEM 2021-032. April.

Dominion Energy, LLC (Dominion Energy). 2021. *Coastal Virginia Offshore Wind Construction and Operations Plan, Appendix I-1 Offshore Visual Impact Assessment and Appendix I-2 Onshore Visual Impact Assessment.* October. Available: https://www.boem.gov/renewable-energy/state-activities/cvow-construction-and-operations-plan.

National Association of Environmental Professionals (NAEP). 2012. *Offshore Wind Turbine Visibility and Visual Impact Thresholds*. Available: https://blmwyomingvisual.anl.gov/docs/EnvPractice_Offshore%20Wind%20Turbine%20Visibility%20and%20Visual%20Impact%20Threshold%20Distances.pdf.

ATTACHMENT M-1
SCENIC RESOURCES OVERVIEW MAP

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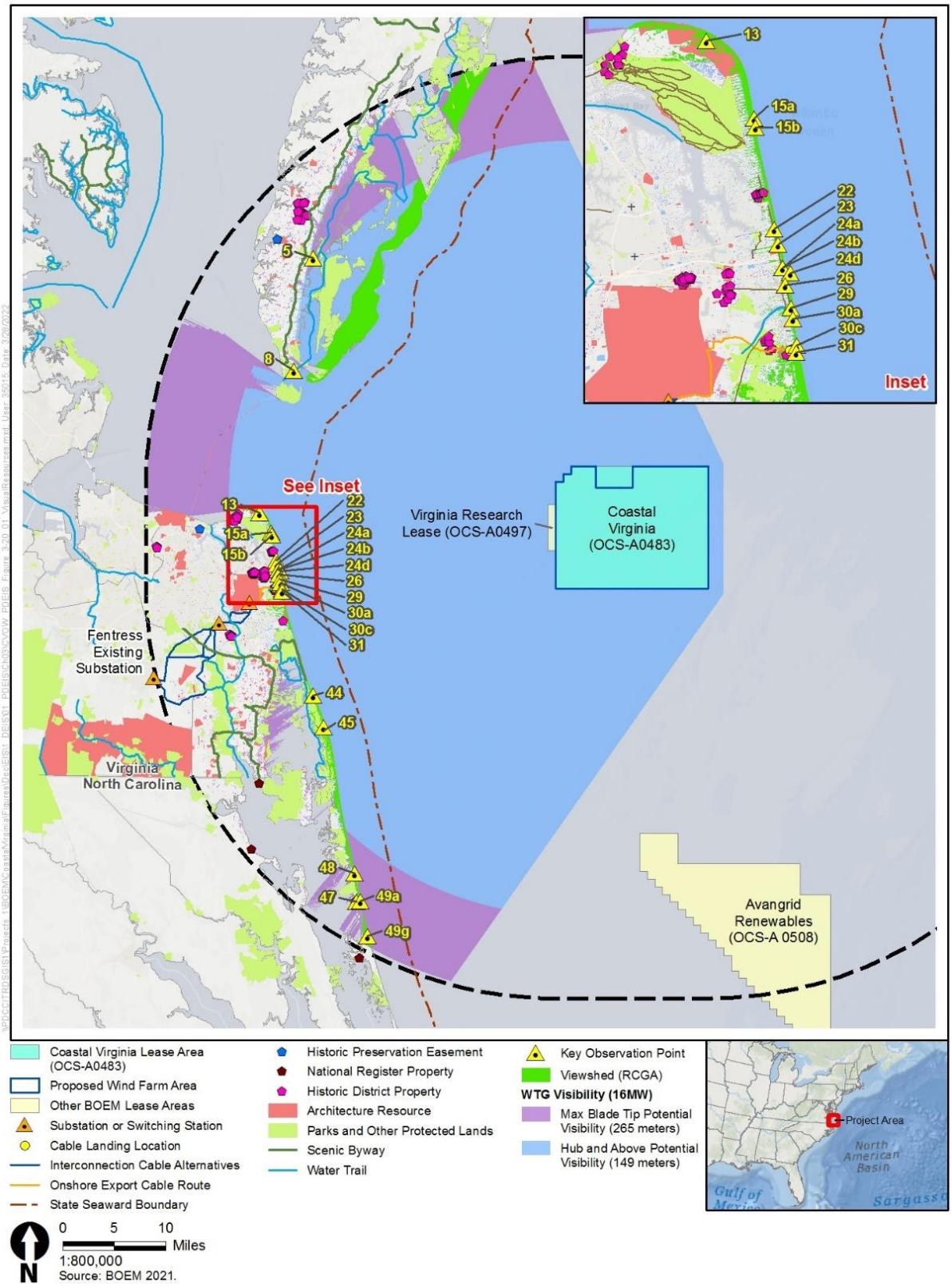

Scenic Resources and Key Observation Points

ATTACHMENT M-2
CUMULATIVE VISUAL SIMULATIONS

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Coastal Virginia Offshore Wind Commercial Project

Cumulative Effects Simulations

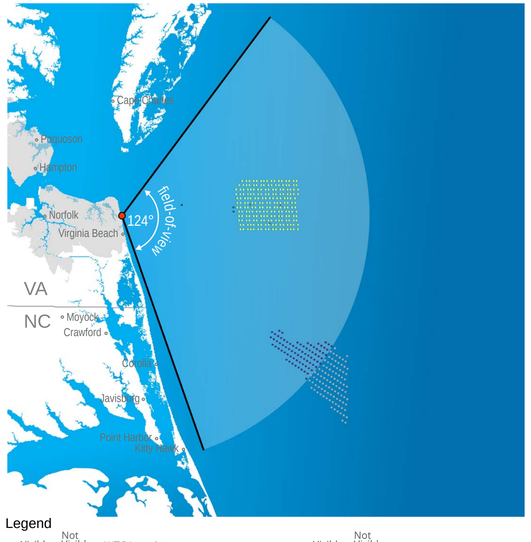
Coastal Virginia Offshore Wind Commercial Project: Cumulative Effects Simulations

TABLE OF CONTENTS

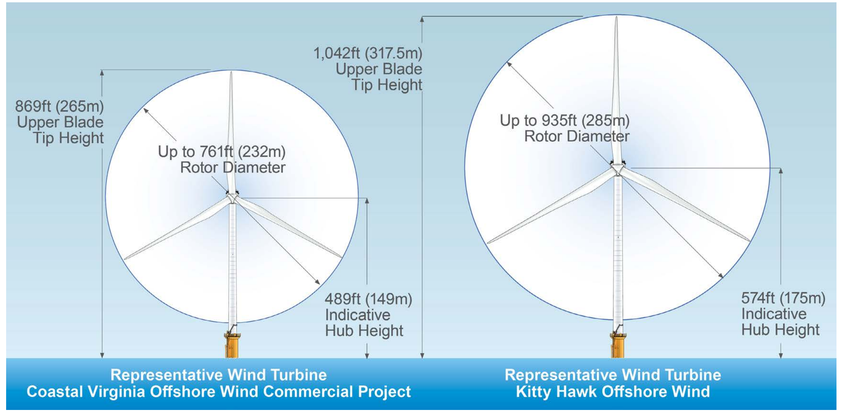
SIM 1

Existing Condition

View of the existing condition at Marriott Virginia Beach Oceanfront



Locator Map



Project	Distance to the closest WTG (mi)	Distance to the farthest WTG (mi)
Coastal Virginia Offshore Wind Commercial Project WTG	28.0	42.8
Kitty Hawk Offshore Wind WTG	45.9	58.1

Turbine Data

Viewpoint Location:	Oceanfront Hotel Rooftop
Date of Photograph:	September 29, 2021
Time of Photograph:	10:56AM (EDT)
Latitude:	36.8617° N
Longitude:	-75.9856° W
Viewing Direction:	East
Ground Elevation + Tripod Height:	236 feet

ENVIRONMENTAL	
Temperature:	71° F
Humidity:	61%
Wind Direction:	NNE
Wind Speed:	10 mph
Weather Condition:	Fair

CAMERA			
	Type	Brand	Model
Camera	Mirrorless	Nikon	Z6
Lens			NIKKOR Z 50mm
Focal Length			50 mm

*The image on this page approximates the full horizontal field-of-view of typical human eyesight (124° horizontal)

Photograph Information

SIM 1A

Simulation 1A.1: CVOWC

Simulation illustrating Coastal Virginia Offshore Wind Commercial Project without other foreseeable future changes

*The simulation image includes approximately 62° horizontal field of view.

Complete Panoramic View

SIM 1A

Simulation 1A.2: CVOWC + Kitty Hawk

*The simulation image includes approximately 62° horizontal field of view.

Simulation illustrating full lease buildout showing foreseeable projects located in leased area with Coastal Virginia Offshore Wind Commercial Project. Kitty Hawk is not present in this view angle.

Complete Panoramic View

Simulation 1A.2: CVOWC + Kitty Hawk - *Annotated*

*The simulation image includes approximately 62° horizontal field of view.

Simulation illustrating full lease buildout showing foreseeable projects located in leased area with Coastal Virginia Offshore Wind Commercial Project. Kitty Hawk is not present in this view angle.

Complete Panoramic View

Simulation 1A.3: Kitty Hawk

*The simulation image includes approximately 62° horizontal field of view.

Simulation illustrating full lease buildout not including Coastal Virginia Offshore Wind Commercial Project. Kitty Hawk is not present in this view angle.

Complete Panoramic View

SIM 1B

Simulation 1B.1: CVOWC

Simulation illustrating Coastal Virginia Offshore Wind Commercial Project without other foreseeable future changes

*The simulation image includes approximately 62° horizontal field of view.

Complete Panoramic View

SIM 1B

Simulation 1B.2: CVOWC + Kitty Hawk

Simulation illustrating full lease buildout showing foreseeable projects located in leased area with Coastal Virginia Offshore Wind Commercial Project

*The simulation image includes approximately 62° horizontal field of view.

Complete Panoramic View

Simulation 1B.2: CVOWC + Kitty Hawk - *Annotated*

Simulation illustrating full lease buildout showing foreseeable projects located in leased area with Coastal Virginia Offshore Wind Commercial Project

*The simulation image includes approximately 62° horizontal field of view.

Complete Panoramic View

Simulation 1B.3: Kitty Hawk

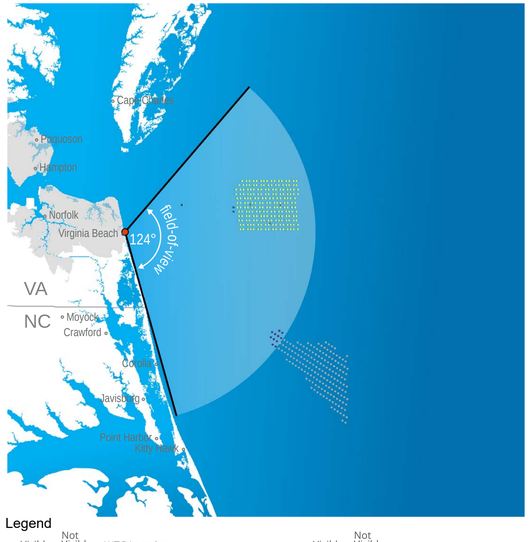
Simulation illustrating full lease buildout not including Coastal Virginia Offshore Wind Commercial Project

*The simulation image includes approximately 62° horizontal field of view.

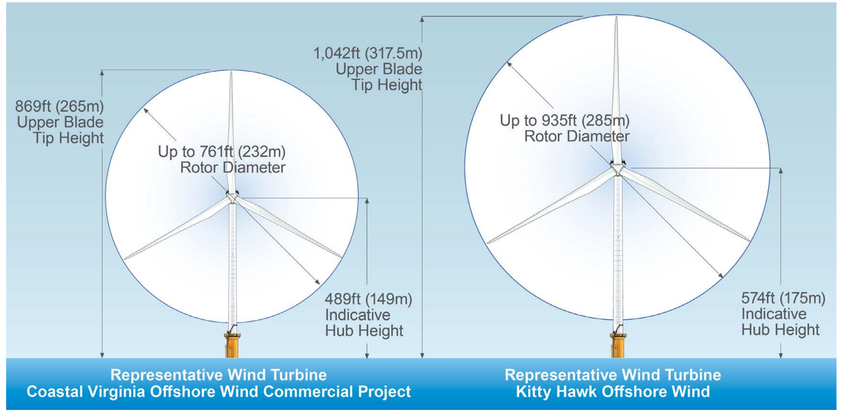
Complete Panoramic View

Existing Condition

Beach view of the existing condition at State Military Reservation



Locator Map



Project	Distance to the closest WTG (mi)	Distance to the farthest WTG (mi)
Coastal Virginia Offshore Wind Commercial Project WTG	27.6	41.5
Kitty Hawk Offshore Wind WTG	43.0	44.8

Turbine Data

Viewpoint Location:	State Military Reservation
Date of Photograph:	September 28, 2021
Time of Photograph:	1:11pm (EDT)
Latitude:	36.815716° N
Longitude:	-75.966839° W
Viewing Direction:	East
Ground Elevation + Tripod Height:	14 feet

ENVIRONMENTAL	
Temperature:	82° F
Humidity:	51%
Wind Direction:	SW
Wind Speed:	9 mph
Weather Condition:	Fair

CAMERA			
	Type	Brand	Model
Camera	Mirrorless	Nikon	Z6
Lens			NIKKOR Z 50mm
Focal Length			50 mm

*The image on this page approximates the full horizontal field-of-view of typical human eyesight (124° horizontal)

Photograph Information

Simulation 2A.1: CVOWC

Simulation illustrating Coastal Virginia Offshore Wind Commercial Project without other foreseeable future changes

*The simulation image includes approximately 62° horizontal field of view.

Complete Panoramic View

Simulation 2A.2: CVOWC + Kitty Hawk

*The simulation image includes approximately 62° horizontal field of view.

Simulation illustrating full lease buildout showing foreseeable projects located in leased area with Coastal Virginia Offshore Wind Commercial Project. Kitty Hawk is not present in this view angle.

Complete Panoramic View

Simulation 2A.2: CVOWC + Kitty Hawk - *Annotated*

*The simulation image includes approximately 62° horizontal field of view.

Simulation illustrating full lease buildout showing foreseeable projects located in leased area with Coastal Virginia Offshore Wind Commercial Project. Kitty Hawk is not present in this view angle.

Complete Panoramic View

Simulation 2A.3: Kitty Hawk

*The simulation image includes approximately 62° horizontal field of view.

Simulation illustrating full lease buildout not including Coastal Virginia Offshore Wind Commercial Project. Kitty Hawk is not present in this view angle.

Complete Panoramic View

Simulation 2B.1: CVOWC

Simulation illustrating Coastal Virginia Offshore Wind Commercial Project without other foreseeable future changes

*The simulation image includes approximately 62° horizontal field of view.

Complete Panoramic View

Simulation 2B.2: CVOWC + Kitty Hawk

*The simulation image includes approximately 62° horizontal field of view.

Simulation illustrating full lease buildout showing foreseeable projects located in leased area with Coastal Virginia Offshore Wind Commercial Project. Coastal Virginia Offshore Wind Commercial Project is not present in this view angle.

Complete Panoramic View

Simulation 2B.2: CVOWC + Kitty Hawk - *Annotated*

*The simulation image includes approximately 62° horizontal field of view.

Simulation illustrating full lease buildout showing foreseeable projects located in leased area with Coastal Virginia Offshore Wind Commercial Project. Coastal Virginia Offshore Wind Commercial Project is not present in this view angle.

Complete Panoramic View

Simulation 2B.3: Kitty Hawk

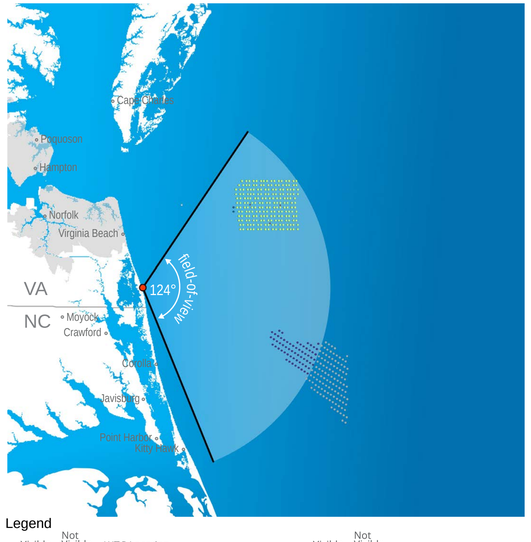
Simulation illustrating full lease buildout not including Coastal Virginia Offshore Wind Commercial Project

*The simulation image includes approximately 62° horizontal field of view.

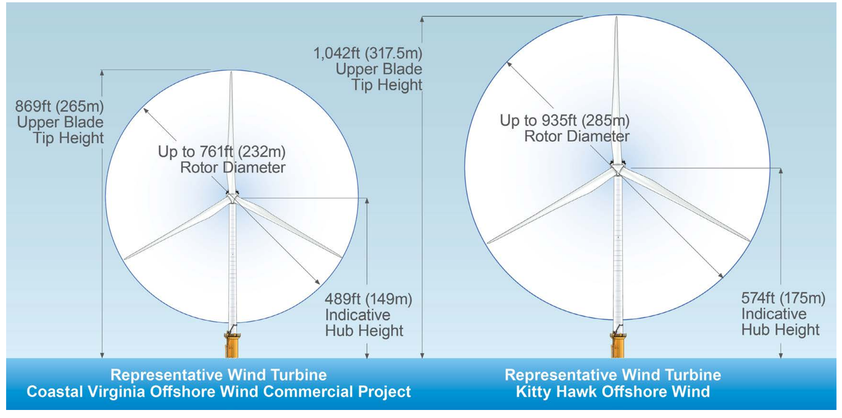
Complete Panoramic View

Existing Condition

View of the existing condition at False Cape State Park



Locator Map



Project	Distance to the closest WTG (mi)	Distance to the farthest WTG (mi)
Coastal Virginia Offshore Wind Commercial Project WTG	27.1	40.9
Kitty Hawk Offshore Wind WTG	33.2	44.2

Turbine Data

Viewpoint Location:	False Cape State Park
Date of Photograph:	September 26, 2021
Time of Photograph:	12:55pm (EDT)
Latitude:	36.6252° N
Longitude:	-75.8885° W
Viewing Direction:	Southeast
Ground Elevation + Tripod Height:	15 feet

ENVIRONMENTAL	
Temperature:	73° F
Humidity:	41%
Wind Direction:	N
Wind Speed:	7 mph
Weather Condition:	Fair

CAMERA			
	Type	Brand	Model
Camera	Mirrorless	Nikon	Z6
Lens			NIKKOR Z 50mm
Focal Length			50 mm

*The image on this page approximates the full horizontal field-of-view of typical human eyesight (124° horizontal)

Photograph Information

Simulation 3A.1: CVOWC

Simulation illustrating Coastal Virginia Offshore Wind Commercial Project without other foreseeable future changes

*The simulation image includes approximately 62° horizontal field of view.

Complete Panoramic View

Simulation 3A.2: CVOWC + Kitty Hawk

*The simulation image includes approximately 62° horizontal field of view.

Simulation illustrating full lease buildout showing foreseeable projects located in leased area with Coastal Virginia Offshore Wind Commercial Project. Kitty Hawk is not present in this view angle.

Complete Panoramic View

Simulation 3A.2: CVOWC + Kitty Hawk - *Annotated*

*The simulation image includes approximately 62° horizontal field of view.

Simulation illustrating full lease buildout showing foreseeable projects located in leased area with Coastal Virginia Offshore Wind Commercial Project. Kitty Hawk is not present in this view angle.

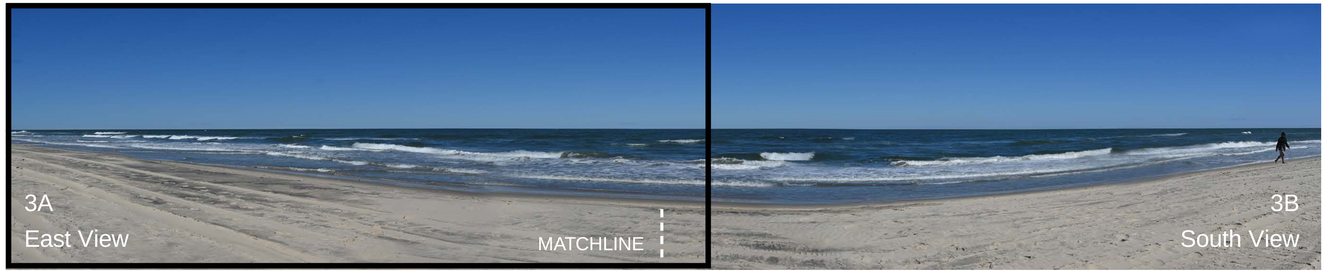
Complete Panoramic View

Simulation 3A.3: Kitty Hawk

*The simulation image includes approximately 62° horizontal field of view.

Simulation illustrating full lease buildout not including Coastal Virginia Offshore Wind Commercial Project. Kitty Hawk is not present in this view angle.

Complete Panoramic View



Simulation 3B.1: CVOWC

Simulation illustrating Coastal Virginia Offshore Wind Commercial Project without other foreseeable future changes

*The simulation image includes approximately 62° horizontal field of view.

Complete Panoramic View

Simulation 3B.2: CVOWC + Kitty Hawk

*The simulation image includes approximately 62° horizontal field of view.

Simulation illustrating full lease buildout showing foreseeable projects located in leased area with Coastal Virginia Offshore Wind Commercial Project. Coastal Virginia Offshore Wind Commercial Project is not present in this view angle.

Complete Panoramic View

Simulation 3B.2: CVOWC + Kitty Hawk - *Annotated*

*The simulation image includes approximately 62° horizontal field of view.

Simulation illustrating full lease buildout showing foreseeable projects located in leased area with Coastal Virginia Offshore Wind Commercial Project. Coastal Virginia Offshore Wind Commercial Project is not present in this view angle.

Complete Panoramic View

Simulation 3B.3: Kitty Hawk

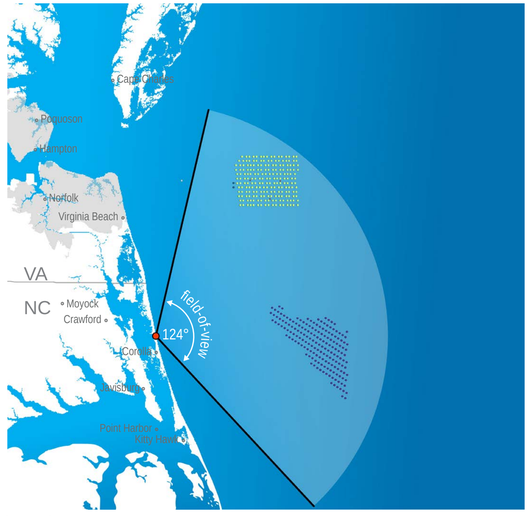
Simulation illustrating full lease buildout not including Coastal Virginia Offshore Wind Commercial Project

*The simulation image includes approximately 62° horizontal field of view.

Complete Panoramic View

Existing Condition

View of the existing condition at Currituck Beach Lighthouse

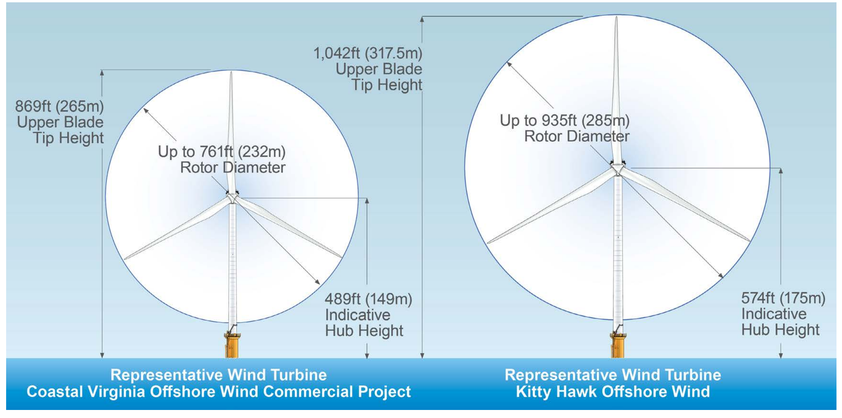


Legend

Visible	Not Visible	WTG Location
●	●	Coastal Virginia Offshore Wind Commercial Project
●	●	Kitty Hawk Offshore Wind
●	●	Pilot Project Turbine

Visible	Not Visible	
●	●	OSS
■	□	Chesapeake Light Tower
●		Photo Point

Locator Map



Project	Distance to the closest WTG (mi)	Distance to the farthest WTG (mi)
Coastal Virginia Offshore Wind Commercial Project WTG	36.8	51.4
Kitty Hawk Offshore Wind WTG	28.3	39.1

Turbine Data

Viewpoint Location:	Currituck Beach Lighthouse
Date of Photograph:	July 7, 2021
Time of Photograph:	2:40 PM (EDT)
Latitude:	36.3767° N
Longitude:	-75.8307° W
Viewing Direction:	Northeast
Ground Elevation + Tripod Height:	155 feet

ENVIRONMENTAL	
Temperature:	93° F
Humidity:	38%
Wind Direction:	S
Wind Speed:	14 mph
Weather Condition:	Clear

CAMERA			
	Type	Brand	Model
Camera	Mirrorless	Nikon	Z6
Lens			NIKKOR Z 50mm
Focal Length			50 mm

*The image on this page approximates the full horizontal field-of-view of typical human eyesight (124° horizontal)

Photograph Information

Simulation 4A.1: CVOWC

Simulation illustrating Coastal Virginia Offshore Wind Commercial Project without other foreseeable future changes

*The simulation image includes approximately 62° horizontal field of view.

Complete Panoramic View

Simulation 4A.2: CVOWC + Kitty Hawk

Simulation illustrating full lease buildout showing foreseeable projects located in leased area with Coastal Virginia Offshore Wind Commercial Project

*The simulation image includes approximately 62° horizontal field of view.

Complete Panoramic View

Simulation 4A.2: CVOWC + Kitty Hawk - *Annotated*

Simulation illustrating full lease buildout showing foreseeable projects located in leased area with Coastal Virginia Offshore Wind Commercial Project

*The simulation image includes approximately 62° horizontal field of view.

Complete Panoramic View

Simulation 4A.3: Kitty Hawk

Simulation illustrating full lease buildout not including Coastal Virginia Offshore Wind Commercial Project

*The simulation image includes approximately 62° horizontal field of view.

Complete Panoramic View

Simulation 4B.1: CVOWC

Simulation illustrating Coastal Virginia Offshore Wind Commercial Project without other foreseeable future changes

*The simulation image includes approximately 62° horizontal field of view.

Complete Panoramic View

Simulation 4B.2: CVOWC + Kitty Hawk

*The simulation image includes approximately 62° horizontal field of view.

Simulation illustrating full lease buildout showing foreseeable projects located in leased area with Coastal Virginia Offshore Wind Commercial Project. Coastal Virginia Offshore Wind Commercial Project is not present in this view angle.

Complete Panoramic View

Simulation 4B.2: CVOWC + Kitty Hawk - *Annotated*

*The simulation image includes approximately 62° horizontal field of view.

Simulation illustrating full lease buildout showing foreseeable projects located in leased area with Coastal Virginia Offshore Wind Commercial Project. Coastal Virginia Offshore Wind Commercial Project is not present in this view angle.

Complete Panoramic View

Simulation 4B.3: Kitty Hawk

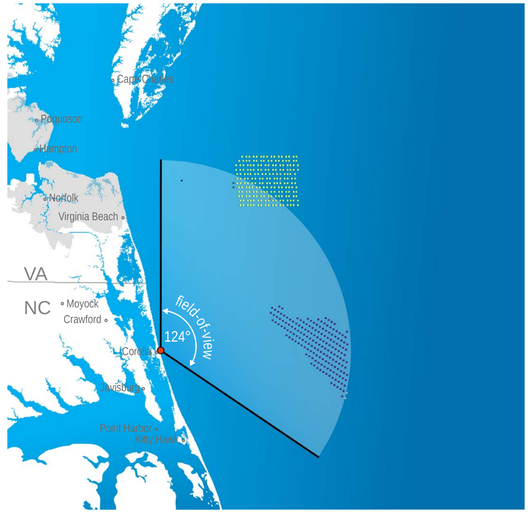
Simulation illustrating full lease buildout not including Coastal Virginia Offshore Wind Commercial Project

*The simulation image includes approximately 62° horizontal field of view.

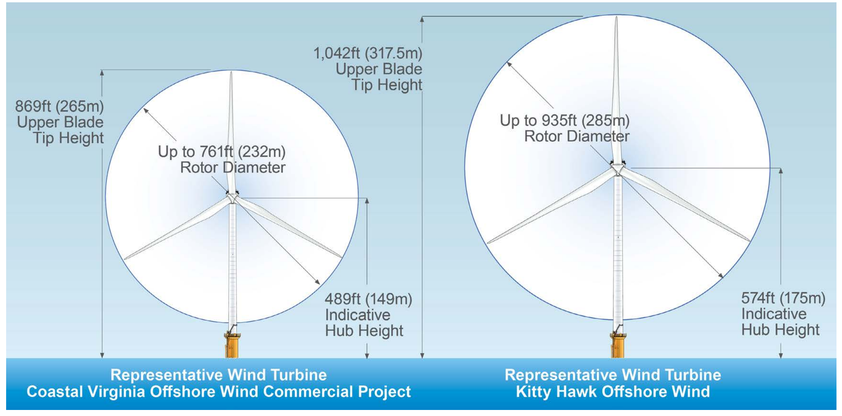
Complete Panoramic View

Existing Condition

View of the existing condition at Whale Head Bay Residential Area



Locator Map



Project	Distance to the closest WTG (mi)	Distance to the farthest WTG (mi)
Coastal Virginia Offshore Wind Commercial Project WTG	39.1	41.4
Kitty Hawk Offshore Wind WTG	27.9	37.6

Turbine Data

Viewpoint Location:	Whale Head Bay Residential Area
Date of Photograph:	July 7, 2021
Time of Photograph:	12:20 PM (EDT)
Latitude:	36.3776° N
Longitude:	-75.8242° W
Viewing Direction:	Northeast
Ground Elevation + Tripod Height:	25 feet

ENVIRONMENTAL	
Temperature:	91° F
Humidity:	48%
Wind Direction:	SW
Wind Speed:	13 mph
Weather Condition:	Fair

CAMERA			
	Type	Brand	Model
Camera	Mirrorless	Nikon	Z6
Lens			NIKKOR Z 50mm
Focal Length			50 mm

*The image on this page approximates the full horizontal field-of-view of typical human eyesight (124° horizontal)

Photograph Information

Simulation 5A.1: CVOWC

Simulation illustrating Coastal Virginia Offshore Wind Commercial Project without other foreseeable future changes

*The simulation image includes approximately 62° horizontal field of view.

Complete Panoramic View

Simulation 5A.2: CVOWC + Kitty Hawk

*The simulation image includes approximately 62° horizontal field of view.

Simulation illustrating full lease buildout showing foreseeable projects located in leased area with Coastal Virginia Offshore Wind Commercial Project. Kitty Hawk is not present in this view angle.

Complete Panoramic View

Simulation 5A.2: CVOWC + Kitty Hawk - *Annotated*

*The simulation image includes approximately 62° horizontal field of view.

Simulation illustrating full lease buildout showing foreseeable projects located in leased area with Coastal Virginia Offshore Wind Commercial Project. Kitty Hawk is not present in this view angle.

Complete Panoramic View

Simulation 5A.3: Kitty Hawk

Simulation illustrating full lease buildout not including Coastal Virginia Offshore Wind Commercial Project

*The simulation image includes approximately 62° horizontal field of view.

Complete Panoramic View

Simulation 5B.1: CVOWC

Simulation illustrating Coastal Virginia Offshore Wind Commercial Project without other foreseeable future changes

*The simulation image includes approximately 62° horizontal field of view.

Complete Panoramic View

Simulation 5B.2: CVOWC + Kitty Hawk

*The simulation image includes approximately 62° horizontal field of view.

Simulation illustrating full lease buildout showing foreseeable projects located in leased area with Coastal Virginia Offshore Wind Commercial Project. Coastal Virginia Offshore Wind Commercial Project is not present in this view angle.

Complete Panoramic View

Simulation 5B.2: CVOWC + Kitty Hawk - *Annotated*

*The simulation image includes approximately 62° horizontal field of view.

Simulation illustrating full lease buildout showing foreseeable projects located in leased area with Coastal Virginia Offshore Wind Commercial Project. Coastal Virginia Offshore Wind Commercial Project is not present in this view angle.

Complete Panoramic View

Simulation 5B.3: Kitty Hawk

Simulation illustrating full lease buildout not including Coastal Virginia Offshore Wind Commercial Project

*The simulation image includes approximately 62° horizontal field of view.

Complete Panoramic View

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ATTACHMENT M-3
VISUAL SIMULATIONS OF ACTION ALTERNATIVES

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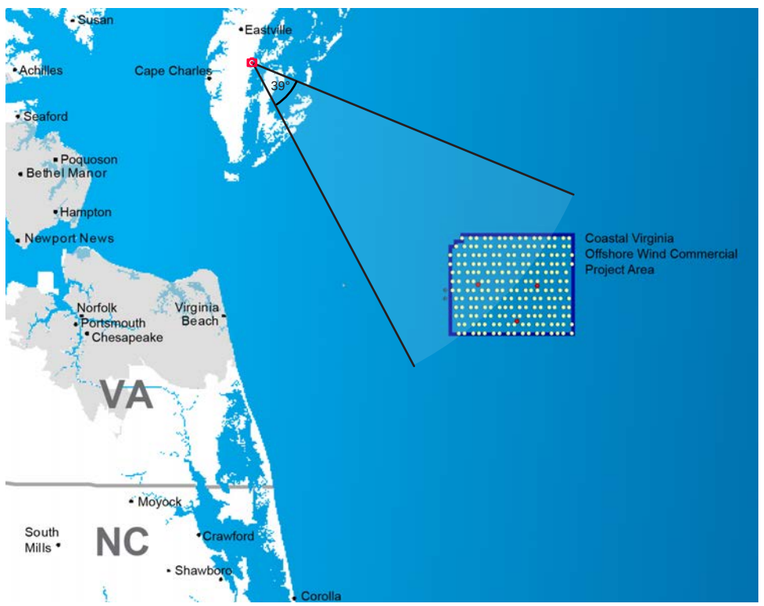
Coastal Virginia Offshore Wind Commercial Project

Attachment I-1-5: Visual Simulations

KOP 5: Oyster Village Horse Island Trail

Northhampton County, VA

Vicinity Map

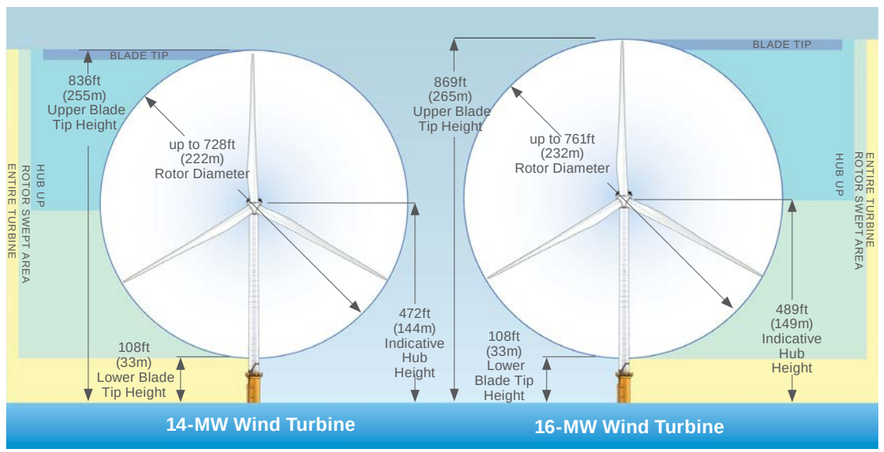


Pilot Project Turbine · Turbine Location · Photo Point
Chesapeake Light Tower · Offshore Substation · Lease Area

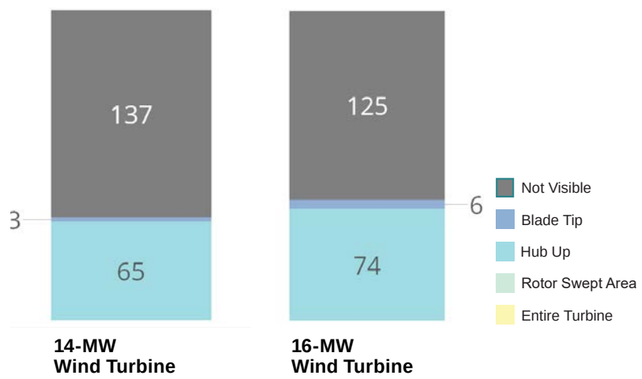
Existing Panoramic View

Located near Oyster Village Horse Island Trail

Turbine Dimensions



Turbine Visibility



14-MW Wind Turbine · **16-MW Wind Turbine**

Image Data

FIELD ID # 5

PHOTO INFORMATION	
Date	7/12/2021
Time	10:12 AM
Latitude	37.287571°
Longitude	-75.917941°
Direction of View	SE
Elevation	10’
Horizontal Field of View Represented in Simulated Image	39°

PROJECT INFRASTRUCTURE	
Turbines	205
Offshore Substations	3

ENVIRONMENTAL	
Temperature	87° F
Humidity	63%
Wind Direction	SW
Wind Speed	13 mph
Weather Condition	Partly Cloudy

PROJECT VIEW	
Distance to Nearest Turbine	32.5 miles
Horizontal Area Occupied by Visible Turbines	14°
Area Occupied by Visible Turbines as a Percent of the FOV	35.8%

KOP 5: Oyster Village Horse Island Trail

Northhampton County, VA

Print Guide / Image Notes:
This sheet should be printed at 11 by 17 inches; full size with no scaling; and viewed at arm's length (24 inches). If viewed on a computer monitor, the document should be scaled to 100 percent and viewed at arm's length (24 inches).

Visual Simulation: 14-MW Wind Turbine

KOP 5: Oyster Village Horse Island Trail

Northhampton County, VA

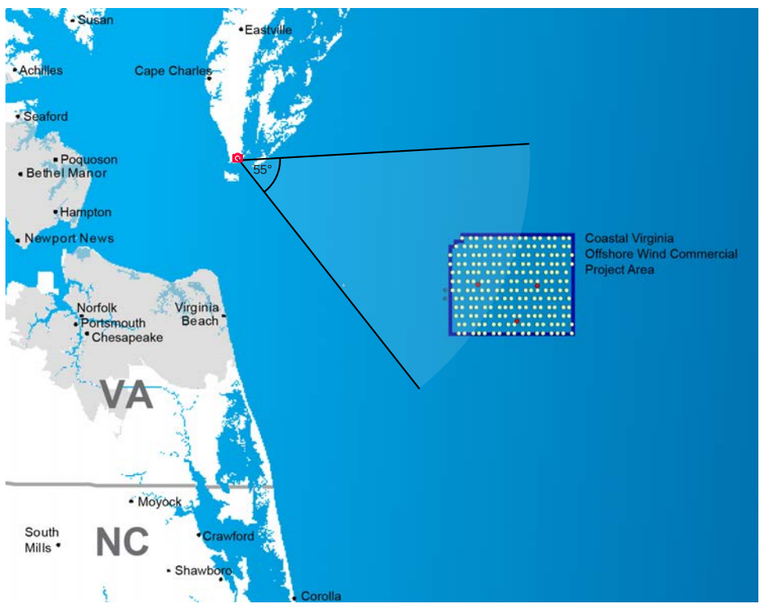
Print Guide / Image Notes:
This sheet should be printed at 11 by 17 inches; full size with no scaling; and viewed at arm's length (24 inches). If viewed on a computer monitor, the document should be scaled to 100 percent and viewed at arm's length (24 inches).

Visual Simulation: 16-MW Wind Turbine

KOP 8: Eastern Shore of Virginia National Wildlife Refuge

Northhampton County, VA

Vicinity Map

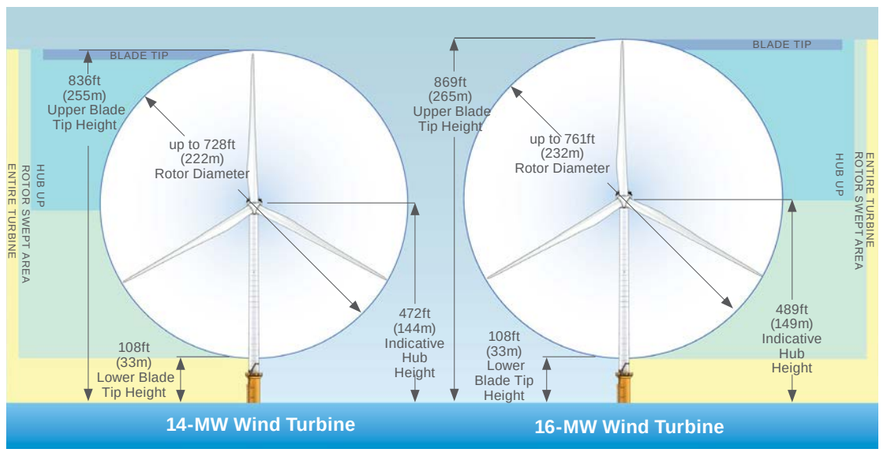


- Pilot Project Turbine
- Chesapeake Light Tower
- Turbine Location
- Offshore Substation
- Photo Point
- Lease Area

Existing Panoramic View

Located on Wise Point Boat Ramp

Turbine Dimensions



Turbine Visibility

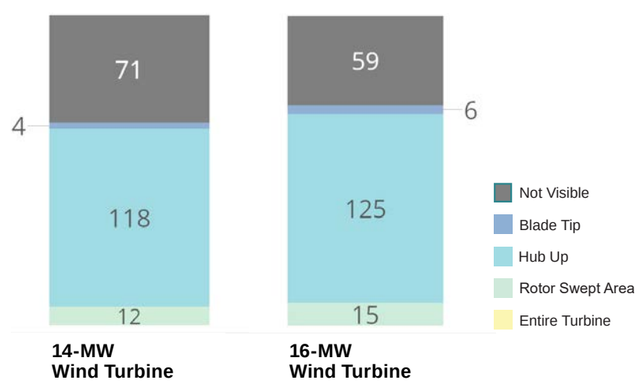


Image Data

FIELD ID # 8

PHOTO INFORMATION	
Date	7/12/2021
Time	10:12 AM
Latitude	37.127849°
Longitude	-75.949910°
Direction of View	SE
Elevation	8'
Horizontal Field of View Represented in Simulated Image	55°

PROJECT INFRASTRUCTURE	
Turbines	205
Offshore Substations	3

ENVIRONMENTAL	
Temperature	92° F
Humidity	52%
Wind Direction	SW
Wind Speed	8.7 mph
Weather Condition	Partly Cloudy

PROJECT VIEW	
Distance to Nearest Turbine	28.1 miles
Horizontal Area Occupied by Visible Turbines	14°
Area Occupied by Visible Turbines as a Percent of the FOV	25.5%

KOP 8: Eastern Shore of Virginia National Wildlife Refuge

Northhampton County, VA

Print Guide / Image Notes:
This sheet should be printed at 11 by 17 inches; full size with no scaling; and viewed at arm's length (24 inches). If viewed on a computer monitor, the document should be scaled to 100 percent and viewed at arm's length (24 inches).

Visual Simulation: 14-MW Wind Turbine

KOP 8: Eastern Shore of Virginia National Wildlife Refuge

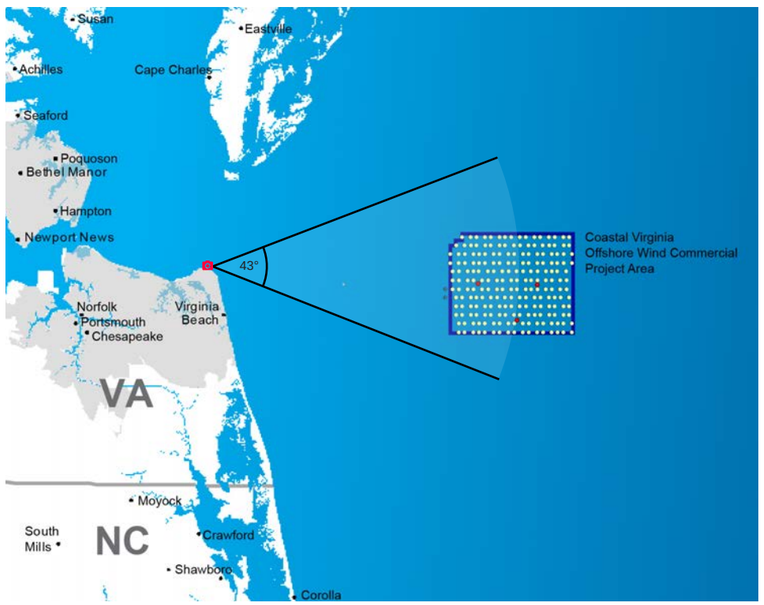
Northhampton County, VA

Print Guide / Image Notes:
This sheet should be printed at 11 by 17 inches; full size with no scaling; and viewed at arm's length (24 inches). If viewed on a computer monitor, the document should be scaled to 100 percent and viewed at arm's length (24 inches).

Visual Simulation: 16-MW Wind Turbine

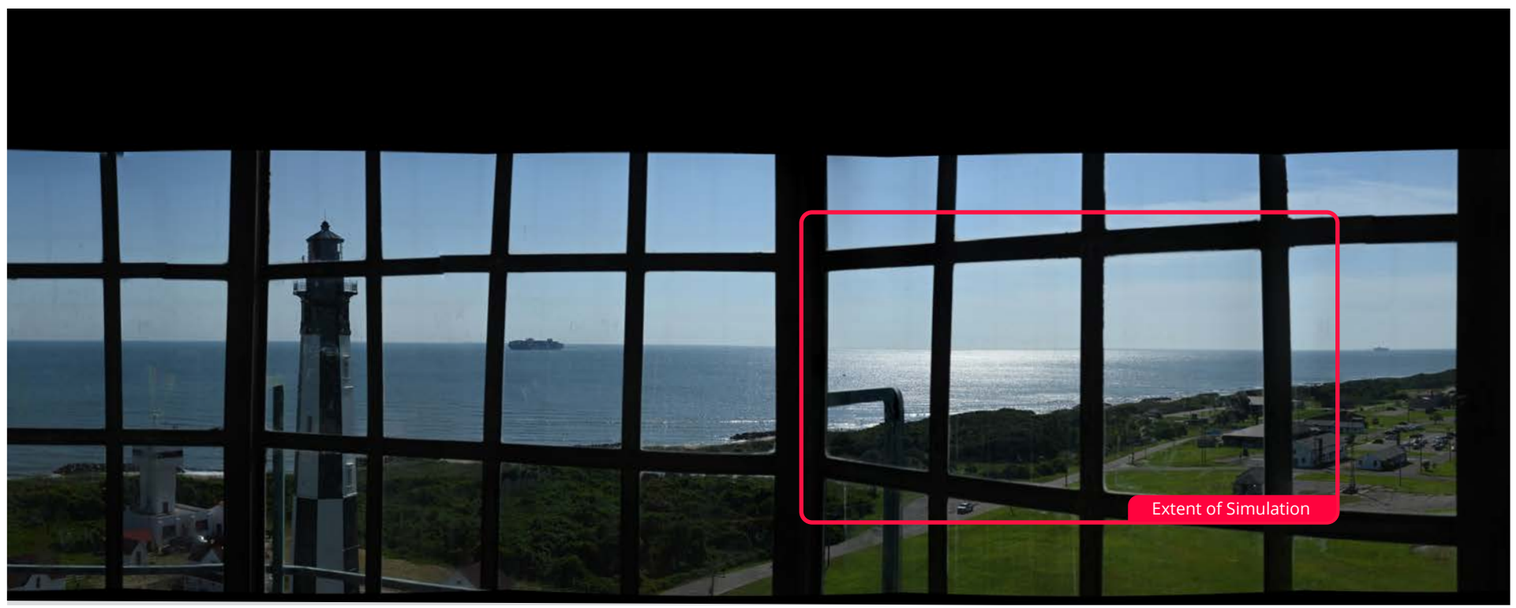
KOP 13: Cape Henry Lighthouse

Virginia Beach, VA



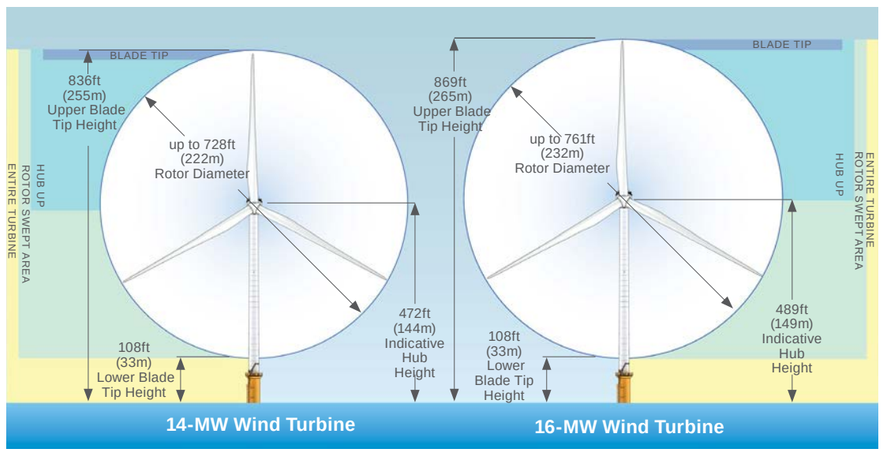
Vicinity Map

- Pilot Project Turbine
- Chesapeake Light Tower
- Turbine Location
- Offshore Substation
- Photo Point
- Lease Area

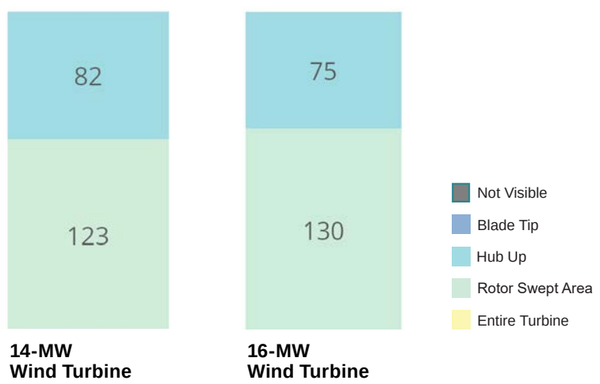


Existing Panoramic View

Located inside the Cape Henry Lighthouse



Turbine Dimensions



Turbine Visibility

FIELD ID # 13

PHOTO INFORMATION	
Date	7/9/2021
Time	9:18 AM
Latitude	36.925742°
Longitude	-76.008139°
Direction of View	ENE
Elevation	90’
Horizontal Field of View Represented in Simulated Image	43°

PROJECT INFRASTRUCTURE	
Turbines	205
Offshore Substations	3

ENVIRONMENTAL	
Temperature	80° F
Humidity	74%
Wind Direction	WSW
Wind Speed	9 mph
Weather Condition	Fair

PROJECT VIEW	
Distance to Nearest Turbine	29.1miles
Horizontal Area Occupied by Visible Turbines	21°
Area Occupied by Visible Turbines as a Percent of the FOV	48.8%

Image Data

KOP 13: Cape Henry Lighthouse

Virginia Beach, VA

Print Guide / Image Notes:
This sheet should be printed at 11 by 17 inches; full size with no scaling; and viewed at arm's length (24 inches). If viewed on a computer monitor, the document should be scaled to 100 percent and viewed at arm's length (24 inches).

Visual Simulation: 14-MW Wind Turbine

KOP 13: Cape Henry Lighthouse

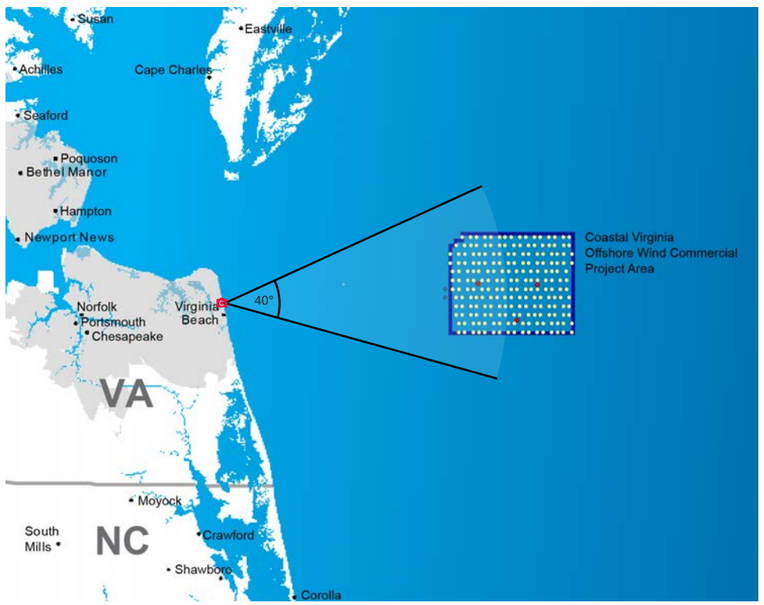
Virginia Beach, VA

Print Guide / Image Notes:
This sheet should be printed at 11 by 17 inches; full size with no scaling; and viewed at arm's length (24 inches). If viewed on a computer monitor, the document should be scaled to 100 percent and viewed at arm's length (24 inches).

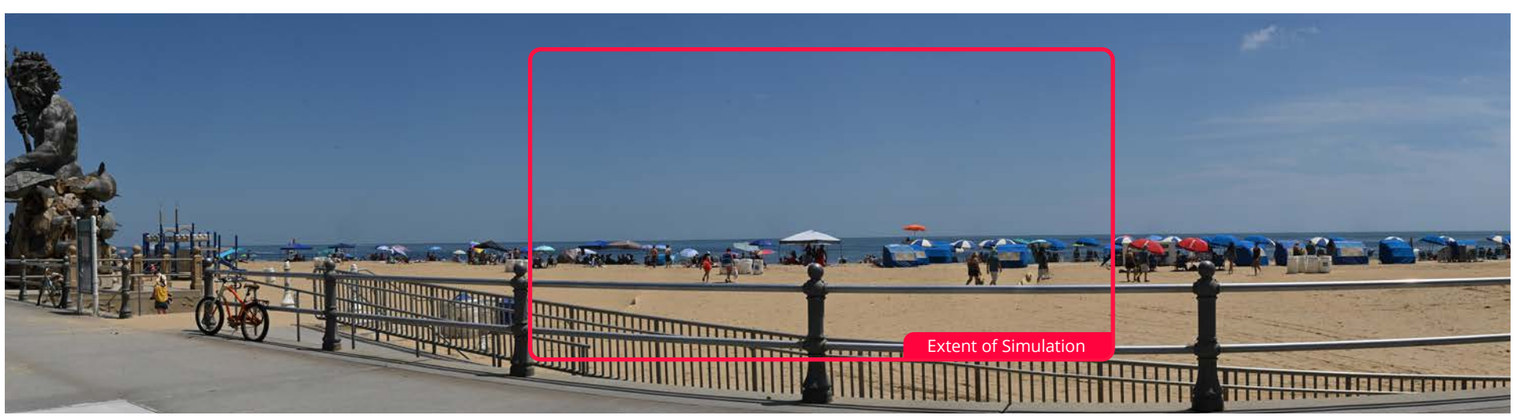
Visual Simulation: 16-MW Wind Turbine

KOP 22: Neptune Statue/Boardwalk

Virginia Beach, VA

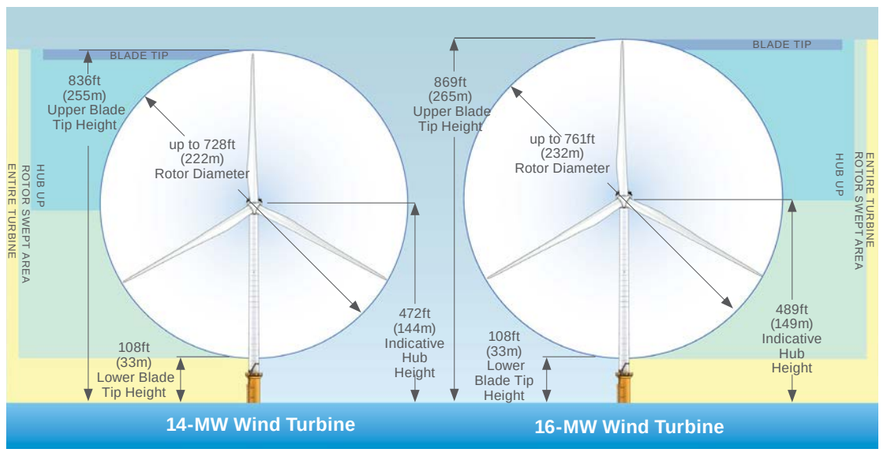


Vicinity Map

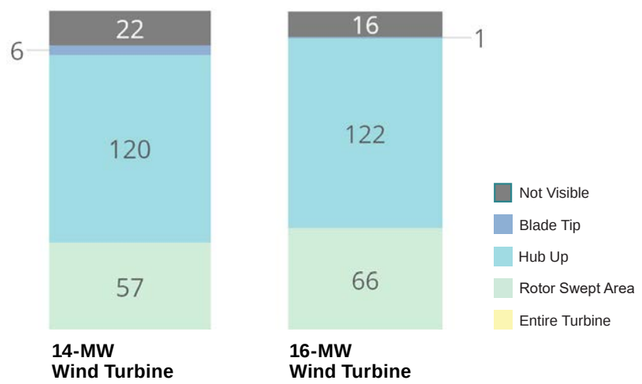


Existing Panoramic View

Located on the Virginia Beach Boardwalk near the Neptune Statue



Turbine Dimensions



Turbine Visibility

FIELD ID # 22

PHOTO INFORMATION

Date	7/7/2021
Time	2:40 PM
Latitude	36.859392°
Longitude	-75.977296°
Direction of View	E
Elevation	20’
Horizontal Field of View Represented in Simulated Image	40°

PROJECT INFRASTRUCTURE

Turbines	205
Offshore Substations	3

ENVIRONMENTAL

Temperature	88° F
Humidity	59%
Wind Direction	SW
Wind Speed	10 mph
Weather Condition	Fair

PROJECT VIEW

Distance to Nearest Turbine	27.9 miles
Horizontal Area Occupied by Visible Turbines	23°
Area Occupied by Visible Turbines as a Percent of the FOV	57.5%

Image Data

KOP 22: Neptune Statue/Boardwalk

Virginia Beach, VA

Print Guide / Image Notes:
This sheet should be printed at 11 by 17 inches; full size with no scaling; and viewed at arm's length (24 inches). If viewed on a computer monitor, the document should be scaled to 100 percent and viewed at arm's length (24 inches).

Visual Simulation: 14-MW Wind Turbine

KOP 22: Neptune Statue/Boardwalk

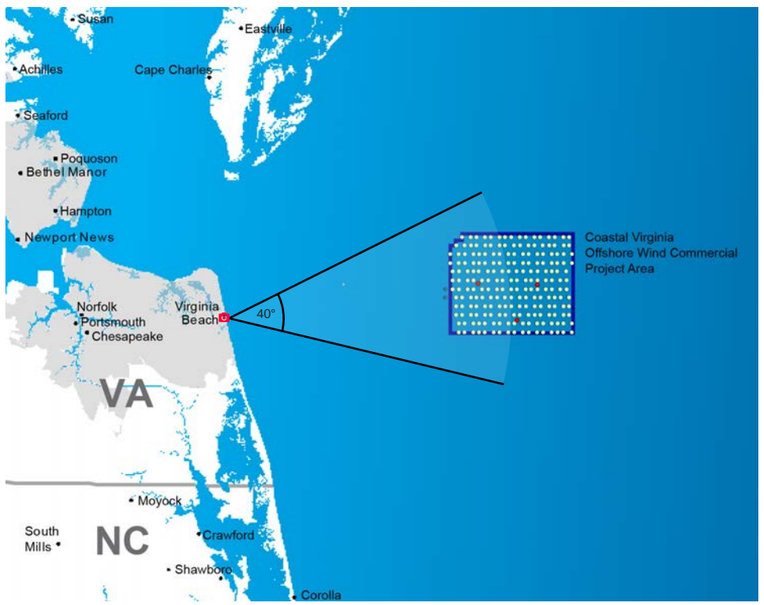
Virginia Beach, VA

Print Guide / Image Notes:
This sheet should be printed at 11 by 17 inches; full size with no scaling; and viewed at arm's length (24 inches). If viewed on a computer monitor, the document should be scaled to 100 percent and viewed at arm's length (24 inches).

Visual Simulation: 16-MW Wind Turbine

KOP 23: Naval Aviation Monument Park

Virginia Beach, VA

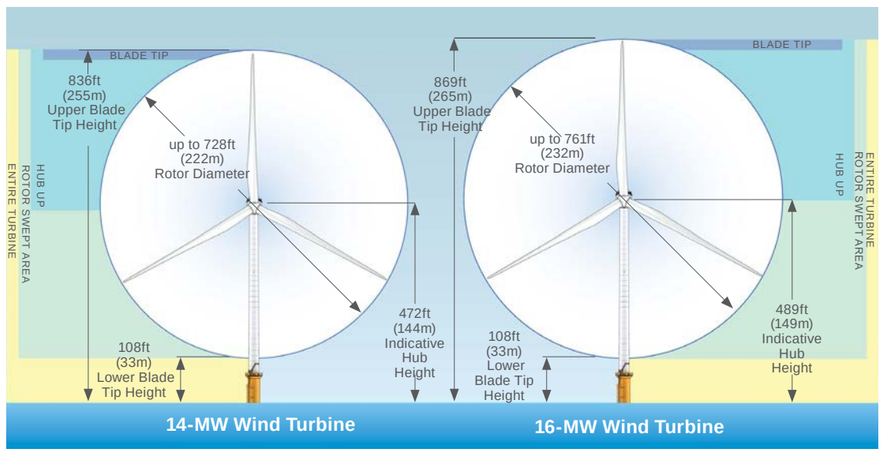


Vicinity Map

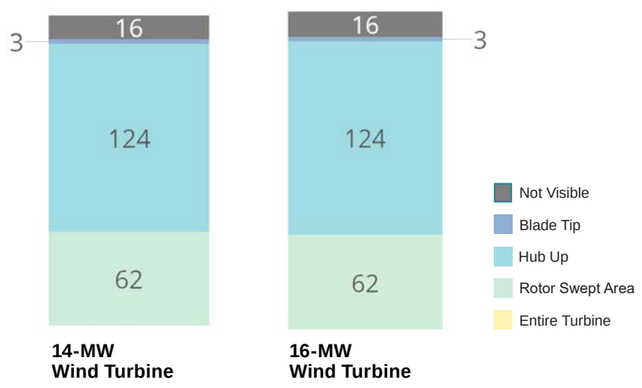
- Pilot Project Turbine
- Chesapeake Light Tower
- Turbine Location
- Offshore Substation
- Photo Point
- Lease Area

Existing Panoramic View

Located on Virginia Beach Boardwalk, near Naval Aviation Monument - 25th St.



Turbine Dimensions



Turbine Visibility

FIELD ID # 23

PHOTO INFORMATION	
Date	7/9/2021
Time	12:20 PM
Latitude	36.853785°
Longitude	-75.975655°
Direction of View	NE
Elevation	18’
Horizontal Field of View Represented in Simulated Image	40°

PROJECT INFRASTRUCTURE	
Turbines	205
Offshore Substations	3

ENVIRONMENTAL	
Temperature	89° F
Humidity	57%
Wind Direction	SSW
Wind Speed	12 mph
Weather Condition	Fair

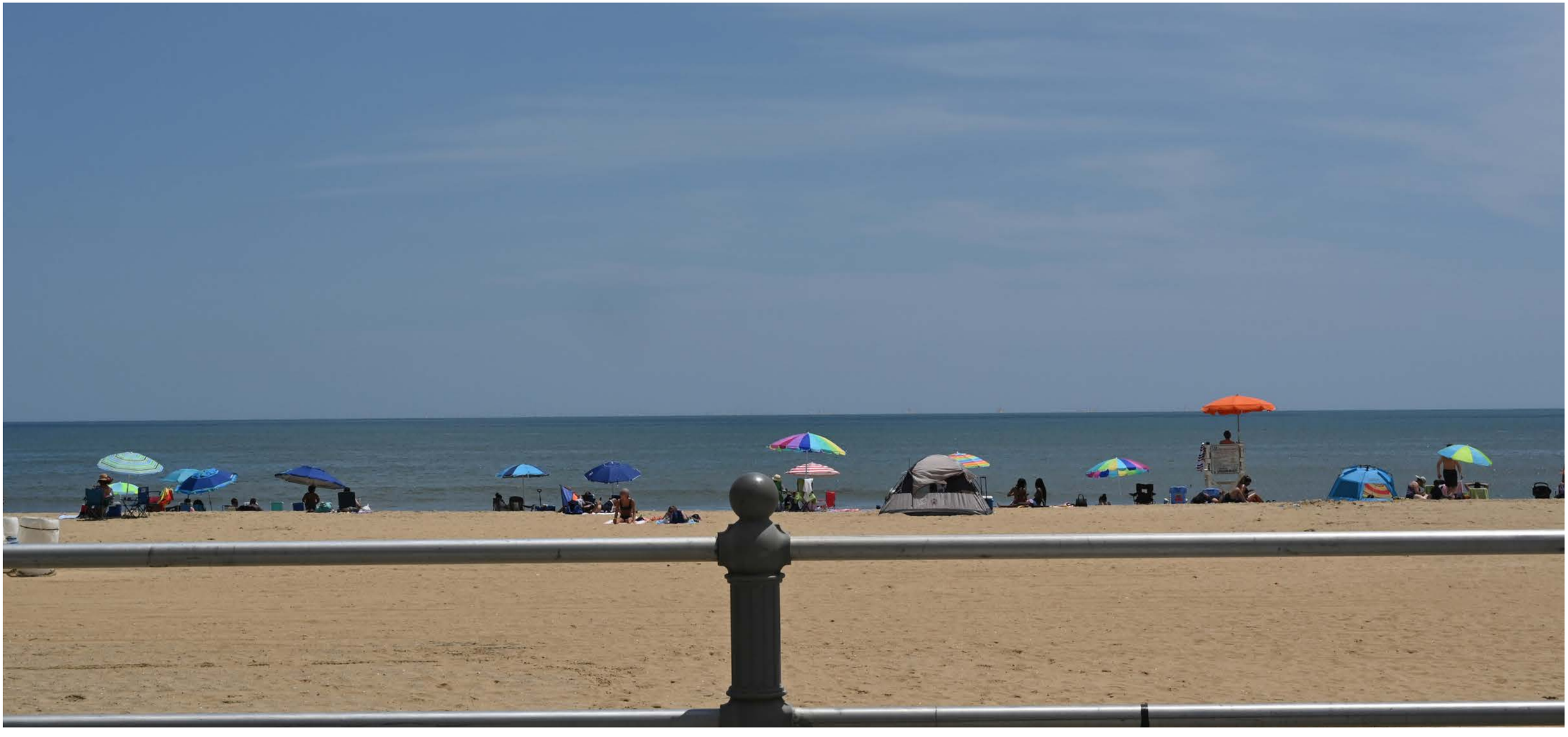
PROJECT VIEW	
Distance to Nearest Turbine	27.8 miles
Horizontal Area Occupied by Visible Turbines	23°
Area Occupied by Visible Turbines as a Percent of the FOV	57.5%

Image Data

KOP 23: Naval Aviation Monument Park

Virginia Beach, VA

Print Guide / Image Notes:
This sheet should be printed at 11 by 17 inches; full size with no scaling; and viewed at arm's length (24 inches). If viewed on a computer monitor, the document should be scaled to 100 percent and viewed at arm's length (24 inches).

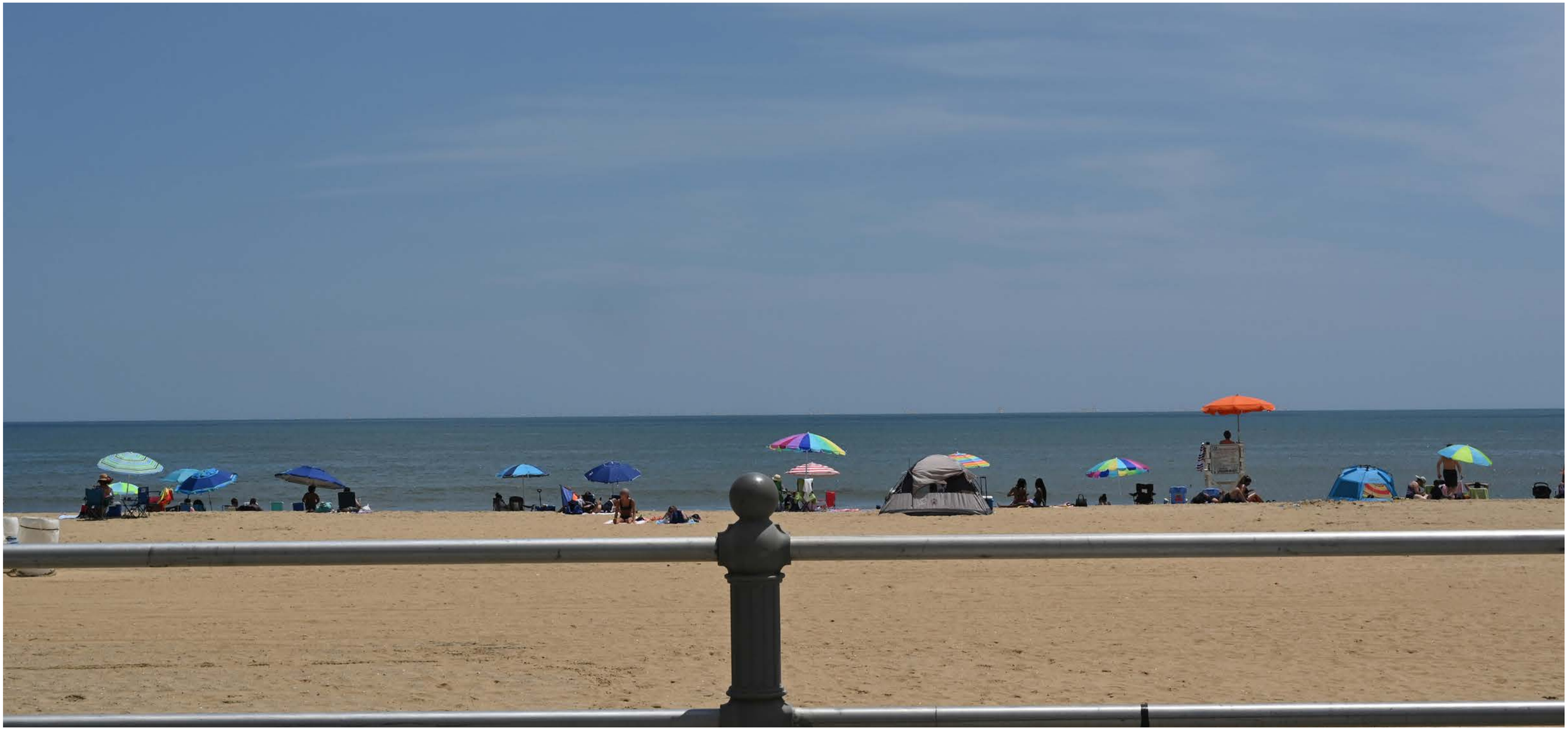


Visual Simulation: 14-MW Wind Turbine

KOP 23: Naval Aviation Monument Park

Virginia Beach, VA

Print Guide / Image Notes:
This sheet should be printed at 11 by 17 inches; full size with no scaling; and viewed at arm's length (24 inches). If viewed on a computer monitor, the document should be scaled to 100 percent and viewed at arm's length (24 inches).

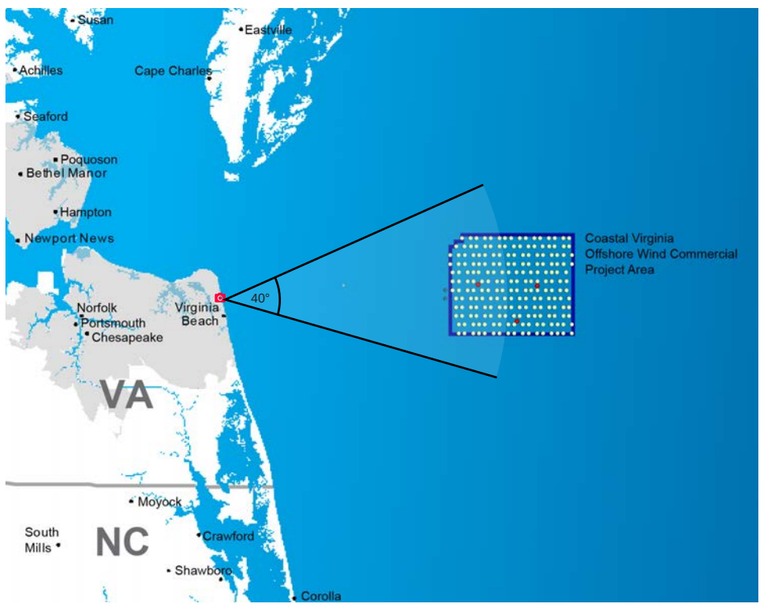


Visual Simulation: 16-MW Wind Turbine

KOP 26: Marriott Virginia Beach Oceanfront Hotel

Virginia Beach, VA

Vicinity Map

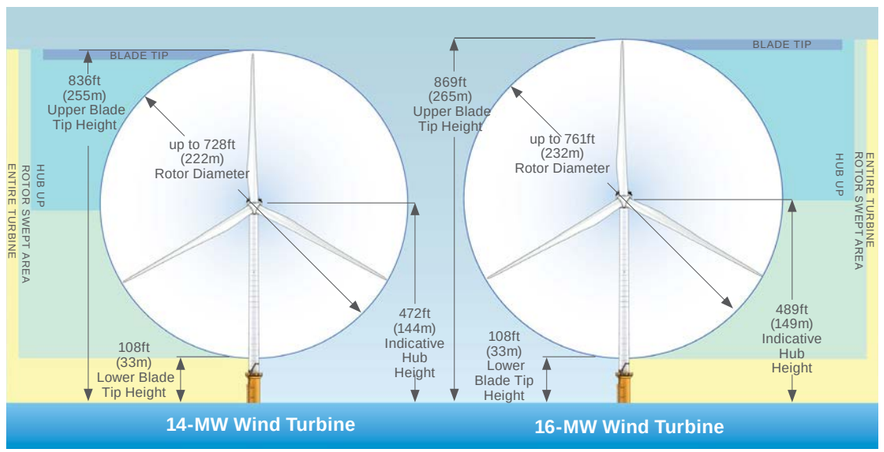


Pilot Project Turbine · Turbine Location · Photo Point
Chesapeake Light Tower · Offshore Substation · Lease Area

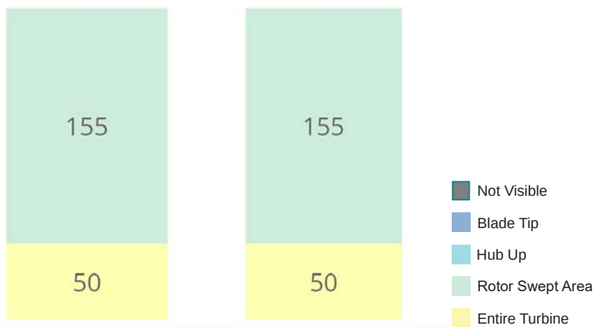
Existing Panoramic View

Located on rooftop of Marriott Virginia Beach Oceanfront hotel

Turbine Dimensions



Turbine Visibility



14-MW Wind Turbine · **16-MW Wind Turbine**

Image Data

FIELD ID # 26

PHOTO INFORMATION	
Date	9/29/2021
Time	10:56am
Latitude	36.870082°
Longitude	-75.980527°
Direction of View	E
Elevation	236'
Horizontal Field of View Represented in Simulated Image	40°

PROJECT INFRASTRUCTURE	
Turbines	205
Offshore Substations	3

ENVIRONMENTAL	
Temperature	71° F
Humidity	61%
Wind Direction	NNE
Wind Speed	10 mph
Weather Condition	Fair

PROJECT VIEW	
Distance to Nearest Turbine	28.0 miles
Horizontal Area Occupied by Visible Turbines	23°
Area Occupied by Visible Turbines as a Percent of the FOV	57.5%

KOP 26: Marriott Virginia Beach Oceanfront Hotel

Virginia Beach, VA

Print Guide / Image Notes:
This sheet should be printed at 11 by 17 inches; full size with no scaling; and viewed at arm's length (24 inches). If viewed on a computer monitor, the document should be scaled to 100 percent and viewed at arm's length (24 inches).

Visual Simulation: 14-MW Wind Turbine

KOP 26: Marriott Virginia Beach Oceanfront Hotel

Virginia Beach, VA

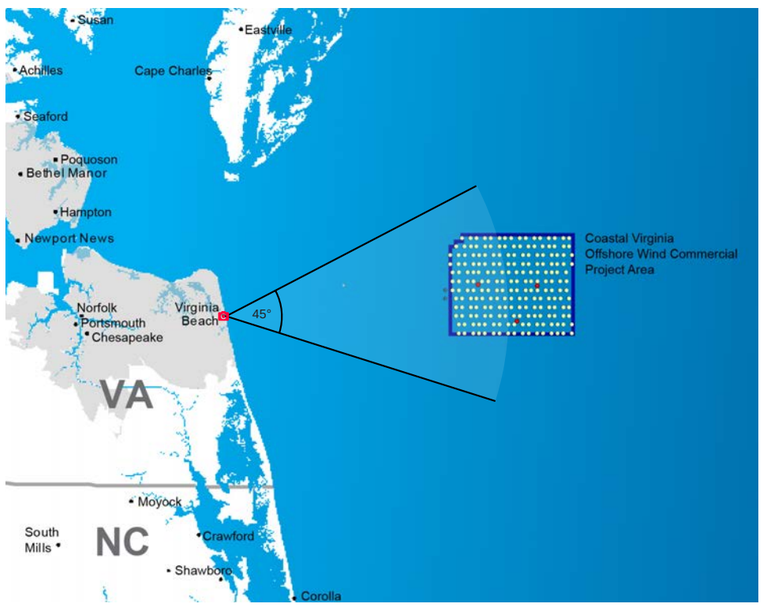
Print Guide / Image Notes:
This sheet should be printed at 11 by 17 inches; full size with no scaling; and viewed at arm's length (24 inches). If viewed on a computer monitor, the document should be scaled to 100 percent and viewed at arm's length (24 inches).

Visual Simulation: 16-MW Wind Turbine

KOP 29: Grommet Island Park

Virginia Beach, VA

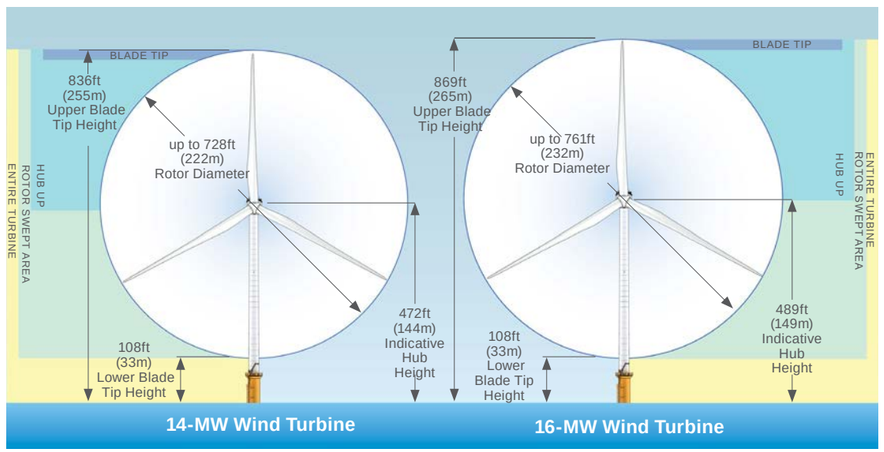
Vicinity Map



Existing Panoramic View

Located on Virginia Beach Boardwalk, near Grommet Island Park

Turbine Dimensions



Turbine Visibility

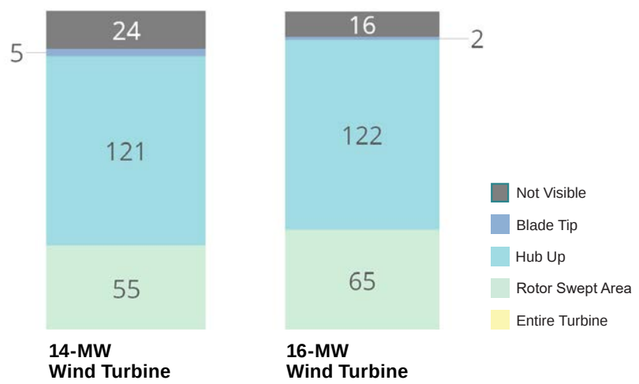


Image Data

FIELD ID # 29

PHOTO INFORMATION	
Date	7/8/2021
Time	12:04pm
Latitude	36.831427°
Longitude	-75.969656°
Direction of View	E
Elevation	18'
Horizontal Field of View Represented in Simulated Image	45°

PROJECT INFRASTRUCTURE	
Turbines	205
Offshore Substations	3

ENVIRONMENTAL	
Temperature	82° F
Humidity	79%
Wind Direction	S
Wind Speed	18 mph
Weather Condition	Rain

PROJECT VIEW	
Distance to Nearest Turbine	27.7 miles
Horizontal Area Occupied by Visible Turbines	23°
Area Occupied by Visible Turbines as a Percent of the FOV	51.1%

KOP 29: Grommet Island Park

Virginia Beach, VA

Print Guide / Image Notes:
This sheet should be printed at 11 by 17 inches; full size with no scaling; and viewed at arm's length (24 inches). If viewed on a computer monitor, the document should be scaled to 100 percent and viewed at arm's length (24 inches).

Visual Simulation: 14-MW Wind Turbine

KOP 29: Grommet Island Park

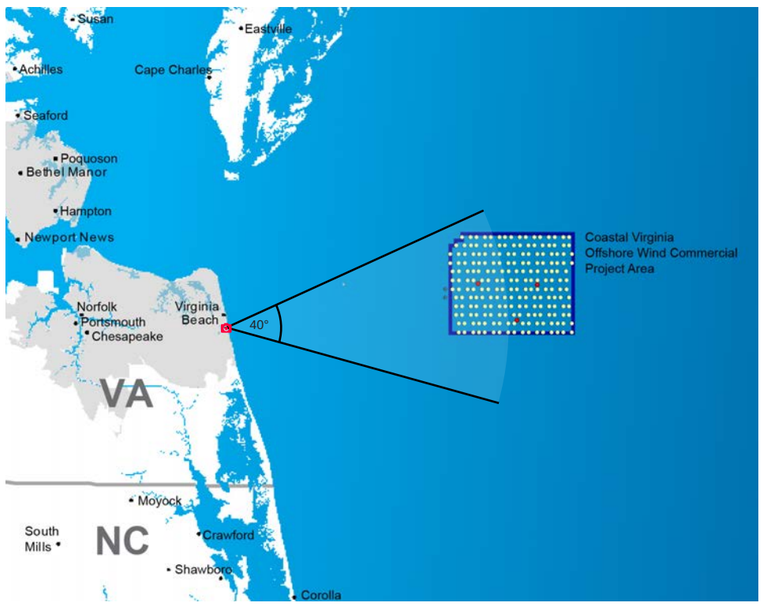
Virginia Beach, VA

Print Guide / Image Notes:
This sheet should be printed at 11 by 17 inches; full size with no scaling; and viewed at arm's length (24 inches). If viewed on a computer monitor, the document should be scaled to 100 percent and viewed at arm's length (24 inches).

Visual Simulation: 16-MW Wind Turbine

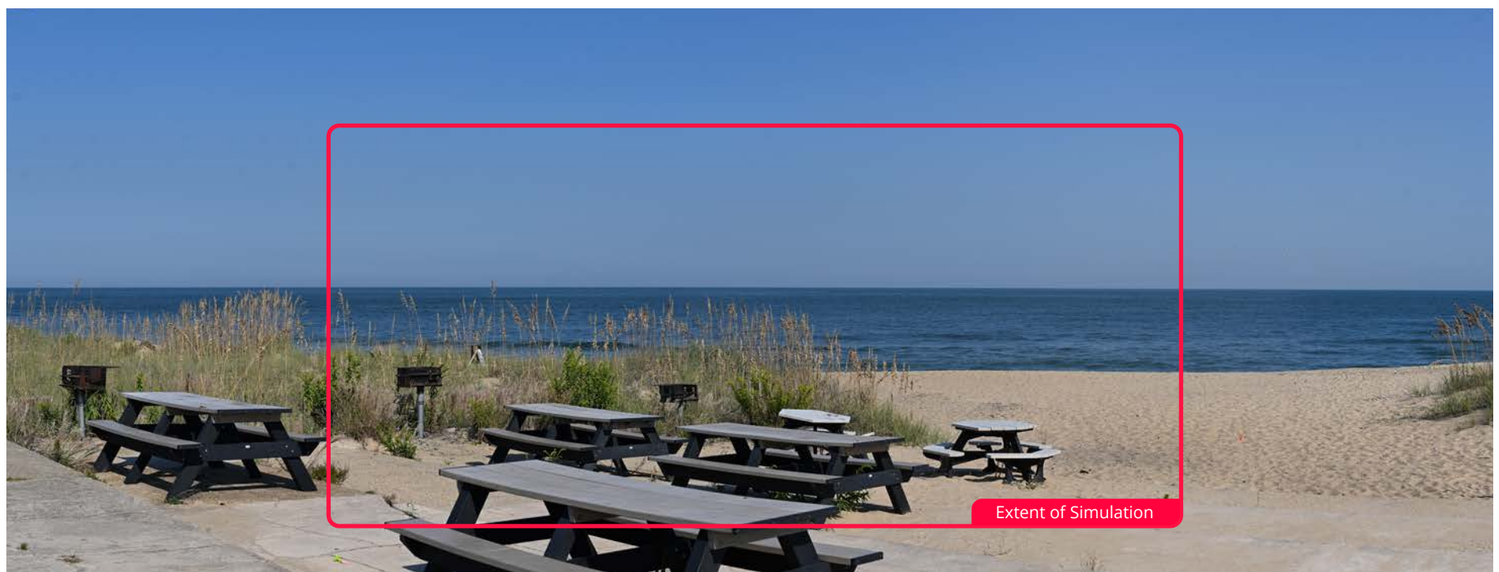
KOP 31: Picnic Views at State Military Reservation

Virginia Beach, VA



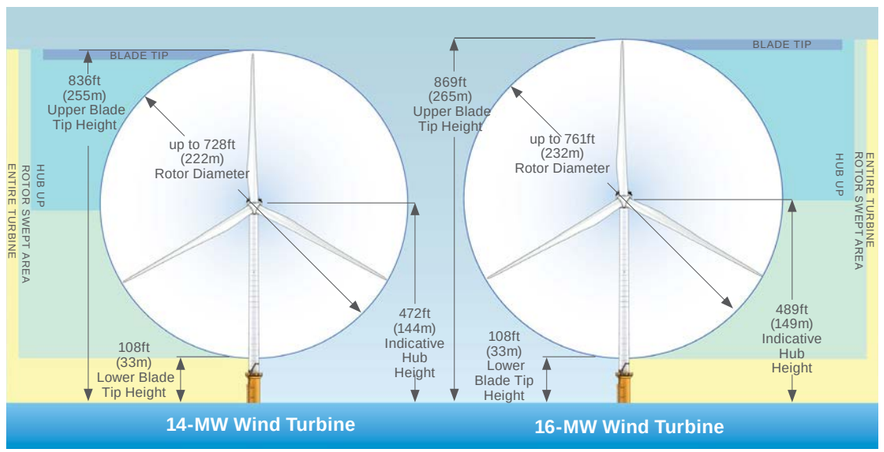
Vicinity Map

- Pilot Project Turbine
- Chesapeake Light Tower
- Turbine Location
- Offshore Substation
- Photo Point
- Lease Area

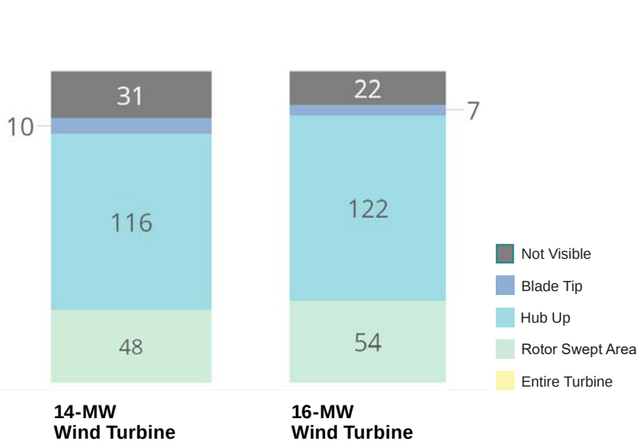


Existing Panoramic View

Located on Picnic Area near State Military Reservation



Turbine Dimensions



Turbine Visibility

FIELD ID # 31

PHOTO INFORMATION

Date	9/28/2021
Time	1:11pm
Latitude	36.815689°
Longitude	-75.967075°
Direction of View	E
Elevation	14'
Horizontal Field of View Represented in Simulated Image	40°

PROJECT INFRASTRUCTURE

Turbines	205
Offshore Substations	3

ENVIRONMENTAL

Temperature	82° F
Humidity	51%
Wind Direction	SW
Wind Speed	9 mph
Weather Condition	Fair

PROJECT VIEW

Distance to Nearest Turbine	27.6 miles
Horizontal Area Occupied by Visible Turbines	22°
Area Occupied by Visible Turbines as a Percent of the FOV	55.0%

Image Data

KOP 31: Picnic Views at State Military Reservation

Virginia Beach, VA

Print Guide / Image Notes:
This sheet should be printed at 11 by 17 inches; full size with no scaling; and viewed at arm's length (24 inches). If viewed on a computer monitor, the document should be scaled to 100 percent and viewed at arm's length (24 inches).

Visual Simulation: 14-MW Wind Turbine

KOP 31: Picnic Views at State Military Reservation

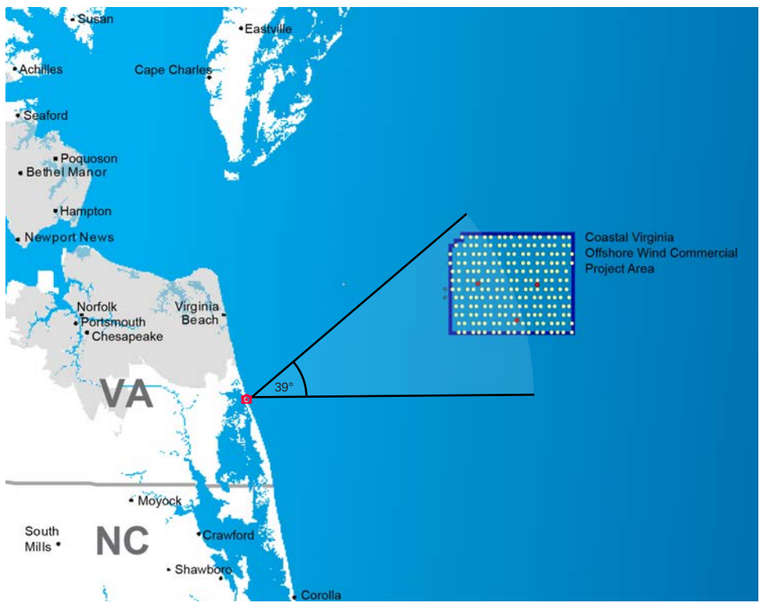
Virginia Beach, VA

Print Guide / Image Notes:
This sheet should be printed at 11 by 17 inches; full size with no scaling; and viewed at arm's length (24 inches). If viewed on a computer monitor, the document should be scaled to 100 percent and viewed at arm's length (24 inches).

Visual Simulation: 16-MW Wind Turbine

KOP 44: Little Island Park

Virginia Beach, VA

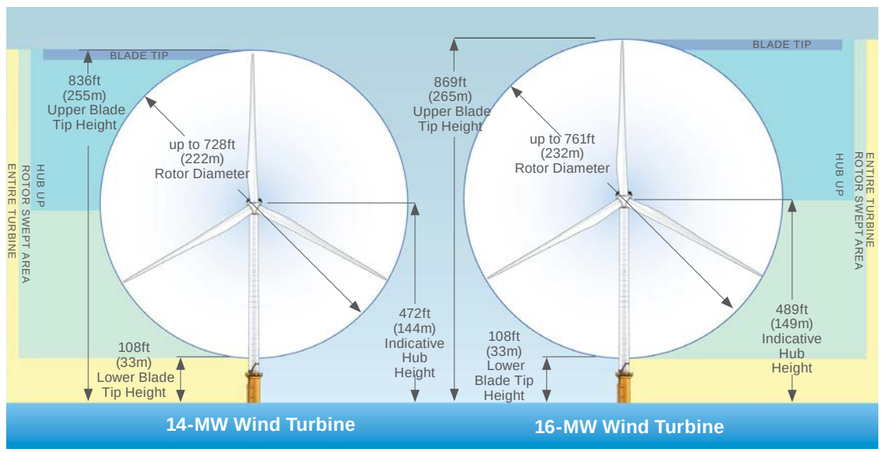


Vicinity Map

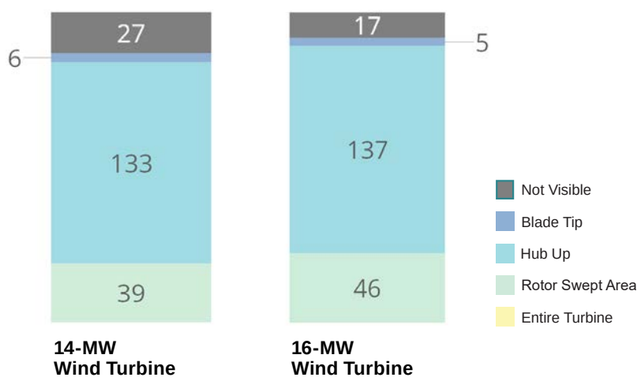
- Pilot Project Turbine
- Chesapeake Light Tower
- Turbine Location
- Offshore Substation
- Photo Point
- Lease Area

Existing Panoramic View

Located on Little Island Park near Sandpiper Rd.



Turbine Dimensions



Turbine Visibility

FIELD ID # 44

PHOTO INFORMATION	
Date	7/8/2021
Time	9:15 AM
Latitude	36.668282°
Longitude	-75.909911°
Direction of View	NE
Elevation	15’
Horizontal Field of View Represented in Simulated Image	39°

PROJECT INFRASTRUCTURE	
Turbines	205
Offshore Substations	3

ENVIRONMENTAL	
Temperature	84° F
Humidity	72%
Wind Direction	SSW
Wind Speed	14 mph
Weather Condition	Overcast

PROJECT VIEW	
Distance to Nearest Turbine	26.8 miles
Horizontal Area Occupied by Visible Turbines	26°
Area Occupied by Visible Turbines as a Percent of the FOV	66.7%

Image Data

KOP 44: Little Island Park

Virginia Beach, VA

Print Guide / Image Notes:
This sheet should be printed at 11 by 17 inches; full size with no scaling; and viewed at arm's length (24 inches). If viewed on a computer monitor, the document should be scaled to 100 percent and viewed at arm's length (24 inches).

Visual Simulation: 14-MW Wind Turbine

KOP 44: Little Island Park

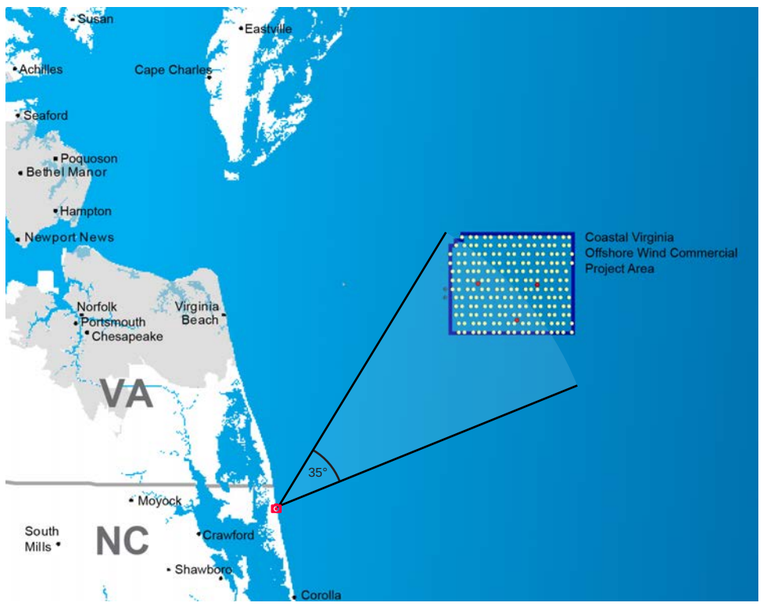
Virginia Beach, VA

Print Guide / Image Notes:
This sheet should be printed at 11 by 17 inches; full size with no scaling; and viewed at arm's length (24 inches). If viewed on a computer monitor, the document should be scaled to 100 percent and viewed at arm's length (24 inches).

Visual Simulation: 16-MW Wind Turbine

KOP 47: Currituck National Wildlife Refuge

Corolla, NC

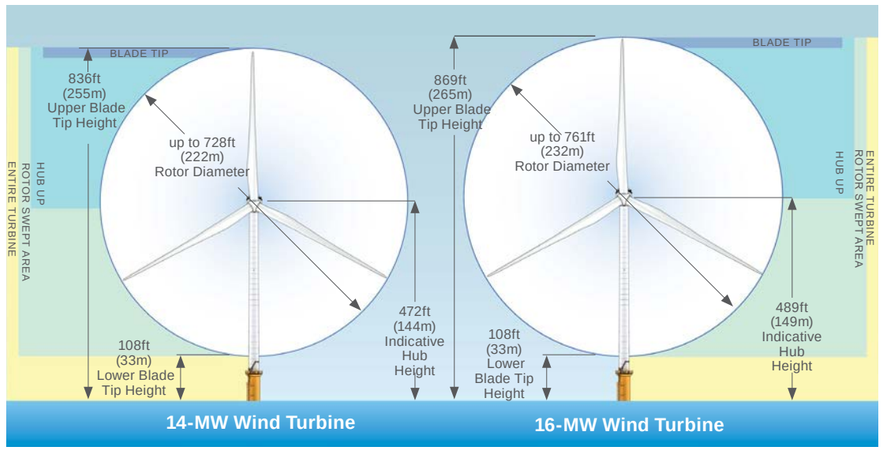


Vicinity Map

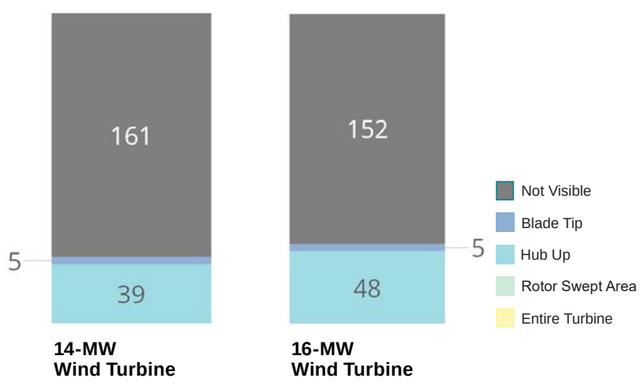
- Pilot Project Turbine
- Chesapeake Light Tower
- Turbine Location
- Offshore Substation
- Photo Point
- Lease Area

Existing Panoramic View

Located on Currituck National Wildlife Refuge near N Beach Access Rd 12



Turbine Dimensions



Turbine Visibility

FIELD ID # 47

PHOTO INFORMATION	
Date	7/7/2021
Time	10:58am
Latitude	36.417169°
Longitude	-75.834243°
Direction of View	NE
Elevation	15’
Horizontal Field of View Represented in Simulated Image	35°

PROJECT INFRASTRUCTURE	
Turbines	205
Offshore Substations	3

ENVIRONMENTAL	
Temperature	88° F
Humidity	57%
Wind Direction	SSW
Wind Speed	9 mph
Weather Condition	Fair

PROJECT VIEW	
Distance to Nearest Turbine	34.6 miles
Horizontal Area Occupied by Visible Turbines	12.5°
Area Occupied by Visible Turbines as a Percent of the FOV	35.7%

Image Data

KOP 47: Currituck National Wildlife Refuge

Corolla, NC

Print Guide / Image Notes:
This sheet should be printed at 11 by 17 inches; full size with no scaling; and viewed at arm's length (24 inches). If viewed on a computer monitor, the document should be scaled to 100 percent and viewed at arm's length (24 inches).

Visual Simulation: 14-MW Wind Turbine

KOP 47: Currituck National Wildlife Refuge

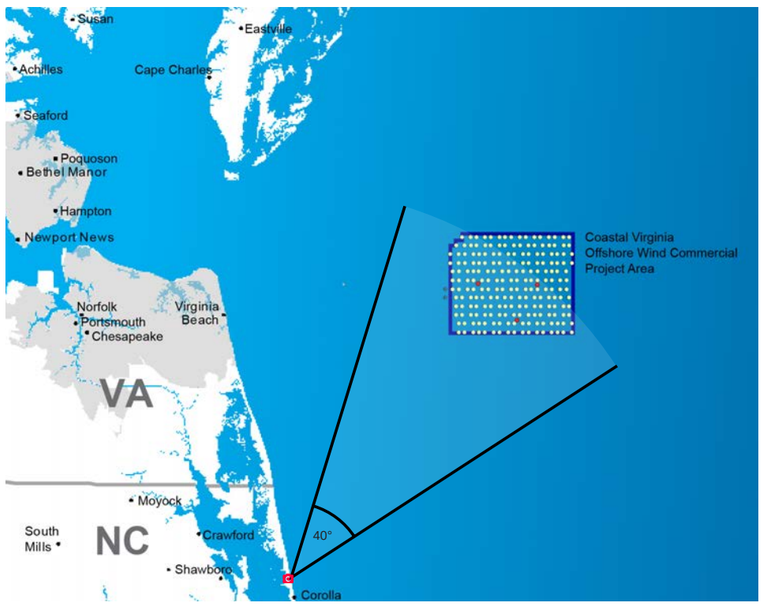
Corolla, NC

Print Guide / Image Notes:
This sheet should be printed at 11 by 17 inches; full size with no scaling; and viewed at arm's length (24 inches). If viewed on a computer monitor, the document should be scaled to 100 percent and viewed at arm's length (24 inches).

Visual Simulation: 16-MW Wind Turbine

KOP 48: Currituck Beach Lighthouse

Corolla, NC

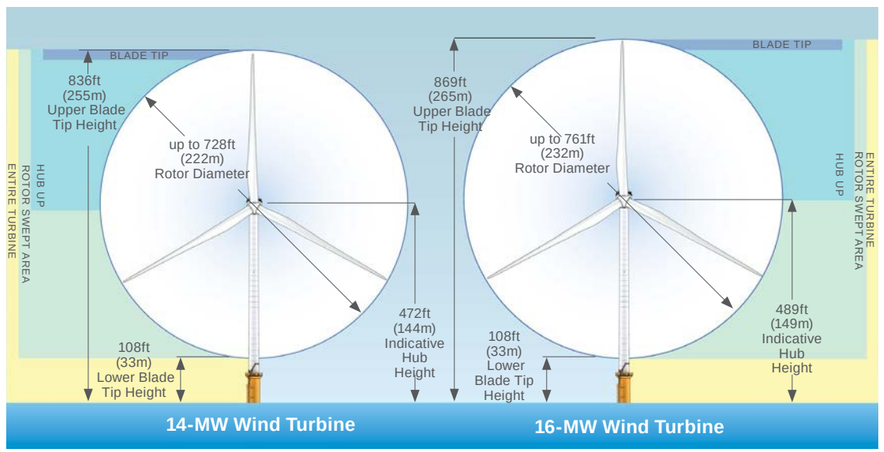


Vicinity Map

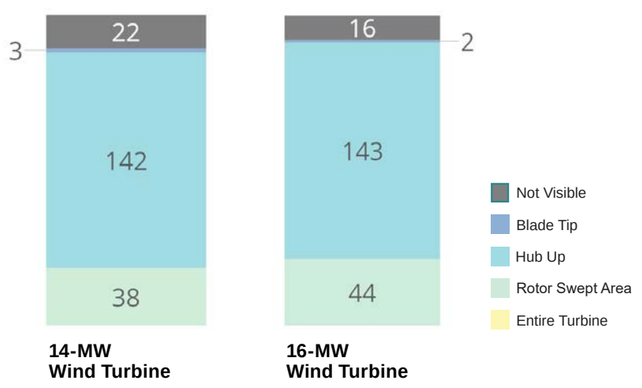
- Pilot Project Turbine
- Chesapeake Light Tower
- Turbine Location
- Offshore Substation
- Photo Point
- Lease Area

Existing Panoramic View

Located on the Currituck Beach Lighthouse observation deck.



Turbine Dimensions



14-MW Wind Turbine

16-MW Wind Turbine

Turbine Visibility

FIELD ID # 48

PHOTO INFORMATION	
Date	7/7/2021
Time	2:40 PM
Latitude	36.376709°
Longitude	-75.830790°
Direction of View	NE
Elevation	155'
Horizontal Field of View Represented in Simulated Image	40°

PROJECT INFRASTRUCTURE	
Turbines	205
Offshore Substations	3

ENVIRONMENTAL	
Temperature	93° F
Humidity	38%
Wind Direction	S
Wind Speed	14 mph
Weather Condition	Clear

PROJECT VIEW	
Distance to Nearest Turbine	36.8 miles
Horizontal Area Occupied by Visible Turbines	22°
Area Occupied by Visible Turbines as a Percent of the FOV	55.0%

Image Data

KOP 48: Currituck Beach Lighthouse

Corolla, NC

Print Guide / Image Notes:
This sheet should be printed at 11 by 17 inches; full size with no scaling; and viewed at arm's length (24 inches). If viewed on a computer monitor, the document should be scaled to 100 percent and viewed at arm's length (24 inches).

Visual Simulation: 14-MW Wind Turbine

KOP 48: Currituck Beach Lighthouse

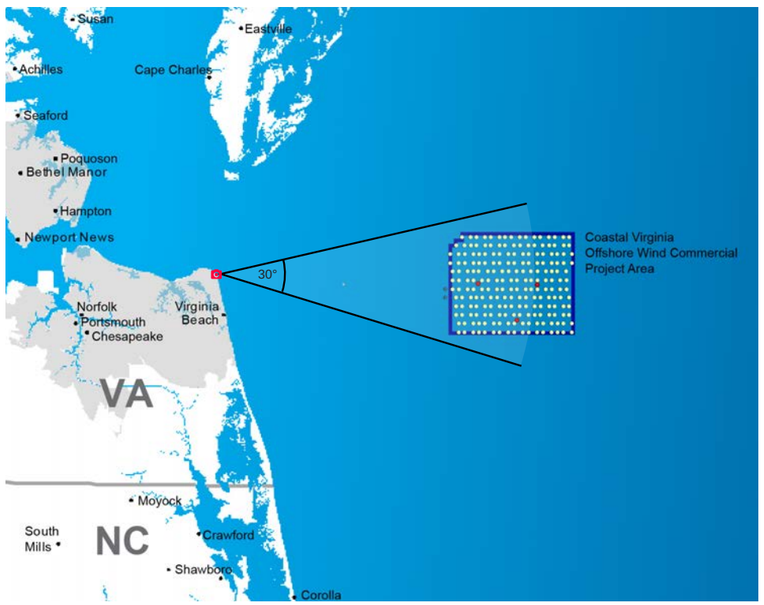
Corolla, NC

Print Guide / Image Notes:
This sheet should be printed at 11 by 17 inches; full size with no scaling; and viewed at arm's length (24 inches). If viewed on a computer monitor, the document should be scaled to 100 percent and viewed at arm's length (24 inches).

Visual Simulation: 16-MW Wind Turbine

KOP 15a: Beach Residential 1

Virginia Beach, VA

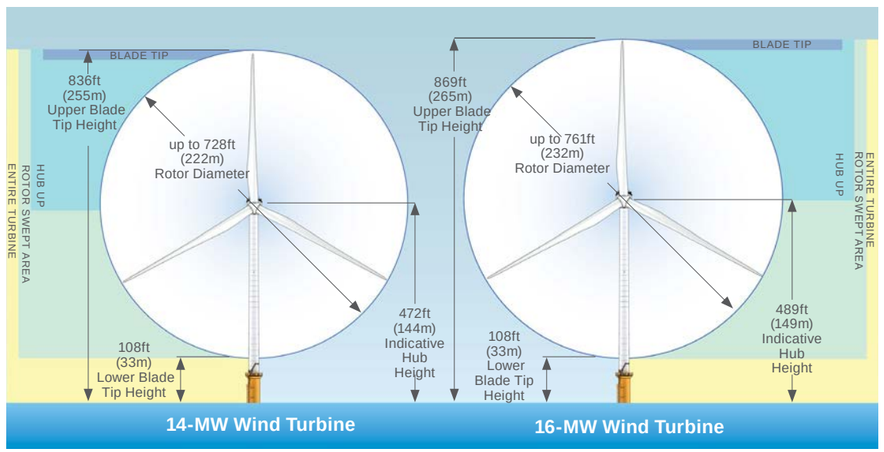


Vicinity Map

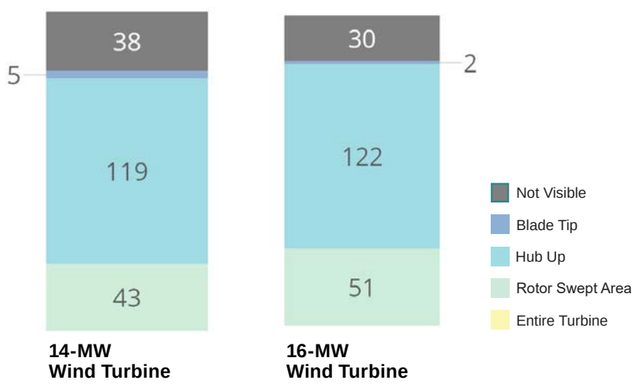
- Pilot Project Turbine
- Chesapeake Light Tower
- Turbine Location
- Offshore Substation
- Photo Point
- Lease Area

Existing Panoramic View

Located on North End Beaches, near 70th St.



Turbine Dimensions



Turbine Visibility

FIELD ID # 15a

PHOTO INFORMATION

Date	7/9/2021
Time	10:00 AM
Latitude	36.898335°
Longitude	-75.986696°
Direction of View	E
Elevation	15’
Horizontal Field of View Represented in Simulated Image	30°

PROJECT INFRASTRUCTURE

Turbines	205
Offshore Substations	3

ENVIRONMENTAL

Temperature	83° F
Humidity	69%
Wind Direction	WSW
Wind Speed	6 mph
Weather Condition	Fair

PROJECT VIEW

Distance to Nearest Turbine	28.1 miles
Horizontal Area Occupied by Visible Turbines	22°
Area Occupied by Visible Turbines as a Percent of the FOV	73.3%

Image Data

KOP 15a: Beach Residential 1

Virginia Beach, VA

Print Guide / Image Notes:
This sheet should be printed at 11 by 17 inches; full size with no scaling; and viewed at arm's length (24 inches). If viewed on a computer monitor, the document should be scaled to 100 percent and viewed at arm's length (24 inches).

Visual Simulation: 14-MW Wind Turbine

KOP 15a: Beach Residential 1

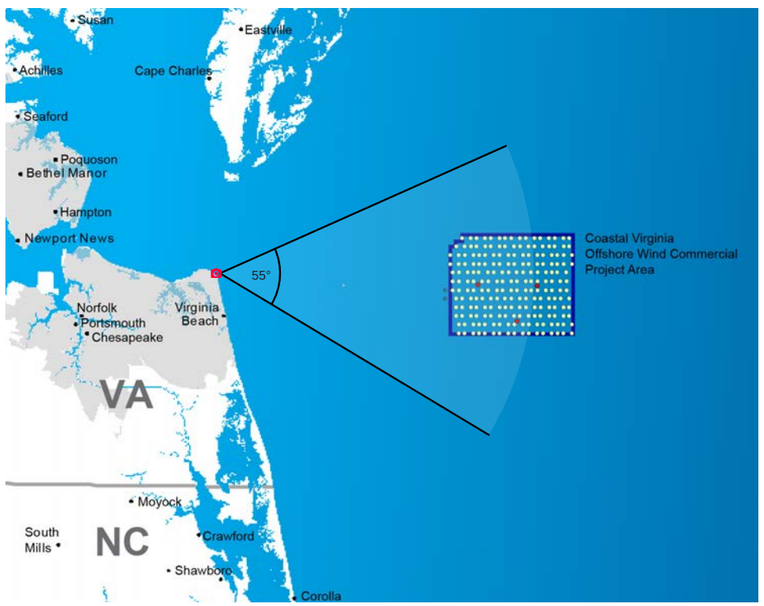
Virginia Beach, VA

Print Guide / Image Notes:
This sheet should be printed at 11 by 17 inches; full size with no scaling; and viewed at arm's length (24 inches). If viewed on a computer monitor, the document should be scaled to 100 percent and viewed at arm's length (24 inches).

Visual Simulation: 16-MW Wind Turbine

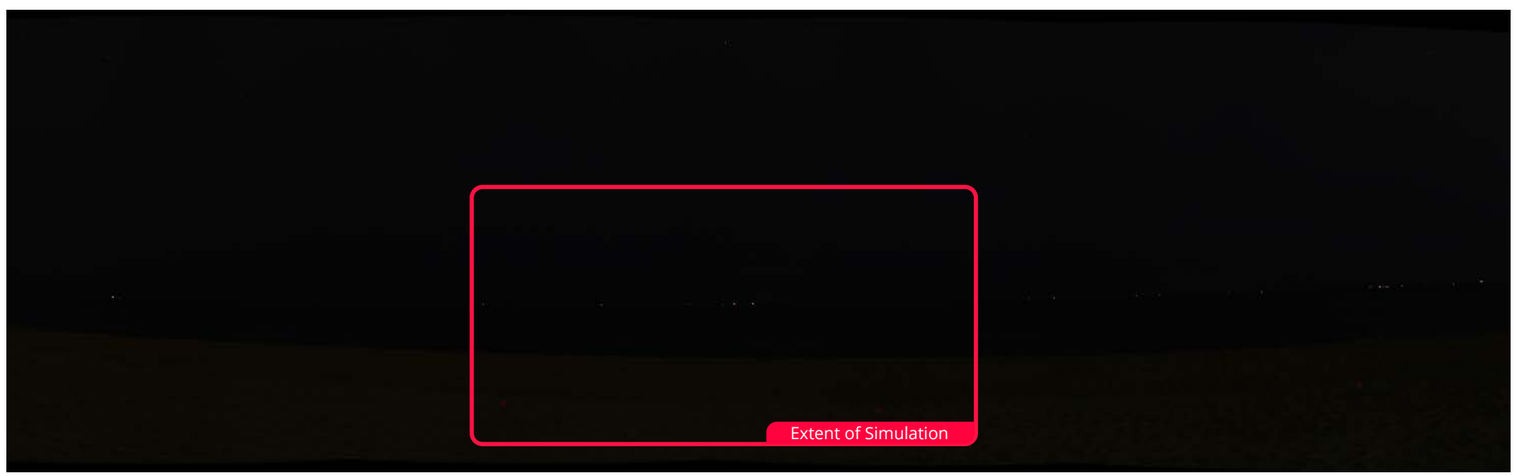
KOP 15b: Beach Residential 1 - Nighttime

Virginia Beach, VA



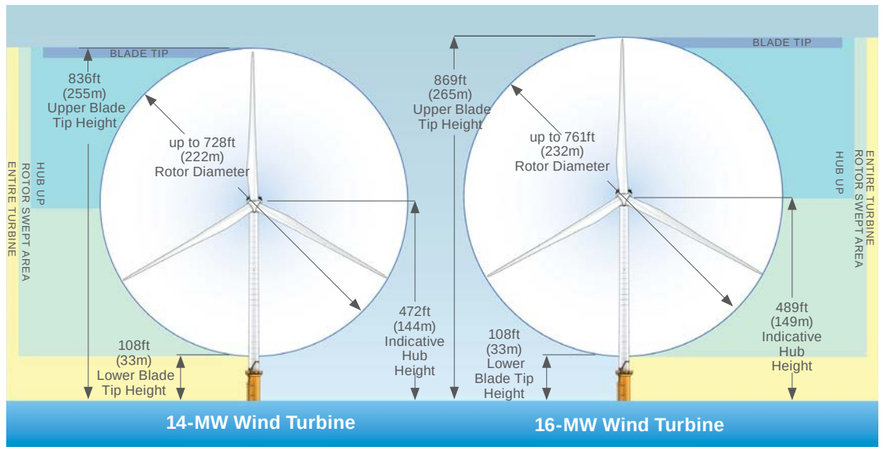
Vicinity Map

- Pilot Project Turbine
- Chesapeake Light Tower
- Turbine Location
- Offshore Substation
- Photo Point
- Lease Area

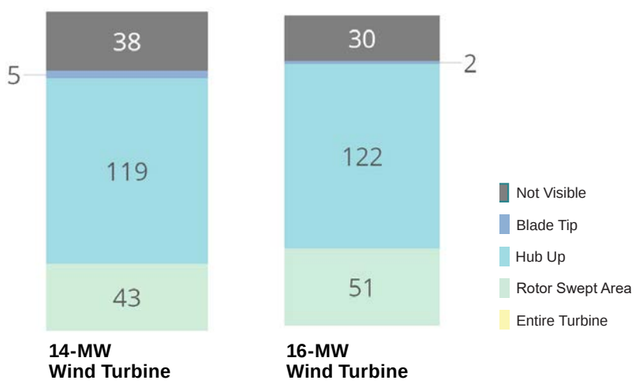


Existing Panoramic View

Located on North End Beaches, near 70th St.



Turbine Dimensions



Turbine Visibility

FIELD ID # 15b

PHOTO INFORMATION

Date	7/10/2021
Time	10:27pm
Latitude	36.898335°
Longitude	-75.986696°
Direction of View	E
Elevation	15’
Horizontal Field of View Represented in Simulated Image	55°

PROJECT INFRASTRUCTURE

Turbines	205
Offshore Substations	3

ENVIRONMENTAL

Temperature	78° F
Humidity	64%
Wind Direction	SSE
Wind Speed	6 mph
Weather Condition	Fair

PROJECT VIEW

Distance to Nearest Turbine	28.1 miles
Horizontal Area Occupied by Visible Turbines	23°
Area Occupied by Visible Turbines as a Percent of the FOV	41.8%

Image Data

KOP 15b: Beach Residential 1 - Nighttime

Virginia Beach, VA

Print Guide / Image Notes:
This sheet should be printed at 11 by 17 inches; full size with no scaling; and viewed at arm's length (24 inches). If viewed on a computer monitor, the document should be scaled to 100 percent and viewed at arm's length (24 inches).

Visual Simulation: 14-MW Wind Turbine

KOP 15b: Beach Residential 1 - Nighttime

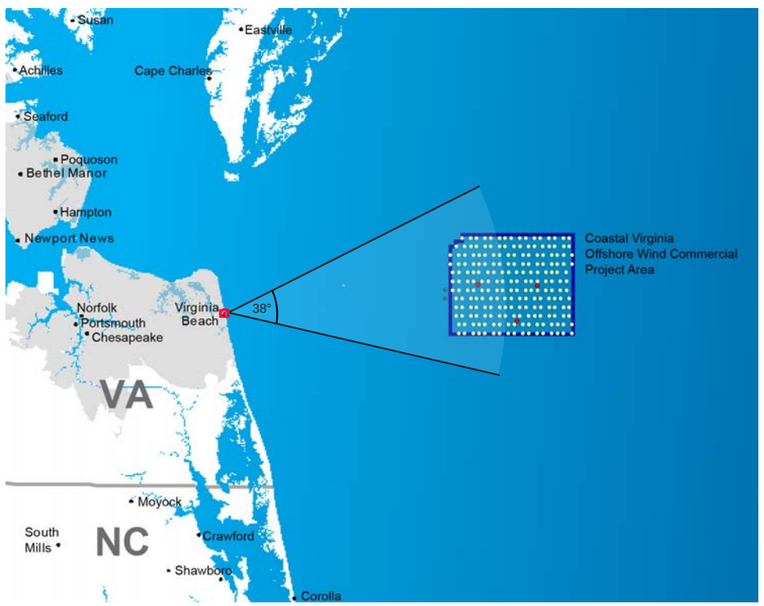
Virginia Beach, VA

Print Guide / Image Notes:
This sheet should be printed at 11 by 17 inches; full size with no scaling; and viewed at arm's length (24 inches). If viewed on a computer monitor, the document should be scaled to 100 percent and viewed at arm's length (24 inches).

Visual Simulation: 16-MW Wind Turbine

KOP 24a: Virginia Beach Boardwalk - 17th St Park

Virginia Beach, VA

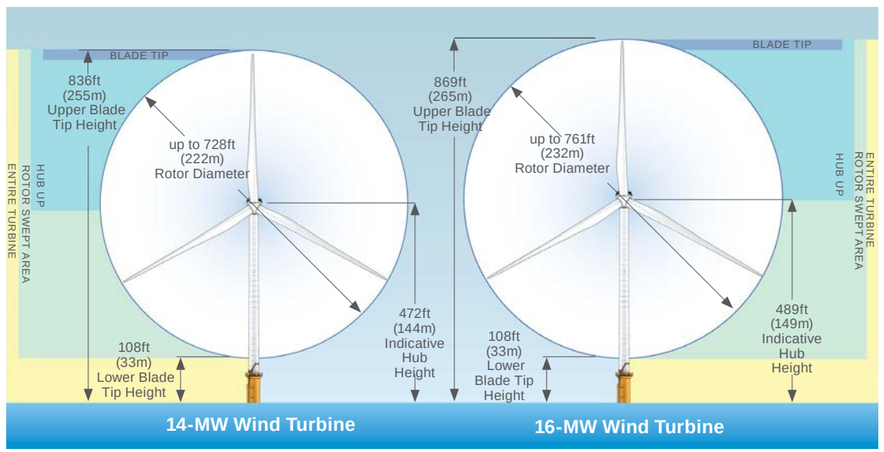


Vicinity Map

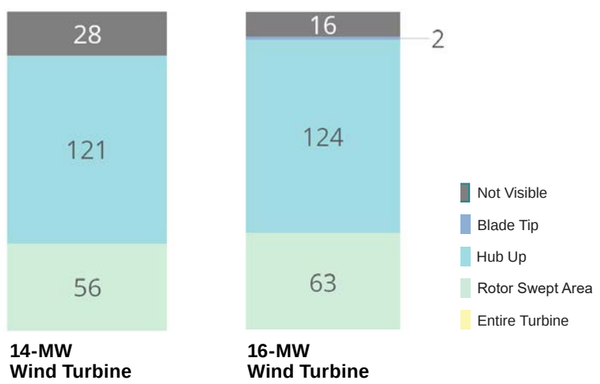
- Pilot Project Turbine
- Chesapeake Light Tower
- Turbine Location
- Offshore Substation
- Photo Point
- Lease Area

Existing Panoramic View

Located on Virginia Beach Boardwalk, near 17th St Park



Turbine Dimensions



Turbine Visibility

Image Data

FIELD ID # 24a

PHOTO INFORMATION	
Date	7/9/2021
Time	1:33 pm
Latitude	36.845523°
Longitude	-75.973333°
Direction of View	E
Elevation	18’
Horizontal Field of View Represented in Simulated Image	38°

PROJECT INFRASTRUCTURE	
Turbines	205
Offshore Substations	3

ENVIRONMENTAL	
Temperature	91° F
Humidity	53%
Wind Direction	WSW
Wind Speed	5 mph
Weather Condition	Partly Cloudy

PROJECT VIEW	
Distance to Nearest Turbine	27.8 miles
Horizontal Area Occupied by Visible Turbines	23°
Area Occupied by Visible Turbines as a Percent of the FOV	60.5%

KOP 24a: Virginia Beach Boardwalk - 17th St Park

Virginia Beach, VA

Print Guide / Image Notes:
This sheet should be printed at 11 by 17 inches; full size with no scaling; and viewed at arm's length (24 inches). If viewed on a computer monitor, the document should be scaled to 100 percent and viewed at arm's length (24 inches).

Visual Simulation: 14-MW Wind Turbine

KOP 24a: Virginia Beach Boardwalk - 17th St Park

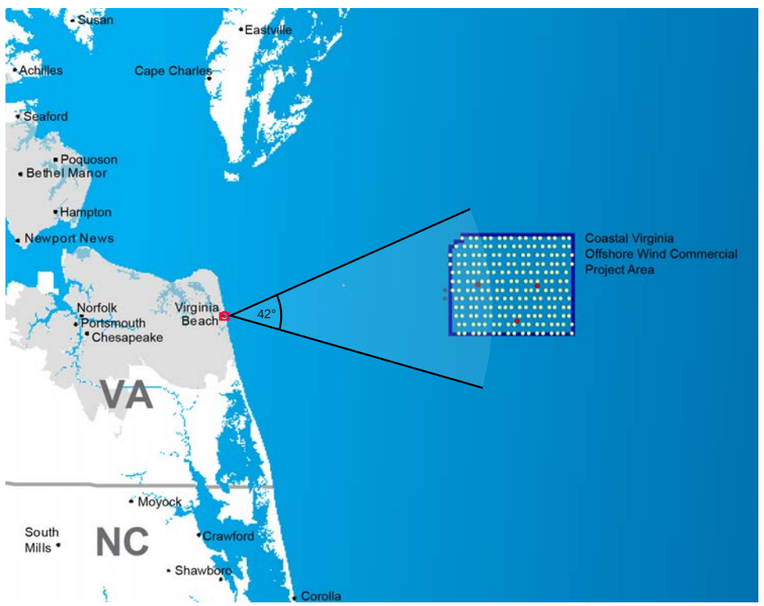
Virginia Beach, VA

Print Guide / Image Notes:
This sheet should be printed at 11 by 17 inches; full size with no scaling; and viewed at arm's length (24 inches). If viewed on a computer monitor, the document should be scaled to 100 percent and viewed at arm's length (24 inches).

Visual Simulation: 16-MW Wind Turbine

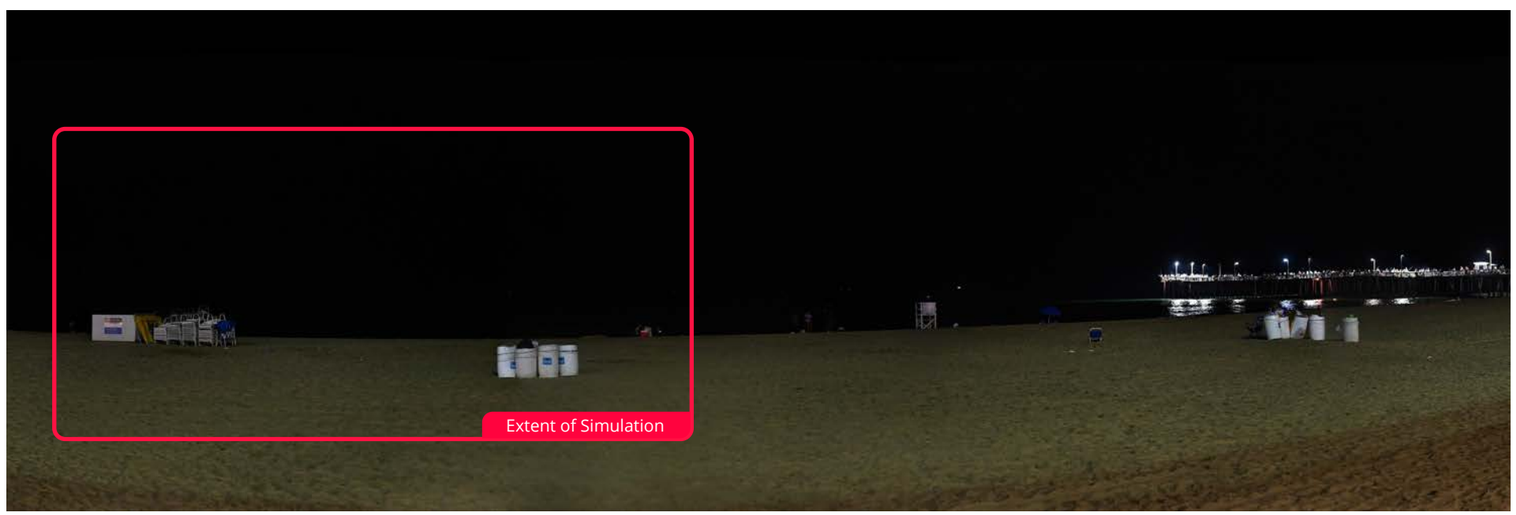
KOP 24b: Virginia Beach Boardwalk - 16th St Entrance - Nighttime

Virginia Beach, VA



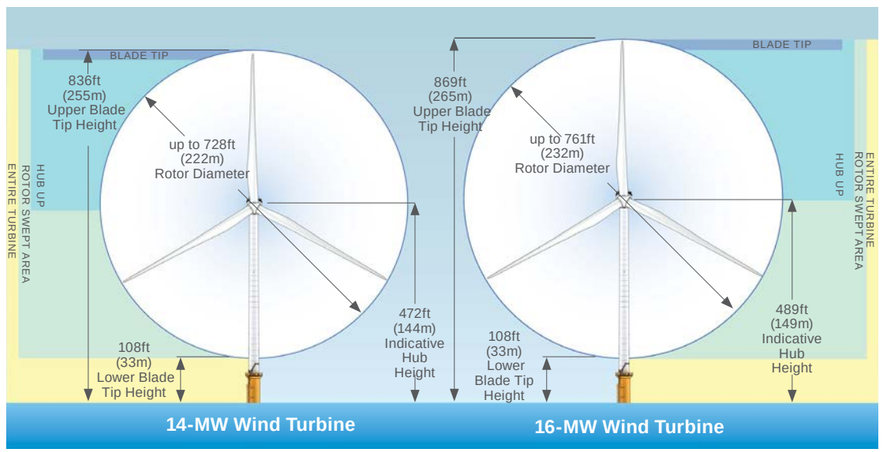
Vicinity Map

- Pilot Project Turbine
- Chesapeake Light Tower
- Turbine Location
- Offshore Substation
- Photo Point
- Lease Area

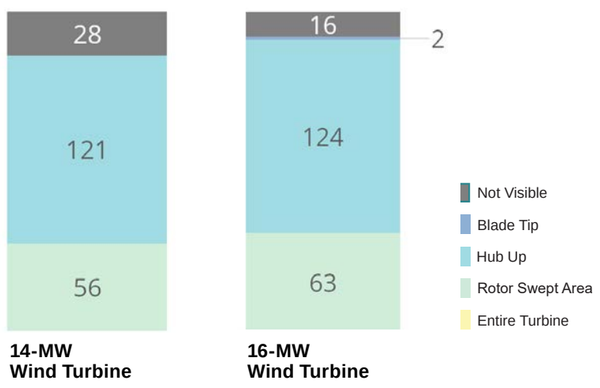


Existing Panoramic View

Located on Virginia Beach Boardwalk, near 16th St Entrance



Turbine Dimensions



14-MW Wind Turbine

16-MW Wind Turbine

Turbine Visibility

FIELD ID # 24b

PHOTO INFORMATION

Date	7/10/2021
Time	9:54 pm
Latitude	36.844775°
Longitude	-75.973125°
Direction of View	E
Elevation	18’
Horizontal Field of View Represented in Simulated Image	42°

PROJECT INFRASTRUCTURE

Turbines	205
Offshore Substations	3

ENVIRONMENTAL

Temperature	78° F
Humidity	68%
Wind Direction	SSE
Wind Speed	6 mph
Weather Condition	Fair

PROJECT VIEW

Distance to Nearest Turbine	27.7 miles
Horizontal Area Occupied by Visible Turbines	23°
Area Occupied by Visible Turbines as a Percent of the FOV	54.8%

Image Data

KOP 24b: Virginia Beach Boardwalk - 16th St Entrance - Nighttime

Virginia Beach, VA

Print Guide / Image Notes:
This sheet should be printed at 11 by 17 inches; full size with no scaling; and viewed at arm's length (24 inches). If viewed on a computer monitor, the document should be scaled to 100 percent and viewed at arm's length (24 inches).

Visual Simulation: 14-MW Wind Turbine

KOP 24b: Virginia Beach Boardwalk - 16th St Entrance - Nighttime

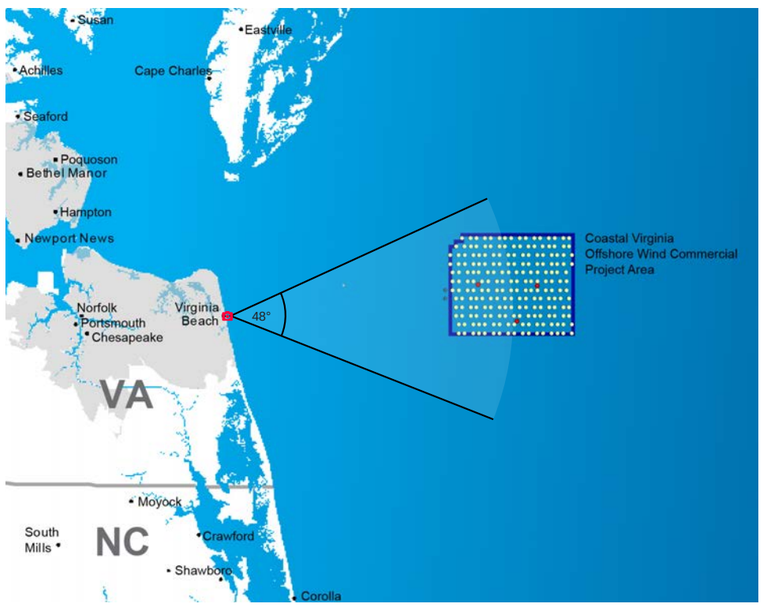
Virginia Beach, VA

Print Guide / Image Notes:
This sheet should be printed at 11 by 17 inches; full size with no scaling; and viewed at arm's length (24 inches). If viewed on a computer monitor, the document should be scaled to 100 percent and viewed at arm's length (24 inches).

Visual Simulation: 16-MW Wind Turbine

KOP 24d: Virginia Beach Boardwalk - Fishing Pier

Virginia Beach, VA

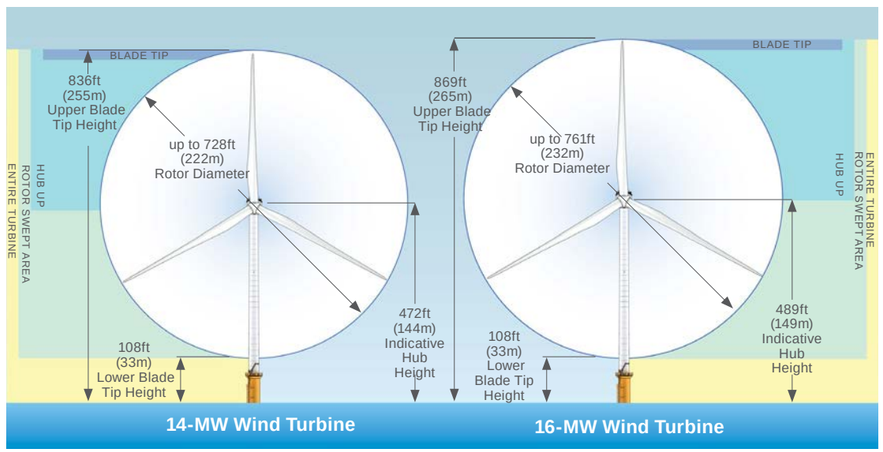


Vicinity Map

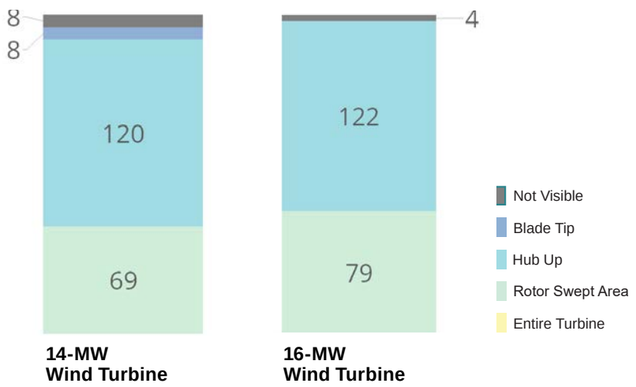
Pilot Project Turbine · Chesapeake Light Tower · Turbine Location · Offshore Substation · Photo Point · Lease Area

Existing Panoramic View

Located on Virginia Beach Boardwalk Fishing Pier



Turbine Dimensions



Turbine Visibility

FIELD ID # 24d

PHOTO INFORMATION	
Date	7/9/2021
Time	1:50 pm
Latitude	36.843709°
Longitude	-75.969876°
Direction of View	E
Elevation	25'
Horizontal Field of View Represented in Simulated Image	48°

PROJECT INFRASTRUCTURE	
Turbines	205
Offshore Substations	3

ENVIRONMENTAL	
Temperature	91° F
Humidity	53%
Wind Direction	WSW
Wind Speed	5 mph
Weather Condition	Partly Cloudy

PROJECT VIEW	
Distance to Nearest Turbine	27.6 miles
Horizontal Area Occupied by Visible Turbines	23°
Area Occupied by Visible Turbines as a Percent of the FOV	47.9%

Image Data

KOP 24d: Virginia Beach Boardwalk - Fishing Pier

Virginia Beach, VA

Print Guide / Image Notes:
This sheet should be printed at 11 by 17 inches; full size with no scaling; and viewed at arm's length (24 inches). If viewed on a computer monitor, the document should be scaled to 100 percent and viewed at arm's length (24 inches).

Visual Simulation: 14-MW Wind Turbine

KOP 24d: Virginia Beach Boardwalk - Fishing Pier

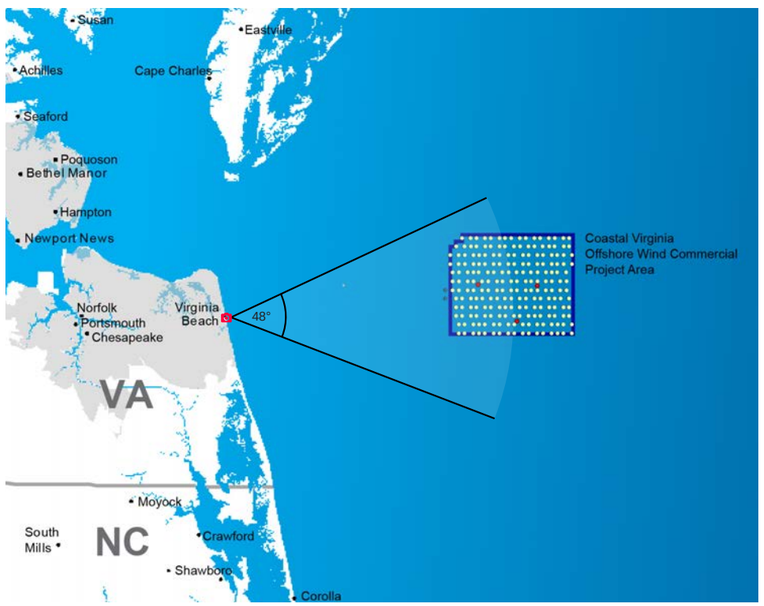
Virginia Beach, VA

Print Guide / Image Notes:
This sheet should be printed at 11 by 17 inches; full size with no scaling; and viewed at arm's length (24 inches). If viewed on a computer monitor, the document should be scaled to 100 percent and viewed at arm's length (24 inches).

Visual Simulation: 16-MW Wind Turbine

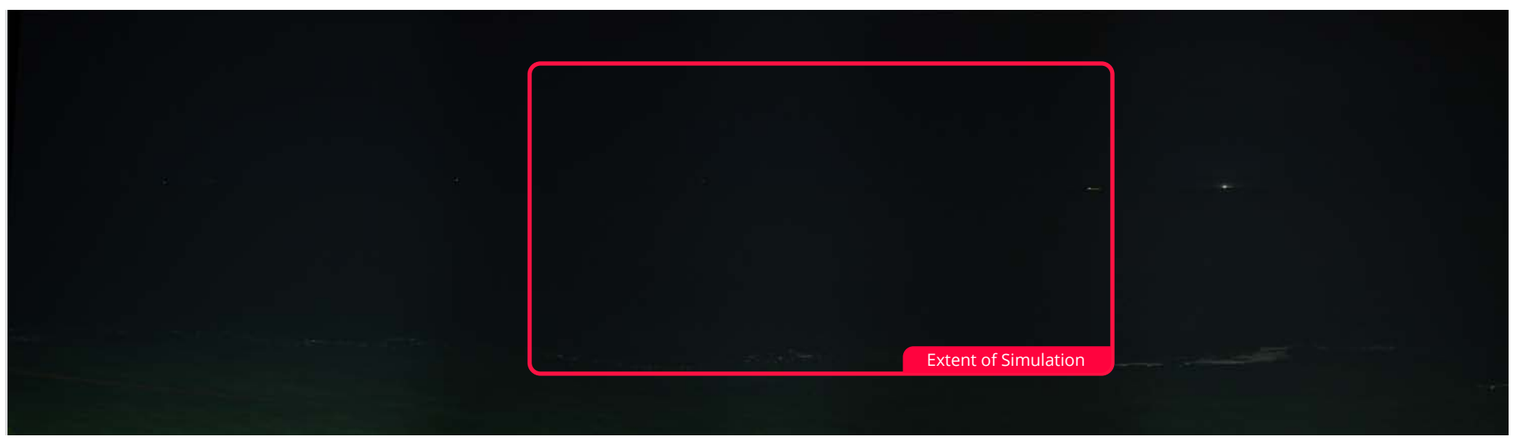
KOP 24d: Virginia Beach Boardwalk - Fishing Pier Nighttime

Virginia Beach, VA



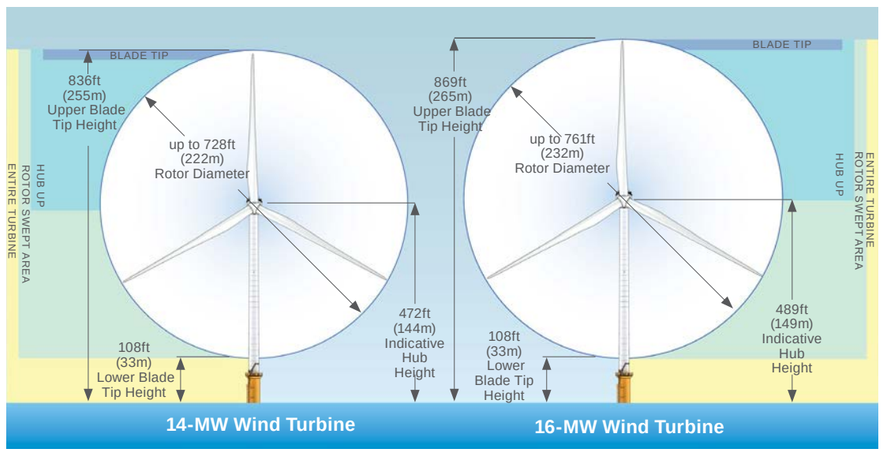
Vicinity Map

- Pilot Project Turbine
- Chesapeake Light Tower
- Turbine Location
- Offshore Substation
- Photo Point
- Lease Area

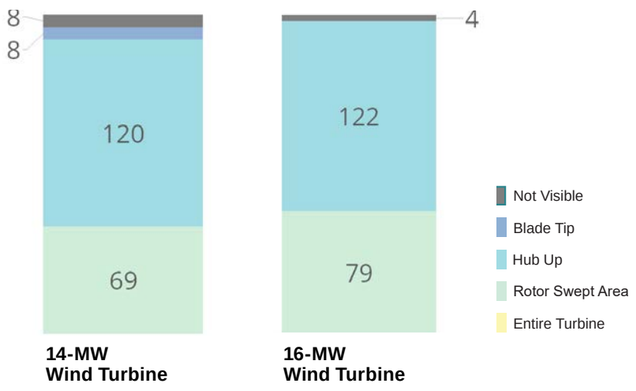


Existing Panoramic View

Located on Virginia Beach Boardwalk Fishing Pier



Turbine Dimensions



Turbine Visibility

FIELD ID # 24d

PHOTO INFORMATION	
Date	7/10/2021
Time	9:37 pm
Latitude	36.843709°
Longitude	-75.969876°
Direction of View	E
Elevation	25'
Horizontal Field of View Represented in Simulated Image	48°

PROJECT INFRASTRUCTURE	
Turbines	205
Offshore Substations	3

ENVIRONMENTAL	
Temperature	78° F
Humidity	6%
Wind Direction	SSE
Wind Speed	6 mph
Weather Condition	Fair

PROJECT VIEW	
Distance to Nearest Turbine	27.6 miles
Horizontal Area Occupied by Visible Turbines	23°
Area Occupied by Visible Turbines as a Percent of the FOV	47.9%

Image Data

KOP 24d: Virginia Beach Boardwalk - Fishing Pier Nighttime

Virginia Beach, VA

Print Guide / Image Notes:
This sheet should be printed at 11 by 17 inches; full size with no scaling; and viewed at arm's length (24 inches). If viewed on a computer monitor, the document should be scaled to 100 percent and viewed at arm's length (24 inches).

Visual Simulation: 14-MW Wind Turbine

KOP 24d: Virginia Beach Boardwalk - Fishing Pier Nighttime

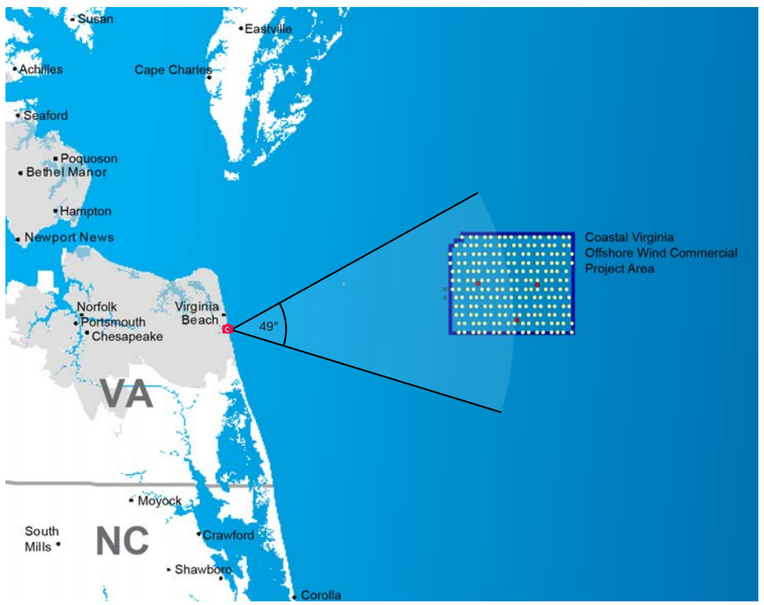
Virginia Beach, VA

Print Guide / Image Notes:
This sheet should be printed at 11 by 17 inches; full size with no scaling; and viewed at arm's length (24 inches). If viewed on a computer monitor, the document should be scaled to 100 percent and viewed at arm's length (24 inches).

Visual Simulation: 16-MW Wind Turbine

KOP 30a: Croatan Beach A - North

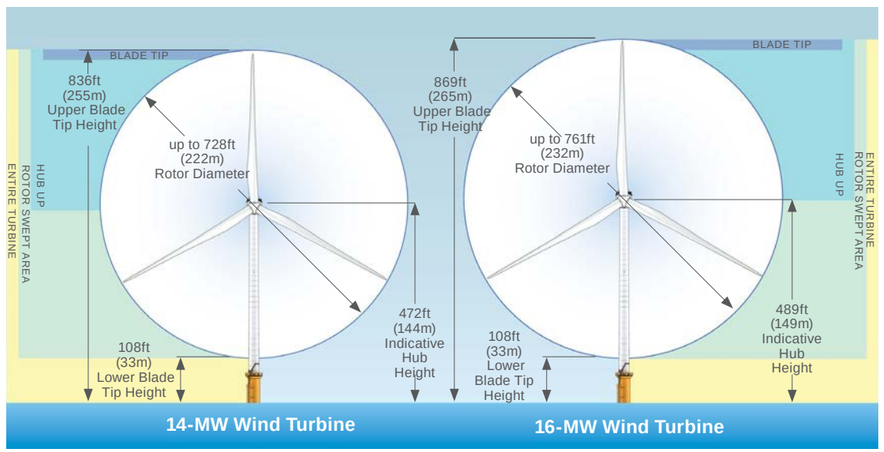
Virginia Beach, VA



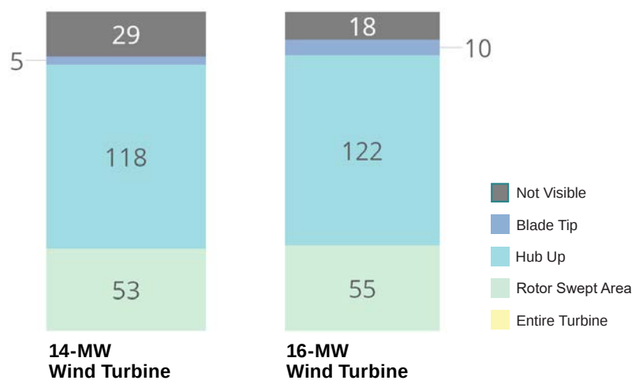
Vicinity Map

Existing Panoramic View

Located on Croatan Beach



Turbine Dimensions



Turbine Visibility

FIELD ID # 30a

PHOTO INFORMATION	
Date	7/8/2021
Time	11:00 AM
Latitude	36.827570°
Longitude	-75.968610°
Direction of View	ENE
Elevation	15’
Horizontal Field of View Represented in Simulated Image	49°

PROJECT INFRASTRUCTURE	
Turbines	205
Offshore Substations	3

ENVIRONMENTAL	
Temperature	84° F
Humidity	72%
Wind Direction	SSW
Wind Speed	15 mph
Weather Condition	Overcast

PROJECT VIEW	
Distance to Nearest Turbine	27.6 miles
Horizontal Area Occupied by Visible Turbines	22.5°
Area Occupied by Visible Turbines as a Percent of the FOV	45.9%

Image Data

KOP 30a: Croatan Beach A - North

Virginia Beach, VA

Print Guide / Image Notes:
This sheet should be printed at 11 by 17 inches; full size with no scaling; and viewed at arm's length (24 inches). If viewed on a computer monitor, the document should be scaled to 100 percent and viewed at arm's length (24 inches).

Visual Simulation: 14-MW Wind Turbine

KOP 30a: Croatan Beach A - North

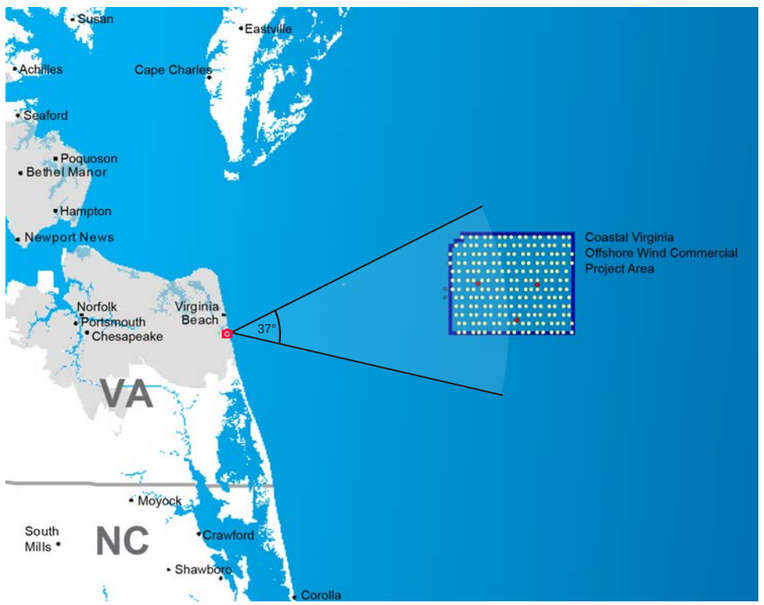
Virginia Beach, VA

Print Guide / Image Notes:
This sheet should be printed at 11 by 17 inches; full size with no scaling; and viewed at arm's length (24 inches). If viewed on a computer monitor, the document should be scaled to 100 percent and viewed at arm's length (24 inches).

Visual Simulation: 16-MW Wind Turbine

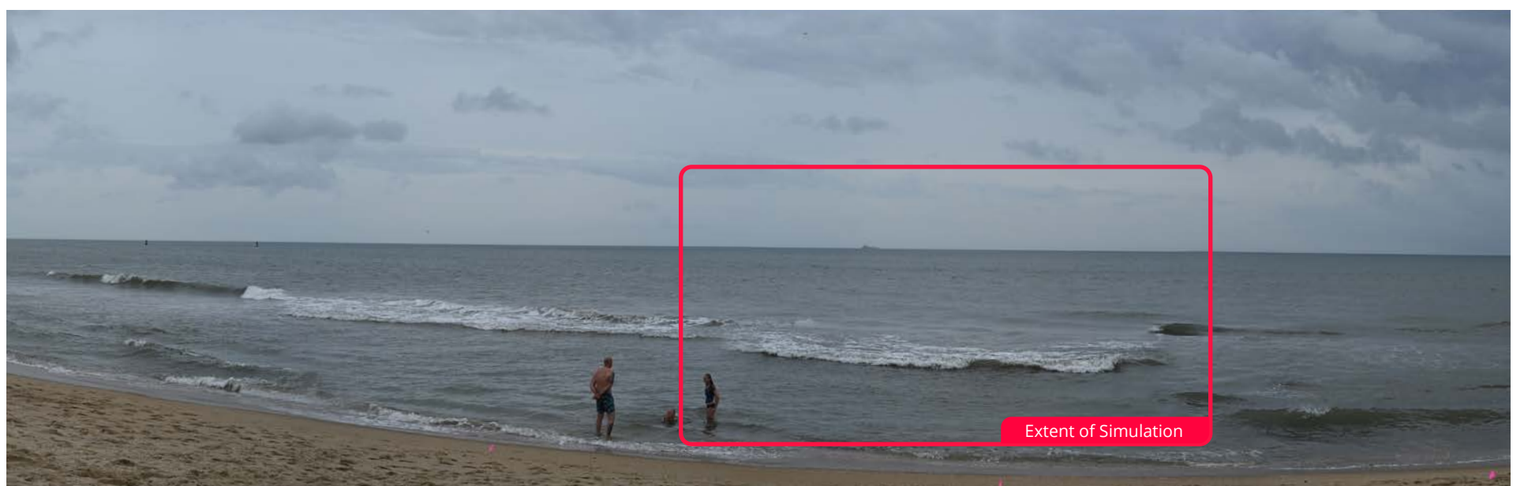
KOP 30c: Croatan Beach C - South

Virginia Beach, VA



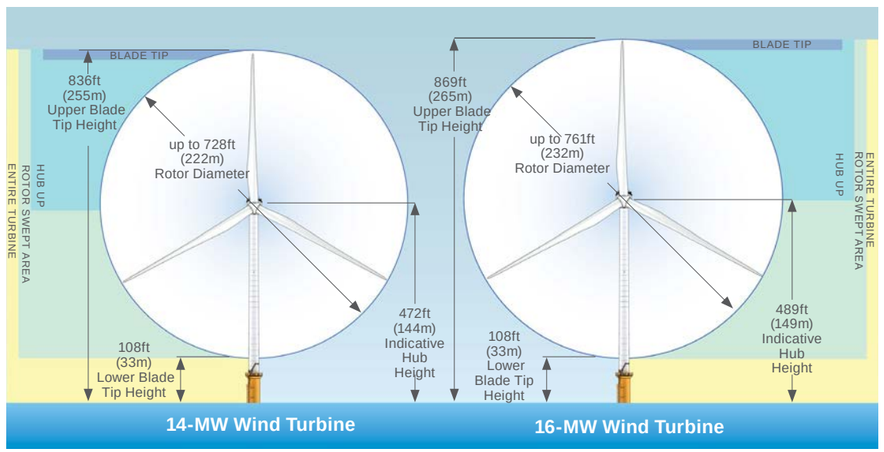
Vicinity Map

- Pilot Project Turbine
- Chesapeake Light Tower
- Turbine Location
- Offshore Substation
- Photo Point
- Lease Area

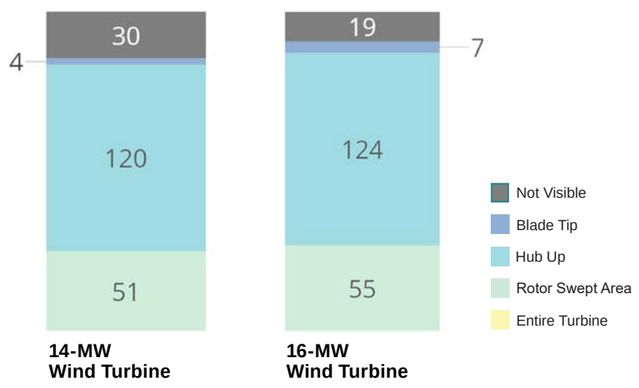


Existing Panoramic View

Located on Croatan Beach



Turbine Dimensions



14-MW Wind Turbine

16-MW Wind Turbine

Turbine Visibility

FIELD ID # 30c

PHOTO INFORMATION

Date	7/8/2021
Time	11:18 am
Latitude	36.823557°
Longitude	-75.968028°
Direction of View	NE
Elevation	15'
Horizontal Field of View Represented in Simulated Image	37°

PROJECT INFRASTRUCTURE

Turbines	205
Offshore Substations	3

ENVIRONMENTAL

Temperature	84° F
Humidity	72%
Wind Direction	SSW
Wind Speed	15 mph
Weather Condition	Mostly Cloudy

PROJECT VIEW

Distance to Nearest Turbine	27.6 miles
Horizontal Area Occupied by Visible Turbines	22.5°
Area Occupied by Visible Turbines as a Percent of the FOV	60.8%

Image Data

KOP 30c: Croatan Beach C - South

Virginia Beach, VA

Print Guide / Image Notes:
This sheet should be printed at 11 by 17 inches; full size with no scaling; and viewed at arm's length (24 inches). If viewed on a computer monitor, the document should be scaled to 100 percent and viewed at arm's length (24 inches).

Visual Simulation: 14-MW Wind Turbine

KOP 30c: Croatan Beach C - South

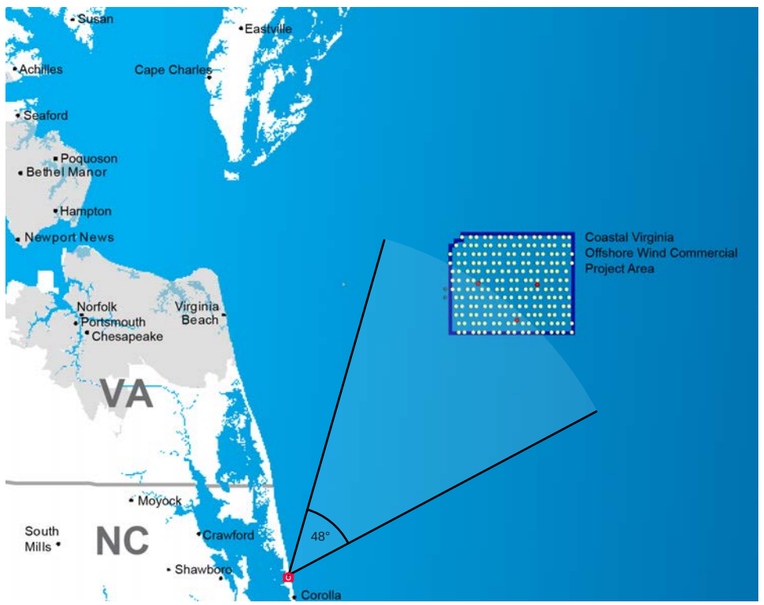
Virginia Beach, VA

Print Guide / Image Notes:
This sheet should be printed at 11 by 17 inches; full size with no scaling; and viewed at arm's length (24 inches). If viewed on a computer monitor, the document should be scaled to 100 percent and viewed at arm's length (24 inches).

Visual Simulation: 16-MW Wind Turbine

KOP 49a: Whale Head Bay - Residential

Corolla, NC

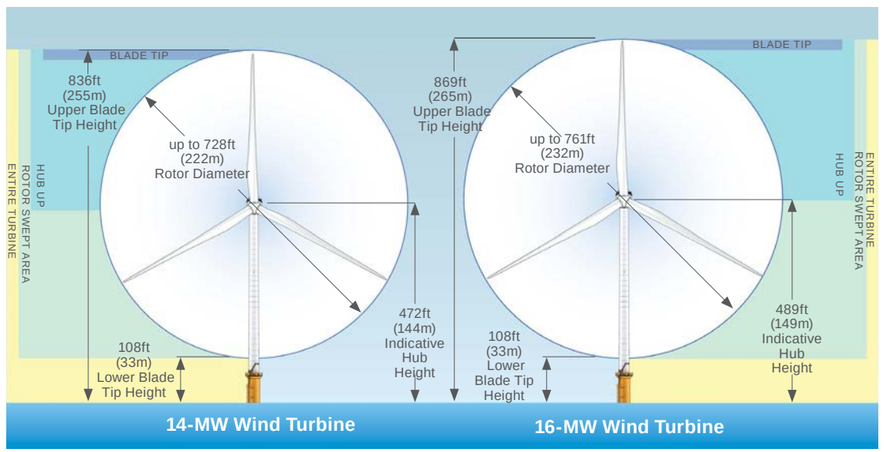


Vicinity Map

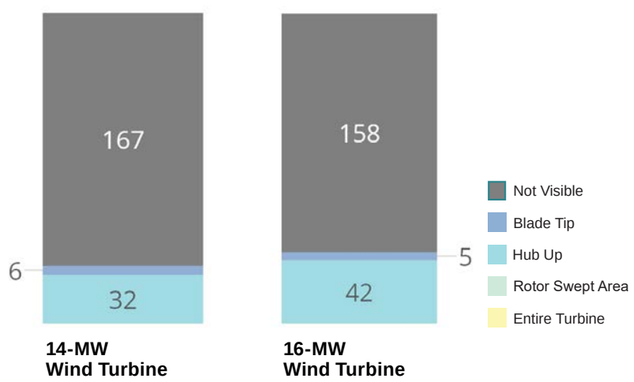
- Pilot Project Turbine
- Chesapeake Light Tower
- Turbine Location
- Offshore Substation
- Photo Point
- Lease Area

Existing Panoramic View

Located on Corolla Beach, near Corolla Beach Rd.



Turbine Dimensions



14-MW Wind Turbine

16-MW Wind Turbine

Turbine Visibility

FIELD ID # 49a

PHOTO INFORMATION	
Date	7/7/2021
Time	12:20 PM
Latitude	36.377628°
Longitude	-75.824152°
Direction of View	NE
Elevation	25'
Horizontal Field of View Represented in Simulated Image	48°

PROJECT INFRASTRUCTURE	
Turbines	205
Offshore Substations	3

ENVIRONMENTAL	
Temperature	91° F
Humidity	48%
Wind Direction	SW
Wind Speed	13 mph
Weather Condition	Fair

PROJECT VIEW	
Distance to Nearest Turbine	36.6 miles
Horizontal Area Occupied by Visible Turbines	14.5°
Area Occupied by Visible Turbines as a Percent of the FOV	30.2%

Image Data

KOP 49a: Whale Head Bay - Residential

Corolla, NC

Print Guide / Image Notes:
This sheet should be printed at 11 by 17 inches; full size with no scaling; and viewed at arm's length (24 inches). If viewed on a computer monitor, the document should be scaled to 100 percent and viewed at arm's length (24 inches).

Visual Simulation: 14-MW Wind Turbine

KOP 49a: Whale Head Bay - Residential

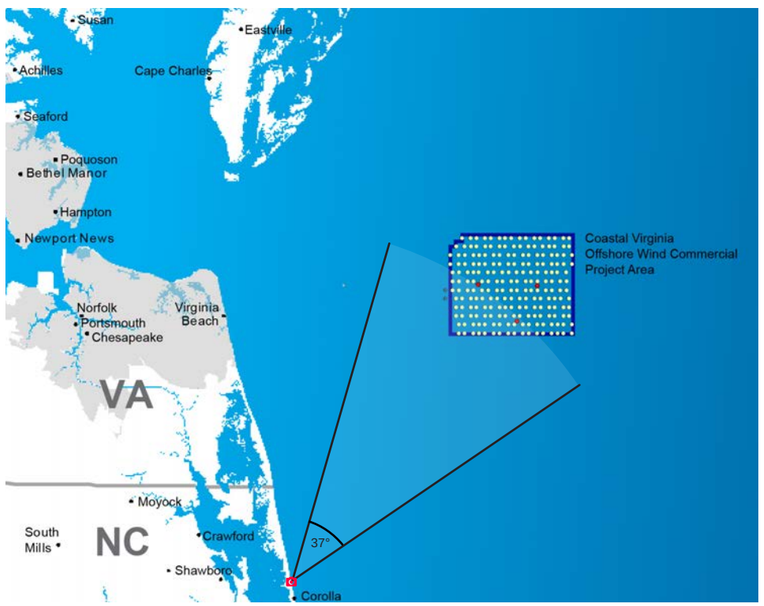
Corolla, NC

Print Guide / Image Notes:
This sheet should be printed at 11 by 17 inches; full size with no scaling; and viewed at arm's length (24 inches). If viewed on a computer monitor, the document should be scaled to 100 percent and viewed at arm's length (24 inches).

Visual Simulation: 16-MW Wind Turbine

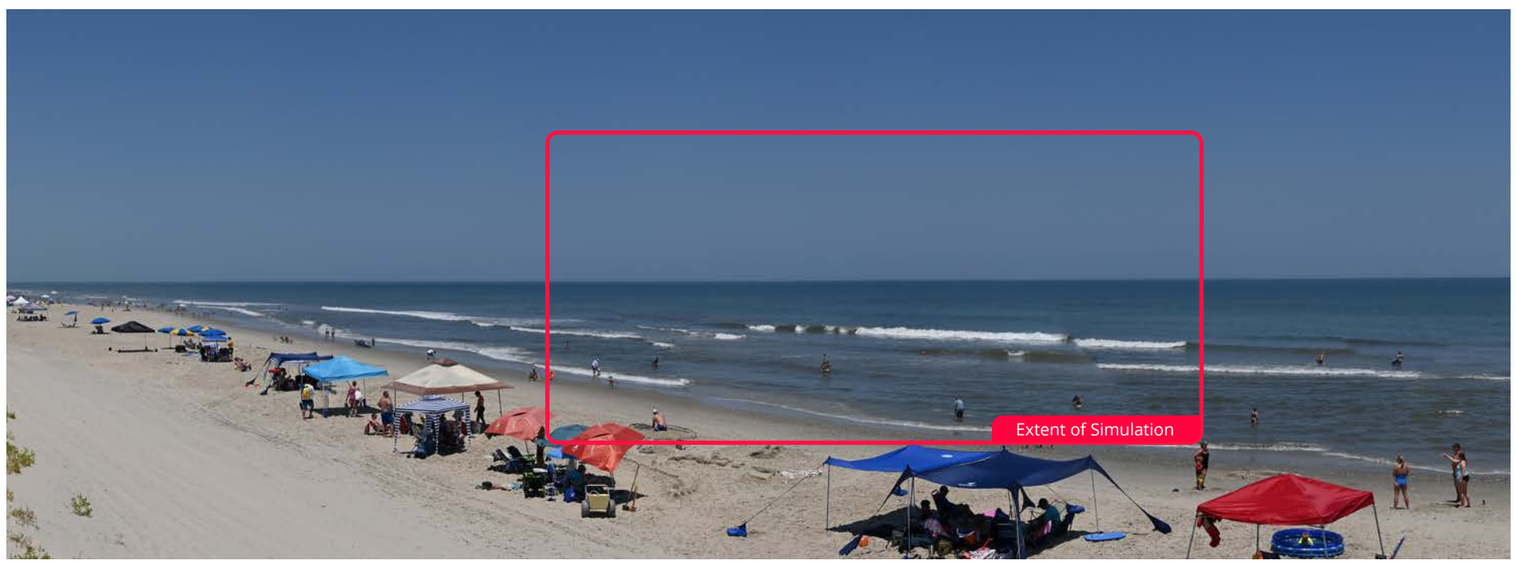
KOP 49g: Whale Head Bay - Albacore St Entrance

Corolla, NC



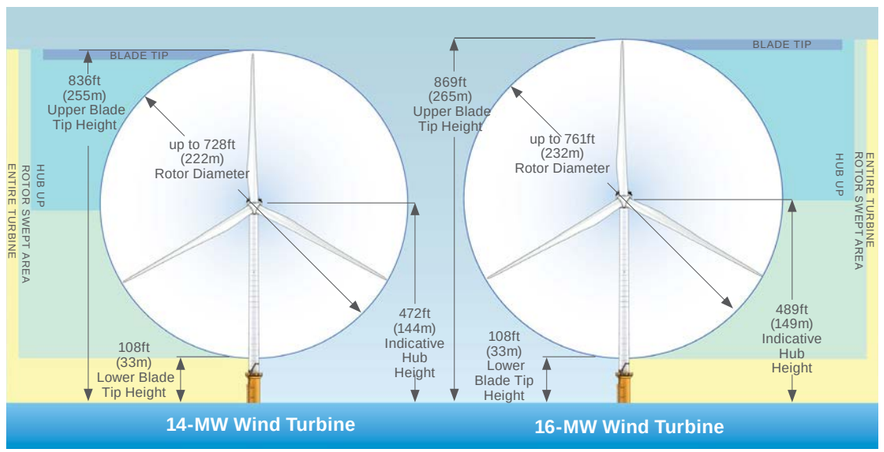
Vicinity Map

- Pilot Project Turbine
- Chesapeake Light Tower
- Turbine Location
- Offshore Substation
- Photo Point
- Lease Area

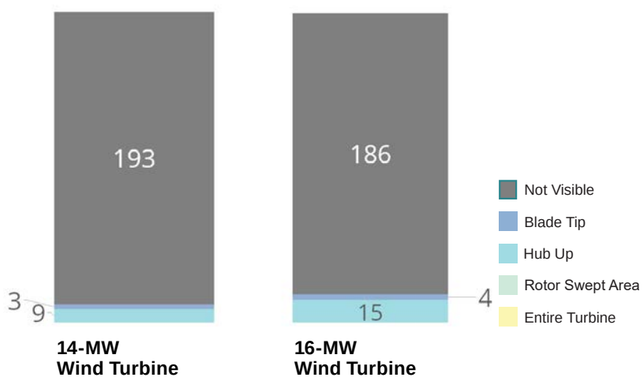


Existing Panoramic View

Located on Corolla Beach, near Corolla Beach Rd.



Turbine Dimensions



14-MW Wind Turbine

16-MW Wind Turbine

Turbine Visibility

FIELD ID # 49g

PHOTO INFORMATION

Date	7/7/2021
Time	12:20 PM
Latitude	36.328344°
Longitude	-75.810450°
Direction of View	NE
Elevation	25'
Horizontal Field of View Represented in Simulated Image	37°

PROJECT INFRASTRUCTURE

Turbines	205
Offshore Substations	3

ENVIRONMENTAL

Temperature	93° F
Humidity	42%
Wind Direction	S
Wind Speed	12 mph
Weather Condition	Fair

PROJECT VIEW

Distance to Nearest Turbine	39.1 miles
Horizontal Area Occupied by Visible Turbines	9°
Area Occupied by Visible Turbines as a Percent of the FOV	24.3%

Image Data

KOP 49g: Whale Head Bay - Albacore St Entrance

Corolla, NC

Print Guide / Image Notes:
This sheet should be printed at 11 by 17 inches; full size with no scaling; and viewed at arm's length (24 inches). If viewed on a computer monitor, the document should be scaled to 100 percent and viewed at arm's length (24 inches).

Visual Simulation: 14-MW Wind Turbine

KOP 49g: Whale Head Bay - Albacore St Entrance

Corolla, NC

Print Guide / Image Notes:
This sheet should be printed at 11 by 17 inches; full size with no scaling; and viewed at arm's length (24 inches). If viewed on a computer monitor, the document should be scaled to 100 percent and viewed at arm's length (24 inches).

Visual Simulation: 16-MW Wind Turbine