

# SCENARIO 4 INTERVISIBILITY ASSESSMENT FROM KEY OBSERVATION POINT

Development	Minimum Distance from KOP to Turbines (mi)	Maximum Blade Height of Nearest Turbine (Feet)	Visibility Status This Scenario
Maryland Offshore Wind Project, OCS-A 0490	33.6	938	N/A
Skipjack, OCS-A 0519	23.1	853	Visible
Garden State Offshore Wind, OCS-A 0482	15.9	853	Visible
Ocean Wind 2, OCS-A 0532	25.9	906	Visible
Ocean Wind 1, OCS-A 0498	33.8	906	Visible
Atlantic Shores South, OCS-A 0499	45	1049	Visible
Atlantic Shores North, OCS-A 0549	55.7	1049	Visible
Coastal Virginia Offshore Wind (C-Lease), OCS-A 0483	134.6	869	Developed But Beyond Visible Distance
Coastal Virginia Offshore Wind (Research Lease), OCS-A 0497	143.4	607	Developed But Beyond Visible Distance
Atlantic Shores Offshore Wind Bight (NY Bight), OCS-A 0541	73.2	853	Developed But Beyond Visible Distance
Invenergy Wind Offshore (NY Bight), OCS-A 0542	74.3	853	Developed But Beyond Visible Distance

Information on the neighboring offshore development projects is based on the most current information available.



<sup>1</sup> "The Best Paper Format and Viewing Distance to Represent the Scope and Scale of Visual Impacts", Journal of Landscape Architecture, 4-2019, pp. 142-151, J. Palmer <sup>2</sup> Sheppard, S. 1989. Visual Simulation: A User's Guide for Architects, Engineers, and Planners. New York: Van Nostrand Rheinhold.

### SITE INFORMATION

Site Name: Cape May Lighthouse Location: Cape May Point, NJ

Date: 3/25/2023 Time: 12:20 PM Coordinates (Lat/Lon WGS84): 38.931, -74.958

Landscape Zone: Barren Land (Rock/Sand/Clay) - Beach

### **CUMULATIVE VISUAL EFFECTS SCENARIOS (CURRENT IS BOLD)**

Scenario 1, Pre-Buildout of Maryland Offshore Wind Project

Scenario 2, Maryland Offshore Wind Project and Projects Already or Considered

Constructed

Scenario 3, Project Construction by 2030

Scenario 4, Project Construction by 2030 Without Maryland Offshore Wind Project Scenario 5, Maryland Wind Without Other Foreseeable Future Changes

### SCENARIO DESCRIPTION AND ASSUMPTIONS

Scenario 4 is similar to Scenario 3 in that it depicts all projects scheduled for construction through 2030, which includes Coastal Virginia Offshore Wind (Research Lease) OCS-A 0497, Coastal Virginia Offshore Wind (C-Lease) OCS-A 0483, Ocean Wind 1 OCS-A 0498, Atlantic Shores South OCS-A 0499, Atlantic Shores North OCS-A 0549, Ocean Wind 2 OCS-A 0532, Garden State Offshore Wind OCS-A 0482, Skipjack OCS-A 0519, Atlantic Shores Offshore Wind Bight (NY Bight) OCS-A 0541, and Invenergy Wind Offshore (NY Bight) OCS-A 0542, but with the exception of the Maryland Offshore Wind Project OCS-A 0490 which is excluded. Based on the intervisibility assessment, the simulations produced for this scenario show all projects, except for the Maryland Offshore Wind Project, that are visible from KOP 24, Cape May Lighthouse.

All simulated WTGs use monopile foundation structures, and all are oriented in the same direction with the centermost WTG facing directly towards the camera. The simulated WTGs use RAL 9010 Pure White paint color and the same lighting scheme that was outlined in US Wind's Visual Impact Assessment. As a point of reference, a 1049' tall structure drops completely below the horizon at a distance of 58.0 statute miles from a camera height above ground with an elevation of 153.8' at this KOP.

#### SHEET INDEX AND VIEWING INSTRUCTIONS

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Sheet 2 – Project Development and Visibility Summary

Sheet 3 – Existing Conditions Panorama View (124°)

Sheet 4 – Panorama View (124°) with Simulations without Project Extents

Sheet 5 – Panorama View (124°) with Simulations and Project Extents

Sheet 6 – Single Frame (50-mm Lens) Simulation, Left View and Project Extents

Sheet 7 – Single Frame (50-mm Lens) Simulation, Right View and Project Extents

To approximate the field of view represented by a  $16.5^{\prime\prime}$  panorama it should be printed on an  $11^{\prime\prime}$  x  $17^{\prime\prime}$  sheet of paper and viewed from 8 inches away<sup>1</sup>. For the most realistic experience when viewing in a digital format, position your computer screen  $20^{\prime\prime}$  away and adjust the PDF viewing software's zoom so that the calibration bar matches what's instructed on the simulation sheet.

In all cases care must be taken to not over or underrepresent the visual contrasts<sup>2</sup>. Typical binocular human field of view is assumed to be 124-degrees horizontal and 55-degrees vertical.

## **KOP 24 CAPE MAY LIGHTHOUSE, NEW JERSEY**

Maryland Offshore Wind Project Cumulative Visual Effects Assessment Simulations Scenario 4, Project Construction by 2030 Without Maryland Offshore Wind Project

SHEET 1 - SIMULATION CONTEXT AND INTERVISIBILITY ASSESSMENT



#### Closer to Maryland Offshore Wind Project Farther from Maryland Offshore Wind Project Scenario 4 Visibility of Nearest Turbine to Key Observation Point 1000 ft 10% 🚽 Horizon Based on findings from the 1,049' Intervisibility Assessment the 1,049' 539' 708' 840' 817' 853' following developments are excluded 51% 938' 853' 853' 906' 906' 78% 96% 93% 100% Horizon from this visibility matrix due to their 500 ft distance from the key observation point: Coastal Virginia Offshore Wind (C-Horizon Lease) OCS-A 0483 Coastal Virginia Offshore Wind Horizon Horizon (Research Lease) OCS-A 0497 0 ft, MLLW Atlantic Shores Offshore Wind **Maryland Offshore** Bight (NY Bight) OCS-A 0541 Skipjack **Garden State Atlantic Shores South** Ocean Wind 1 Ocean Wind 2 **Atlantic Shores North Wind Project** · Invenergy Wind Offshore (NY Bight) OCS-A 0542 **Excluded From Scenario** Visible Visible Visible Visible Visible Visibility Blocked by Terrain 4 Assessment # Turbines 80 108 147 N/A 33 111 201 # Turbines Visible N/A 33 80 111 108 184 15 # Nacelle FAA Lights Visible 33 80 98 24 N/A 111 # Mid-Tower FAA Lights Visible N/A 33 80 91 17 N/A 0 # Substations 0 # Substations Visible N/A 0 0 Minimum Distance from KOP to Turbines (mi) N/A 23.1 15.9 25.9 33.8 45.0 55.7 Maximum Distance from KOP to Turbines (mi) 34.1 27.2 43.2 47.9 60.7 74.7 N/A N/A 817 853 840 708 539 109 Nearest Turbine – Vertical Extent of Turbine Visible (ft) 3 N/A 649 770 458 296 Farthest Turbine – Vertical Extent of Turbine Visible (ft) Nearest Turbine - Vertical Extent of Turbine Visible (%) N/A 96% 100% 93% 78% 51% 10% 90% 33% Farthest Turbine – Vertical Extent of Turbine Visible (%) N/A 76% 51% 1% 0% Mid-Tower FAA Light Height (ft) N/A 253 253 263 263 304 304 Hub Height (ft) N/A 492 492 512 512 590 590 525 Nacelle Top FAA Light Height (ft) N/A 506 506 525 608 608

853

722

853

722

N/A

N/A

Information on the neighboring offshore development projects is based on the most current information available. Shaded green defines projects excluded from current scenario.

Blade Tip Height (ft)

Rotor Diameter (ft)

### **KOP 24 CAPE MAY LIGHTHOUSE, NEW JERSEY**

Maryland Offshore Wind Project Cumulative Visual Effects Assessment Simulations Scenario 4, Project Construction by 2030 Without Maryland Offshore Wind Project

1049

918.6

906

788

906

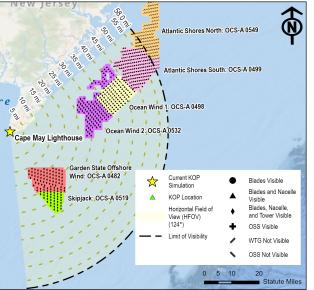
788

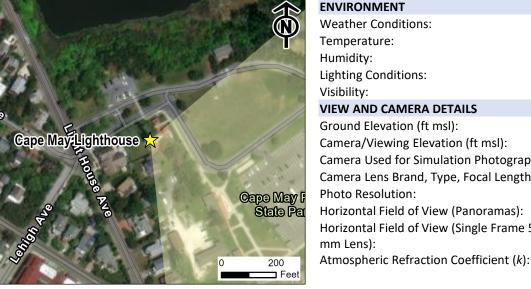


1049

918.6







54° F Temperature: 49% Humidity: Clear/Sunny **Lighting Conditions:** Visibility: 10 Miles

**VIEW AND CAMERA DETAILS** Ground Elevation (ft msl): 148.3 Camera/Viewing Elevation (ft msl): 153.3 Camera Used for Simulation Photography: Nikon D850 Camera Lens Brand, Type, Focal Length: Nikon Fixed 50 mm Photo Resolution: 1200 DPI Horizontal Field of View (Panoramas): 124° Horizontal Field of View (Single Frame 50 mm Lens): 39.6°

0.143

viewing in a digital format, position your computer screen 20" away and adjust the PDF viewing software's zoom so that the calibration bar is 1 inch long:

1" Measured On Screen – View from 20" Away

In all cases care must be taken to not over or underrepresent the visual contrasts<sup>2</sup>. Typical binocular human field of view is assumed to be 124-degrees horizontal and 55-degrees vertical. See Sheet 1 for citations.

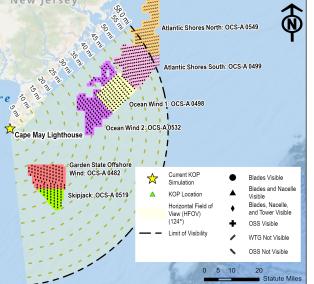
# **KOP 24 CAPE MAY LIGHTHOUSE, NEW JERSEY**

**Maryland Offshore Wind Project Cumulative Visual Effects Assessment Simulations** Scenario 4, Project Construction by 2030 Without Maryland Offshore Wind Project

SHEET 3 - EXISTING CONDITIONS PANORAMA VIEW (124°)









54° F Temperature: Humidity: Clear/Sunny **Lighting Conditions:** Visibility: 10 Miles **VIEW AND CAMERA DETAILS** Ground Elevation (ft msl): 148.3 Camera/Viewing Elevation (ft msl): 153.3 Camera Used for Simulation Photography: Nikon D850 Camera Lens Brand, Type, Focal Length: Nikon Fixed 50 mm Photo Resolution: 1200 DPI Horizontal Field of View (Panoramas): 124° Horizontal Field of View (Single Frame 50 mm Lens): 39.6° Atmospheric Refraction Coefficient (k): 0.143

viewing in a digital format, position your computer screen 20" away and adjust the PDF viewing software's zoom so that the calibration bar is 1 inch long:

1" Measured On Screen – View from 20" Away

In all cases care must be taken to not over or underrepresent the visual contrasts<sup>2</sup>. Typical binocular human field of view is assumed to be 124-degrees horizontal and 55-degrees vertical. See Sheet 1 for citations.

## **KOP 24 CAPE MAY LIGHTHOUSE, NEW JERSEY**

**Maryland Offshore Wind Project Cumulative Visual Effects Assessment Simulations** Scenario 4, Project Construction by 2030 Without Maryland Offshore Wind Project

SHEET 4 - PANORAMA VIEW (124°) WITH SIMULATIONS WITHOUT **PROJECT EXTENTS** 



Atlantic Shores North (Visibility Blocked by Terrain)

Atlantic Shores South

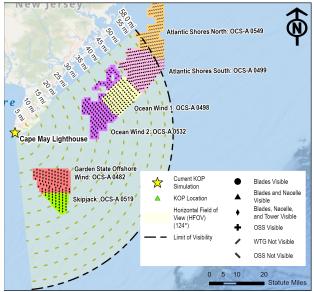
Ocean Wind

Ocean Wind 2

Garden State Offshore Wind

Skipjack







Weather Conditions:	Clear/Calm
Temperature:	54° F
Humidity:	49%
Lighting Conditions:	Clear/Sunny
Visibility:	10 Miles
VIEW AND CAMERA DETAILS	
Ground Elevation (ft msl):	148.3
Camera/Viewing Elevation (ft msl):	153.3
Camera Used for Simulation Photography:	Nikon D850
	N.: E: 1.EO

**ENVIRONMENT** 

mm Lens):

Atmospheric Refraction Coefficient (k):

Ground Elevation (ft msl): 148.3
Camera/Viewing Elevation (ft msl): 153.3
Camera Used for Simulation Photography: Nikon D850
Camera Lens Brand, Type, Focal Length: Nikon Fixed 50 mm
Photo Resolution: 1200 DPI
Horizontal Field of View (Panoramas): 124°
Horizontal Field of View (Single Frame 50

39.6°

0.143

VIEWING INSTRUCTIONS: To approximate the field of view represented by a 16.5" panorama simulation, it should be printed on an 11" x 17" sheet of paper and viewed from 8 inches away<sup>1</sup>. For the most realistic experience when viewing in a digital format, position your computer screen 20" away and adjust the PDF viewing software's zoom so that the calibration bar is 1 inch long:

1" Measured On Screen – View from 20" Away

In all cases care must be taken to not over or underrepresent the visual contrasts<sup>2</sup>. Typical binocular human field of view is assumed to be 124-degrees horizontal and 55-degrees vertical. See Sheet 1 for citations.

## **KOP 24 CAPE MAY LIGHTHOUSE, NEW JERSEY**

Maryland Offshore Wind Project Cumulative Visual Effects Assessment Simulations Scenario 4, Project Construction by 2030 Without Maryland Offshore Wind Project

SHEET 5 – PANORAMA VIEW (124°) WITH SIMULATIONS AND PROJECT EXTENTS



Atlantic Shores North (Visibility Blocked by Terrain)

Atlantic Shores South

Ocean Wind 1

Ocean Wind 2



Garden State Offshore Wind

Skipjack



Graphic shows which specific portion of the human field of view (124°) is visible in this single frame (40°) photo.

VIEWING INSTRUCTIONS: To approximate the field of view represented by a 15.7" single frame simulation captured with a 50-mm lens it should be printed on an 11" x 17" sheet of paper and viewed from 22 inches away<sup>1</sup>. For the mos realistic experience when viewing in a digital format, position your computer screen 20" away and adjust the PDF viewing software's zoom so that the calibration bar is 1 inch long:

17 Measured On Screen — View from 20" Away

In all cases care must be taken to not over or underrepresent the visual contrasts?. Typical binocular human field of view is assumed to be 124-degrees horizontal and 55-degrees vertical. See Speet 1 for citations.

# **KOP 24 CAPE MAY LIGHTHOUSE, NEW JERSEY**

Maryland Offshore Wind Project Cumulative Visual Effects Assessment Simulations
Scenario 4, Project Construction by 2030 Without Maryland Offshore Wind Project

SHEET 7 - SINGLE FRAME (50-mm LENS) SIMULATION, RIGHT-VIEW AND PROJECT EXTENTS