# OC04: Gillian's Wonderland Pier, Ocean City, Cape May County, New Jersey

## **Environmental Data**

Date Taken: 08/25/2022 Time: 12:47 PM Temperature: 91°F Humidity: 29% Visibility\*: 10+ miles Wind Direction: Northwest Wind Speed: 3 mph Conditions Observed: Fair

Camera Information Camera: Canon EOS 5D Mark IV Resolution: 30.4 Megapixels Lens Focal Length: 50 mm Camera Height: 5.10 feet AMSL

#### **Key Observation Point Information**

County: Cape May Town: Ocean City State: New Jersey Location: Gillian's Wonderland Pier Latitude, Longitude: 39.27506°N, 74.56878°W Direction of View (Center): East (80.3°) Field of View: 124° x 55°

Visual Resources Character Area: Commercial Beachfront, Seascape (SCA) User Group: Residents/Tourists, Fishermen Visually Sensitive Resource: Ocean City Beachfront



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		Project	Year of Development	Max Blade Tip Height (feet)	Potential Number of WTGs & OSSs Visible from KOP**	Total Number of WTGs & OSSs in Project	Theoretical Distance to Nearest Visible WTG (miles)	Theoretical Distance to Furthest Visible WTG (miles)
Scenario 5	Scenario 2	Atlantic Shores Offshore Wind South (OCS-A 0499)	2025-2027	1,047	204	205	17.2	33.6
		Ocean Wind (OCS-A 0498)	2023-2025	906	111	111	15.6	26.3
	Scenario 1	Empire Wind (OCS-A 0512)	2024-2025	951	0	72	Not Visible	Not Visible
		Empire Wind II (OCS-A 0512)	2023-2027	951	0	104	Not Visible	Not Visible
		Skipjack (OCS-A 0519)	2024-2030	853	0	33	Not Visible	Not Visible
		Garden State (OCS-A 0482)	2023-2030	853	32	80	37.6	42.6
		US Wind (OCS-A 0489 and 0490)	2024	938	0	101	Not Visible	Not Visible
Scenario 4	Scenario 3	Atlantic Shores Offshore Wind North (OCS-A 0549)	2025-2030	1,047	118	164	26.1	43.5
Scene		Ocean Wind II (OCS-A 0532)	2026-2030	906	111	111	11.0	26.8
		Mid-Atlantic Offshore Wind (OCS-A 0544)	by 2030	853	0	104	Not Visible	Not Visible
		Ocean Wind East (OCS-A 0537)	by 2030	853	0	82	Not Visible	Not Visible
		Attentive Energy (OCS-A 0538)	by 2030	853	0	101	Not Visible	Not Visible
		Bight Wind Holdings (OCS-A 0539)	by 2030	853	0	148	Not Visible	Not Visible
		Atlantic Shores Offshore Wind Bight (OCS-A 0541)	by 2030	853	0	95	Not Visible	Not Visible
		Invenergy Wind Offshore (OCS-A 0542)	by 2030	853	0	99	Not Visible	Not Visible
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- Substation location and dime dered in this photosimulation are subject to po \*Historical meteorological data predicts visibility within a limit of 10 statute miles. Ho
- itionally, the WTG counts assumed the WTG blades are in the upright ( 5 ft. (72 m) in lost maximum height depending on the rotation positior cated on the Kev Observation Point Context map indicates the horizor
- Observation Point Context map considers screening by curvature of the earth, viewer heigh d on the map may not match the table due to the presence of landscape screening features.

Appendix A: Atlantic Shores Offshore Wind Cumulative Photosimulations

ATLANTIC SHORES

🥽 offshore wind

## **Reasonably Foreseeable Projects Represented in Photosimulation**

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,. nal extent of view only and does not indicate the extent of WTG visibility. wer heinht- and turbine heinht. Landscape screening features are not considered. Therefore, in this view, the number of visible turbin





Notes: • Photosimulation Size: 66° in width by 29.3° in height. Images should be viewed from 18 inches in order to obtain the proper perspective. For on-screen viewing, user should zoom in until the 1-inch scale equals exactly one inch when measured on the screen.

Appendix A: Atlantic Shores Offshore Wind Cumulative Photosimulations

OC04: Gillian's Wonderland Pier, Ocean City, Cape May County, New Jersey

Existing Conditions (Panorama 1)

Key Observation Point Context

Simulation Size: 60° in width by 29.3° in height. Images the work of the init should be viewed from a distance of 18 inches in order to obtain the proper perspective.





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OC04: Gillian's Wonderland Pier, Ocean City, Cape May County, New Jersey

Photosimulation (Panorama 1): Scenario 1: 2023-2025 Project Construction (Ocean Wind, Empire Wind, Empire Wind II)

Simulation Size: 66° in width by 29.3° in height. Images that doubt the viewed from a distance of 18 inches on the prevent in order to obtain the proper perspective. percentra

Notes: • Photosimulation Size: 66° in width by 29.3° in height. Images should be viewed from 18 inches in order to obtain the proper perspective. For on-screen viewing, user should zoom in until the 1-inch scale equals exactly one inch when measured on the screen. • Offshore Substation location and dimensions are based on preliminary publicly available project data. Distingt for which this data is not currently available. WTos are used for all foundation positions. OSS

- instruct substation location and unimerisions are based on preliminary publicly available project of rojects for which this data is not currently available, WTGs are used for all foundation positions. Or locations and dimensions considered in this photosimulation are subject to potential modification. VTG positions in the photosimulations are based on a refraction value of 7/8 or an approximate 1.14 coefficient derived from observations of the constructed Block Island Wind Farm. This refraction 1.14 coefficient derived from observations of the constructed Block Island Wind Farm.

- Wils positions in the photosimulations are based on a retraction value of //b or an approximate 0.14 coefficient derived from observations of the constructed Block Island Wind Farm. This refraction coefficient may yield more conservative wisbility results (i.e. greater turbine visbility) that the viewshed analysis results which use a refraction coefficient of 0.13.
   WTG tower, blades, and nacelle use the BOEM and FAA required color RAL 9010. The base and platform use RAL 1023 in accordance with USCG regulations.
   "The number of WTGs visible from the KOP was determined by human verified computer generated counts performed in the 3D camera views considering screening resulting from vegetation, structures, curvature of the earth and refraction. This count may vary from the actual number of WTGs visible in the respective views due to massing completed during post processing which may include people, waves, boats, or other minor obstructions that appear in the photograph. Additionally, the WTG counts assumed the WTG blades are in the upright position whereas the photosimulations assume a random rotation pattern. Considering the largest WTG in the cumulative array, this could account for up to 236 ft. (72 m) in lost maximum height depending on the rotation position.
   The resolution of the cumulative photosimulations balances the size and usability of the documents with the need for high resolution to see distant project components. Similarly to human vision, very distant turbines may appear blurry or difficult to decipher due to resolution limitations.
   The Ky Observation Point macked screening you vursture of the earth, viewer height, and turbine height Landscape screening features are not considered. Therefore, in this view, the number of visible utrubine degicted on the map may not match the table due to the presence of landscape screening features.

Project	Year of Development	Max Blade Tip Height (feet)	Potential Number of WTGs & OSSs Visible from KOP*	Total Number of WTGs & OSSs in Project	Theoretical Distance to Nearest Visible WTG (miles)	Theoretical Distance to Furthest Visible WTG (miles)
Ocean Wind (OCS-A 0498)	2024-2025	906	111	111	15.6	26.3
Empire Wind (OCS-A 0512)	2023-2027	951	0	72	Not Visible	Not Visible
Empire Wind II (OCS-A 0512)	2025-2027	951	0	104	Not Visible	Not Visible











OC04: Gillian's Wonderland Pier, Ocean City, Cape May County, New Jersey

Photosimulation (Panorama 1): Scenario 2: Atlantic Shores Construction (2025-2027) added to Scenario 1 (Ocean Wind, Empire Wind, Empire Wind II, Atlantic Shores South)



Notes:
 Photosimulation Size: 66° in width by 29.3° in height. Images should be viewed from 18 inches in order to obtain the proper perspective. For on-screen viewing, user should zoom in until the 1-inch scale equals exactly one inch when measured on the screen.
 Offshore Substation location and dimensions are based on preliminary publicly available project data.

- institute substitution that and unitersistions are based on pleniminally planting available project of origicets for which this data is not currently available, WTGs are used of all foundation positions. Or cositions and dimensions considered in this photosimulation are subject to potential modification. TG positions in the photosimulations are based on a refraction value of 7/6 or an approximate 14 coefficient derived from observations of the constructed Block Island Wind Farm. This refraction

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   WTG tower, blades, and nacelle use the BOEM and FAA required color RAL 9010. The base and platform use RAL 1023 in accordance with USCG regulations.
   "The number of WTGs visible from the KOP was determined by human verified computer generated counts performed in the 3D camera views considering screening resulting from vegetation, structures, curvature of the earth and refraction. This count may vary from the actual number of WTGs visible in the respective views due to massing completed during post processing which may include people, waves, boats, or other minor obstructions that appear in the photograph. Additionally, the WTG counts assumed the WTG blades are in the upright position whereas the photosimulations assume a random rotation pattern. Considering the largest WTG in the cumulative array, this could account for up to 236 ft. (72 m) in lost maximum height depending on the rotation position.
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Atlantic Shores Offshore Wind South (OCS-A 0499)	2023-2025	1,047	204	205	17.2	33.6
Ocean Wind (OCS-A 0498)	2024-2025	906	111	111	15.6	26.3
Empire Wind (OCS-A 0512)	2023-2027	951	0	72	Not Visible	Not Visible
Empire Wind II (OCS-A 0512)	2025-2027	951	0	104	Not Visible	Not Visible











OC04: Gillian's Wonderland Pier, Ocean City, Cape May County, New Jersey

Photosimulation (Panorama 1): Scenario 3: 2024-2030 Project construction added after the construction of Atlantic Shores South (Full Lease Build-out Including Atlantic Shores South)

Simulation Size: 66° in width by 29.3° in height. Images This bookhoud bould be viewed from a distance of 18 inches in order to obtain the proper perspective. performa

Notes:
 Photosimulation Size: 66° in width by 29.3° in height. Images should be viewed from 18 inches in order to obtain the proper perspective. For on-screen viewing, user should zoom in until the 1-inch scale equals exactly one inch when measured on the screen.
 Offshore Substation location and dimensions are based on preliminary publicly available project data.

- inshore substation location and dimensions are based on preliminary publicly available project of origicat for which this data is not currently available, WTGs are used for all foundation positions. Or cositions and dimensions considered in this photosimulation are subject to potential modification. T/G positions in the photosimulations are based on a refraction value of 7/6 or an approximate 14 coefficient derived from observations of the constructed Block Island Wind Farm. This refraction

- Wile positions in the photosimulations are based on a refraction value of *I/b* or an approximate
   Ol4 coefficient derived from observations of the constructed Block Island WinG Fam. This refraction
   coefficient may yield more conservative visibility results (i.e. greater turbine visibility) that the viewshed
   analysis results which use a refraction coefficient of 013.
   WTG tower, blades, and nacelle use the BOEM and FAA required color RAL 9010. The base and platform
   use RAL 1023 in accordance with USCs regulations.
   \*The number of WTGs visible from the KOP was determined by human verified computer generated
   counts performed in the 3D camera views considering screening resulting from vegetation, structures,
   curvature of the earth and refraction. This count may vary from the actual number of WTGs visible in
   the respective views due to masking completed during post processing which may include people,
   waves, boats, or other minor obstructions that appear in the photograph. Additionally, the WTG counts
   assumed the WTG blades are in the upright position whereas the photosimulations assume a random
   rotation pattern. Considering the largest WTG in the cumulative array, this could account for up to 236
   ft. (72 m) in lost maximum height depending on the rotation position.
   The cone of view indicated on the Key Observation Point Context map indicates the horizontal extent of
   view only and does not indicate the extent of WTG visibility to human vision, very distant
   turbines depicted for project components. Similarly to human vision, very distant
   turbines depicted on the map may not match the table due to the persence of landscape
   screening features.

Project	Year of Development	Max Blade Tip Height (feet)	Potential Number of WTGs & OSSs Visible from KOP*	Total Number of WTGs & OSSs in Project	Theoretical Distance to Nearest Visible WTG (miles)	Theoretical Distance to Furthest Visible WTG (miles)
Atlantic Shores Offshore Wind South (OCS-A 0499)	2023-2025	1,047	204	205	17.2	33.6
Ocean Wind (OCS-A 0498)	2024-2025	906	111	111	15.6	26.3
Empire Wind (OCS-A 0512)	2023-2027	951	0	72	Not Visible	Not Visible
Empire Wind II (OCS-A 0512)	2025-2027	951	0	104	Not Visible	Not Visible
Skipjack (OCS-A 0519)	2024-2030	853	0	33	Not Visible	Not Visible
Garden State (OCS-A 0482)	2023-2030	853	32	80	37.6	42.6
US Wind (OCS-A 0489 and 0490)	2024	938	0	101	Not Visible	Not Visible
Atlantic Shores Offshore Wind North (OCS-A 0549)	2025-2030	1,047	118	164	26.1	43.5
Ocean Wind II (OCS-A 0532)	2026-2030	906	111	111	11.0	26.8
Mid-Atlantic Offshore Wind (OCS-A 0544)	by 2030	853	0	104	Not Visible	Not Visible
Ocean Wind East (OCS-A 0537)	by 2030	853	0	82	Not Visible	Not Visible
Attentive Energy (OCS-A 0538)	by 2030	853	0	101	Not Visible	Not Visible
Bight Wind Holdings (OCS-A 0539)	by 2030	853	0	148	Not Visible	Not Visible
Atlantic Shores Offshore Wind Bight (OCS-A 0541)	by 2030	853	0	95	Not Visible	Not Visible
Invenergy Wind Offshore (OCS-A 0542)	by 2030	853	0	99	Not Visible	Not Visible

Key Observation Point Context









OC04: Gillian's Wonderland Pier, Ocean City, Cape May County, New Jersey

Photosimulation (Panorama 1): Scenario 4: Full buildout of all lease areas without Atlantic Shores South

Simulation Size: 66° in width by 29.3° in height. Images that doubt the viewed from a distance of 18 inches on the prevent in order to obtain the proper perspective. percentra

Notes: • Photosimulation Size: 66' in width by 29.3' in height. Images should be viewed from 18 inches in order to obtain the proper perspective. For on-screen viewing, user should zoom in until the 1-inch scale equals exactly one inch when measured on the screen. • Offshore Substation location and dimensions are based on preliminary publicly available project data. Projects for which this data is not currently available, WTGs are used for all foundation positions. OSS positions and dimensions considered in this photosimulation are subject to potential modification. • WTG positions in the photosimulations are based on a refraction value of 70 or an approximate 0.14 coefficient derived from observations of the constructed Block Bland Wind Farm. This refraction roufficient may vielid more conservative visibility results (i.e. greater turtibe visibility) that the viewshed

- Wils positions in the photosimulations are based on a retraction value of //b or an approximate 0.14 coefficient derived from observations of the constructed Block Island Wind Farm. This refraction coefficient may yield more conservative wisbility results (i.e. greater turbine visbility) that the viewshed analysis results which use a refraction coefficient of 0.13.
   WTG tower, blades, and nacelle use the BOEM and FAA required color RAL 9010. The base and platform use RAL 1023 in accordance with USCG regulations.
   "The number of WTGs visible from the KOP was determined by human verified computer generated counts performed in the 3D camera views considering screening resulting from vegetation, structures, curvature of the earth and refraction. This count may vary from the actual number of WTGs visible in the respective views due to massing completed during post processing which may include people, waves, boats, or other minor obstructions that appear in the photograph. Additionally, the WTG counts assumed the WTG blades are in the upright position whereas the photosimulations assume a random rotation pattern. Considering the largest WTG in the cumulative array, this could account for up to 236 ft. (72 m) in lost maximum height depending on the rotation position.
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Project	Year of Development	Max Blade Tip Height (feet)	Potential Number of WTGs & OSSs Visible from KOP*	Total Number of WTGs & OSSs in Project	Theoretical Distance to Nearest Visible WTG (miles)	Theoretical Distance to Furthest Visible WTG (miles)
Ocean Wind (OCS-A 0498)	2024-2025	906	111	111	15.6	26.3
Empire Wind (OCS-A 0512)	2023-2027	951	0	72	Not Visible	Not Visible
Empire Wind II (OCS-A 0512)	2025-2027	951	0	104	Not Visible	Not Visible
Skipjack (OCS-A 0519)	2024-2030	853	0	33	Not Visible	Not Visible
Garden State (OCS-A 0482)	2023-2030	853	32	80	37.6	42.6
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Attentive Energy (OCS-A 0538)	by 2030	853	0	101	Not Visible	Not Visible
Bight Wind Holdings (OCS-A 0539)	by 2030	853	0	148	Not Visible	Not Visible
Atlantic Shores Offshore Wind Bight (OCS-A 0541)	by 2030	853	0	95	Not Visible	Not Visible
Invenergy Wind Offshore (OCS-A 0542)	by 2030	853	0	99	Not Visible	Not Visible











OC04: Gillian's Wonderland Pier, Ocean City, Cape May County, New Jersey

Photosimulation (Panorama 1): Scenario 5: Atlantic Shores South without the construction of other foreseeable planned activities

Simulation Size: 66' in width by 29.3' in height. Image this locarboald be viewed from a distance of 18 inches on the prirate in order to obtain the prospective. percenta

Notes:
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 VTG positions in the photosimulations are based on a refraction value of 76 or an approximate 0.14 coefficient derived from observations of the constructed Block Bland Wind Farm. This refraction routefinish may viel more conservative visibility in stati (is: greater turbine visibility) that the viewshed

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Project	Year of Development	Max Blade Tip Height (feet)	Potential Number of WTGs & OSSs Visible from KOP*	Total Number of WTGs & OSSs in Project	Theoretical Distance to Nearest Visible WTG (miles)	Theoretical Distance to Furthest Visible WTG (miles)
Atlantic Shores Offshore Wind South (OCS-A 0499)	2023-2025	1,047	204	205	17.2	33.6





# OC04: Gillian's Wonderland Pier, Ocean City, Cape May County, New Jersey

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	Project	Year of Development	Max Blade Tip Height (feet)	Potential Number of WTGs & OSSs Visible from KOP**	Total Number of WTGs & OSSs in Project	Theoretical Distance to Nearest Visible WTG (miles)	Theoretical Distance to Furthest Visible WTG (miles)
Scenario 2	Atlantic Shores Offshore Wind South (OCS-A 0499)	2025-2027	1,047	204	205	17.2	33.6
	Ocean Wind (OCS-A 0498)	2023-2025	906	111	111	15.6	26.3
Conario 1	Empire Wind (OCS-A 0512)	2024-2025	951	0	72	Not Visible	Not Visible
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	Garden State (OCS-A 0482)	2023-2030	853	32	80	37.6	42.6
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Scenario 3	Atlantic Shores Offshore Wind North (OCS-A 0549)	2025-2030	1,047	118	164	26.1	43.5
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- Offshore Substation location and dime onsidered in this photosimulation are subject to po \*Historical meteorological data predicts visibility within a limit of 10 statute miles. However, visibility ma
- itionally, the WTG counts assumed the WTG blades are in the upright p 5 ft. (72 m) in lost maximum height depending on the rotation position. cated on the Kev Observation Point Context map indicates the horizon
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Appendix A: Atlantic Shores Offshore Wind Cumulative Photosimulations

ATLANTIC SHORES

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## **Reasonably Foreseeable Projects Represented in Photosimulation**

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Notes: • Photosimulation Size: 66° in width by 29.3° in height. Images should be viewed from 18 inches in order to obtain the proper perspective. For on-screen viewing, user should zoom in until the 1-inch scale equals exactly one inch when measured on the screen.





Appendix A: Atlantic Shores Offshore Wind Cumulative Photosimulations

OC04: Gillian's Wonderland Pier, Ocean City, Cape May County, New Jersey

Existing Conditions (Panorama 2)



Simulation Size: 60° in width by 29.3° in height. Images the work of the init should be viewed from a distance of 18 inches in order to obtain the proper perspective.









OC04: Gillian's Wonderland Pier, Ocean City, Cape May County, New Jersey

Photosimulation (Panorama 2): Scenario 1: 2023-2025 Project Construction (Ocean Wind, Empire Wind, Empire Wind II)



- Notes:
  Photosimulation Size: 66' in width by 29.3' in height. Images should be viewed from 18 inches in order to obtain the proper perspective. For on-screen viewing, user should zoom in until the 1-inch scale equals exactly one inch when measured on the screen.
  Offshore Substation location and dimensions are based on preliminary publicly available project data. Projects for which this data is not currently available. WTGs are used for all foundation positions. OSS positions and dimensions considered in this photosimulation are subject to potential modification.
  WTG positions in the photosimulations are based on a reflaction value of 70 for an approximate 0.14 coefficient derived from observations of the constructed Block Island Wind Farm. This refraction coefficient may yield more conservative visibility results (ic. greater turline visibility) that the viewshed analysis results which use a refraction coefficient of 0.13.
  WTG tower, Joades, and nacelle use the BOCK and FAA required color RAL 9010. The base and platform use RAL 1023 in accordance with USCG regulations.
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  The resolution of the cumulations balances the size and usability of the documents with the need for high resolution to see distant project comp

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Empire Wind (OCS-A 0512)	2023-2027	951	0	72	Not Visible	Not Visible
Empire Wind II (OCS-A 0512)	2025-2027	951	0	104	Not Visible	Not Visible











OC04: Gillian's Wonderland Pier, Ocean City, Cape May County, New Jersey

Photosimulation (Panorama 2): Scenario 2: Atlantic Shores Construction (2025-2027) added to Scenario 1 (Ocean Wind, Empire Wind, Empire Wind II, Atlantic Shores South)



Notes:
Photosimulation Size: 66' in width by 29.3' in height. Images should be viewed from 18 inches in order to obtain the proper perspective. For on-screen viewing, user should zoom in until the 1-inch scale equals exactly one inch when measured on the screen.
Offshore Substation location and dimensions are based on preliminary publicly available project data. Projects for which this data is not currently available. WTGs are used for all foundation positions. OSS positions and dimensions considered in this photosimulation are subject to potential modification.
WTG positions in the photosimulations are based on a reflaction value of 70 for an approximate 0.14 coefficient derived from observations of the constructed Block Island Wind Farm. This refraction coefficient may yield more conservative visibility results (ic. greater turline visibility) that the viewshed analysis results which use a refraction coefficient of 0.13.
WTG tower, Joades, and nacelle use the BOCK and FAA required color RAL 9010. The base and platform use RAL 1023 in accordance with USCG regulations.
"The number of WTGs visible from the KOP was determined by human verified computer generated cours performed in the 3D camera views considering screening resulting from vegetation, structures, curvature of the earth and refraction. This count may vary from the actual number of WTGs visible in the respective views due to masking completed during post processing which may include people, waves, boats, or other minor obstructions that appear in the photograph. Additionally, the WTG counts assumed the WTG blades are in the upright postion whereas the photosimulation sasume a random rotation part ovie windicated to the Key Observation Point Context map indicates the horizontal extent of view only and does not indicate the extent of WTG visibility.
The resolution of the cumulations balances the size and usability of the documents with the need for high resolution to see distant project comp

Project	Year of Development	Max Blade Tip Height (feet)	Potential Number of WTGs & OSSs Visible from KOP*	Total Number of WTGs & OSSs in Project	Theoretical Distance to Nearest Visible WTG (miles)	Theoretical Distance to Furthest Visible WTG (miles)
Atlantic Shores Offshore Wind South (OCS-A 0499)	2023-2025	1,047	204	205	17.2	33.6
Ocean Wind (OCS-A 0498)	2024-2025	906	111	111	15.6	26.3
Empire Wind (OCS-A 0512)	2023-2027	951	0	72	Not Visible	Not Visible
Empire Wind II (OCS-A 0512)	2025-2027	951	0	104	Not Visible	Not Visible









OC04: Gillian's Wonderland Pier, Ocean City, Cape May County, New Jersey

Photosimulation (Panorama 2): Scenario 3: 2024-2030 Project construction added after the construction of Atlantic Shores South (Full Lease Build-out Including Atlantic Shores South)

Simulation Size: 66° in width by 29.3° in height. Images This bookhoud bould be viewed from a distance of 18 inches in order to obtain the proper perspective. performa

Vates: Photosimulation Size: 66' in width by 29.3' in height. Images should be viewed from 18 inches in order to obtain the proper perspective. For on-screen viewing, user should zoom in until the 1-inch scale equals exactly one inch when measured on the screen. Offshore Substation location and dimensions are based on preliminary publicly available project data. Projects for which this data is not currently available, WTGs are used for all foundation positions. OSS positions and dimensions considered in this photosimulation are subject to potential modification. WTG positions in the photosimulations are based on a refraction value of 7/6 or an approximate 0.14 coefficient derived from observations of the constructed Block Island Wind Farm. This refraction coefficient may wided more conservative visibility results (Le orgenet truting visibility) that the viewshed

- Wite positions in the photosimulations are based on a refraction value of 7/6 or an approximate
  O.14 coefficient derived from observations of the constructed Block Island Wind Farm. This refraction
  coefficient may yield more conservative visibility results (i.e. greater turbine visibility) that the viewshed
  analysis results which use a refraction coefficient of 0.13.
   WTG tower, blades, and nacelle use the BOEM and FAA required color RAL 9010. The base and platform
  use RAL 1023 in accordance with USCG regulations.
   \*The number of WTGs visible from the KOP was determined by human verified computer generated
  counts performed in the 3D camera views considering screening resulting from vegetation, structures,
  curvature of the earth and refraction. This count may vary from the actual number of WTGs visible in
  the respective views due to masking completed during post processing which may include people,
  waves, boats, or other minor obstructions that appear in the photograph. Additionally, the VTG counts
  assumed the VTG blades are in the unpirite position whereas the photosimulations assume a random
  rotation pattern. Considering the great of VTG is visible in
  the respective views due to height depending on the rotation position.
   The cone of view indicated on the Key Observation Point Context map indicates the horizontal extent of
  view only and does not indicate the extent of VTG Visibility of the documents with
  the need for high resolution to see distant project components. Similarly to human vision, very distant
  turbines may appear bury or difficult to decipher due to resolution limitations.
   The key Observation Florit Context map oursiders are runing by curvature of the auth, viewer height,
  and keys not indicate on the map may not match the table due to the presence of landscape
  screening features.

Project	Year of Development	Max Blade Tip Height (feet)	Potential Number of WTGs & OSSs Visible from KOP*	Total Number of WTGs & OSSs in Project	Theoretical Distance to Nearest Visible WTG (miles)	Theoretical Distance to Furthest Visible WTG (miles)
Atlantic Shores Offshore Wind South (OCS-A 0499)	2023-2025	1,047	204	205	17.2	33.6
Ocean Wind (OCS-A 0498)	2024-2025	906	111	111	15.6	26.3
Empire Wind (OCS-A 0512)	2023-2027	951	0	72	Not Visible	Not Visible
Empire Wind II (OCS-A 0512)	2025-2027	951	0	104	Not Visible	Not Visible
Skipjack (OCS-A 0519)	2024-2030	853	0	33	Not Visible	Not Visible
Garden State (OCS-A 0482)	2023-2030	853	32	80	37.6	42.6
US Wind (OCS-A 0489 and 0490)	2024	938	0	101	Not Visible	Not Visible
Atlantic Shores Offshore Wind North (OCS-A 0549)	2025-2030	1,047	118	164	26.1	43.5
Ocean Wind II (OCS-A 0532)	2026-2030	906	111	111	11.0	26.8
Mid-Atlantic Offshore Wind (OCS-A 0544)	by 2030	853	0	104	Not Visible	Not Visible
Ocean Wind East (OCS-A 0537)	by 2030	853	0	82	Not Visible	Not Visible
Attentive Energy (OCS-A 0538)	by 2030	853	0	101	Not Visible	Not Visible
Bight Wind Holdings (OCS-A 0539)	by 2030	853	0	148	Not Visible	Not Visible
Atlantic Shores Offshore Wind Bight (OCS-A 0541)	by 2030	853	0	95	Not Visible	Not Visible
Invenergy Wind Offshore (OCS-A 0542)	by 2030	853	0	99	Not Visible	Not Visible











OC04: Gillian's Wonderland Pier, Ocean City, Cape May County, New Jersey

Photosimulation (Panorama 2): Scenario 4: Full buildout of all lease areas without Atlantic Shores South

Simulation Size: 66° in width by 29.3° in height. Images that doubt the viewed from a distance of 18 inches on the prevent in order to obtain the proper perspective. percentra

- Detain the proper perspective. For on-screen viewing, user should be viewed from 18 inches in order to obtain the proper perspective. For on-screen viewing, user should zoom in until the 1-inch scale equals exactly one inch when measured on the screen.
  Offstore Substation location and dimensions are based on preliminary publicly available project data. Projects for which this data is not currently available, WTGs are used for all foundation positions. OSS positions and dimensions considered in this photosimulation are subject to potential modification.
  Offstore Substation location and dimensions curvently available, WTGs are used for all foundation positions. OSS options in the photosimulations are based on a refraction active for an approximate of 14 coefficient derved from observations of the constructed Biock kland WInf Farm. This refraction coefficient may yield more conservative visibility results (i.e. greater turbine visibility) that the viewshed on adjust setup with the tweet of DAL coefficient derved from observations of the constructed block kland WInf Farm. This refraction coefficient of 0.13.
  Wits tower, blades, and nacelle user to CDL and Ar required color RAL 900. The base and platform the memory of the cart and refraction. This count may yary from the actual number of WTGs visible in the #3D camera views considering screening resulting from vegetation, structures, curvature of the earth and refraction. This count may yary from the actual number of WTGs visible in the respective views due to masking completed during post processing which may include people, waves, boats, or other minor babtuctions that appear in the photogram, Additionally the WTG counts assumed the WTG blades are in the upright postion whereas the photosimulations assume a random rotation patterne. Considering the largest WTG in the curvature of dustication the view obtained on the key Observation Point Context may indicates the horizontal exent of wice indicate the exent of WTG visibilit, the

Project	Year of Development	Max Blade Tip Height (feet)	Potential Number of WTGs & OSSs Visible from KOP*	Total Number of WTGs & OSSs in Project	Theoretical Distance to Nearest Visible WTG (miles)	Theoretical Distance to Furthest Visible WTG (miles)
Ocean Wind (OCS-A 0498)	2024-2025	906	111	111	15.6	26.3
Empire Wind (OCS-A 0512)	2023-2027	951	0	72	Not Visible	Not Visible
Empire Wind II (OCS-A 0512)	2025-2027	951	0	104	Not Visible	Not Visible
Skipjack (OCS-A 0519)	2024-2030	853	0	33	Not Visible	Not Visible
Garden State (OCS-A 0482)	2023-2030	853	32	80	37.6	42.6
US Wind (OCS-A 0489 and 0490)	2024	938	0	101	Not Visible	Not Visible
Atlantic Shores Offshore Wind North (OCS-A 0549)	2025-2030	1,047	118	164	26.1	43.5
Ocean Wind II (OCS-A 0532)	2026-2030	906	111	111	11.0	26.8
Mid-Atlantic Offshore Wind (OCS-A 0544)	by 2030	853	0	104	Not Visible	Not Visible
Ocean Wind East (OCS-A 0537)	by 2030	853	0	82	Not Visible	Not Visible
Attentive Energy (OCS-A 0538)	by 2030	853	0	101	Not Visible	Not Visible
Bight Wind Holdings (OCS-A 0539)	by 2030	853	0	148	Not Visible	Not Visible
Atlantic Shores Offshore Wind Bight (OCS-A 0541)	by 2030	853	0	95	Not Visible	Not Visible
Invenergy Wind Offshore (OCS-A 0542)	by 2030	853	0	99	Not Visible	Not Visible









OC04: Gillian's Wonderland Pier, Ocean City, Cape May County, New Jersey

Photosimulation (Panorama 2): Scenario 5: Atlantic Shores South without the construction of other foreseeable planned activities



- Notes:
  Photosimulation Size: 66' in width by 29.3' in height. Images should be viewed from 18 inches in order to obtain the proper perspective. For on-screen viewing, user should zoom in until the 1-inch scale equals exactly one inch when measured on the screen.
  Offshore Substation location and dimensions are based on preliminary publicly available project data. Projects for which this data is not currently available. WTGs are used for all foundation positions. OSS positions and dimensions considered in this photosimulation are subject to potential modification.
  WTG positions in the photosimulations are based on a reflaction value of 70 for an approximate 0.14 coefficient derived from observations of the constructed Block Island Wind Farm. This refraction coefficient may yield more conservative visibility results (ic. greater turline visibility) that the viewshed analysis results which use a refraction coefficient of 0.13.
  WTG tower, Joades, and nacelle use the BOCK and FAA required color RAL 9010. The base and platform use RAL 1023 in accordance with USCG regulations.
  "The number of WTGs visible from the KOP was determined by human verified computer generated cours performed in the 3D camera views considering screening resulting from vegetation, structures, curvature of the earth and refraction. This count may vary from the actual number of WTGs visible in the respective views due to masking completed during post processing which may include people, waves, boats, or other minor obstructions that appear in the photograph. Additionally, the WTG counts assumed the WTG blades are in the upright postion whereas the photosimulation sasume a random rotation part ovie windicated to the Key Observation Point Context map indicates the horizontal extent of view only and does not indicate the extent of WTG visibility.
  The resolution of the cumulations balances the size and usability of the documents with the need for high resolution to see distant project comp

Project	Year of Development	Max Blade Tip Height (feet)	Potential Number of WTGs & OSSs Visible from KOP*	Total Number of WTGs & OSSs in Project	Theoretical Distance to Nearest Visible WTG (miles)	Theoretical Distance to Furthest Visible WTG (miles)
Atlantic Shores Offshore Wind South (OCS-A 0499)	2023-2025	1,047	204	205	17.2	33.6

