8.5 Visibility Study

attentive energy

Section 8.5 Table of Acronyms

Acronym	Definition
[redacted]	[redacted]
AE1	Attentive Energy One
BOEM	Bureau of Ocean Energy Management
[redacted]	[redacted]
FAA	Federal Aviation Administration
ft	Feet
[redacted]	[redacted]
[redacted]	[redacted]
mi	miles
[redacted]	[redacted]
OCS	Outer Continental Shelf
[redacted]	[redacted]
WTG	Wind Turbine Generator

Section 8.5 Table of Contents

8. Responsible Development

AE1 – A Historic Victory for Environmental Justice

8.5 Visibility Study

8.5.1 Visibility from Shore

The Project will only be minimally visible from shore due to its distance from the shoreline, even on the clearest of days with calm seas and worst-case lighting conditions. Each structure will be appropriately light-colored to further mitigate any possible visibility from shore in specific circumstances. The Project is not expected to be visible at night due to the distance from shore and because all required lighting on the structures will be below the horizon.

Attentive Energy has had extensive engagement with coastal communities well before securing the [redacted] As described herein, the Project design results in minimal impacts to viewsheds from even the closest points to shore.

[redacted]

Attentive Energy's Visibility and Viewshed Impact Study created for ORECRFP24-1 considers the potential visibility of the Project, taking into consideration WTGs and OSSs[2] within the Lease Area from three KOPs: [redacted]

[redacted]

1 For the purposes of this Section, all distances are reported in statute miles.

[2] While the Project only includes one offshore substation, full build out of the Lease Area will include up to two offshore substations that convert high-voltage alternating current (HVAC) to high-voltage direct current (HVDC) for transmission through the submarine export cable to the onshore point of interconnection.

The Visibility and Viewshed Impact Study concludes that the Project would cause negligible visual impacts to any potential viewers on land, because of the substantial distance separating viewers on land from the Project. [redacted]. Therefore, no visual impacts are anticipated for the proposed Project from non-elevated New York viewing locations.

8.5.2 Methodology for Selection KOPs

[redacted]

- [redacted]
- [redacted]
- [redacted]
- [redacted]

[redacted]

8.5.3 Visibility Study

Attentive Energy prepared a Visibility and Viewshed Impact Study and conducted visual simulations of the proposed Offshore Wind Generation Facility. The Visibility and Viewshed Impact Study includes maps that depict the nearest coastline, the boundary of the Lease Area, and various onshore reference points. Results from the study are described in this Section and have also been included as Attachment 8.5-A. The study also includes an analysis of the percentage of time during which different visibility conditions are expected to occur based on past meteorological data.

[redacted]

[redacted]

[redacted] Visual simulations are discussed later in Section 8.5.5.

8.5.4 Visual Assessment Methodology and Results

[redacted]

[redacted]

[redacted]

Description of Simulations

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

Description of Simulations

[redacted]

[redacted]

Summary of Potential Impacts

[redacted]

[redacted]

[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

Description of Simulations

[redacted]

Summary of Potential Impacts

[redacted]

[redacted]

8.5.5 Visual Simulations

[redacted]

8.5.6 References

1. https://tidesandcurrents.noaa.gov/datums.html?id=8531680 (Retrieved on 12/28/2022).

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LIST OF ATTACHMENTS

SECTION 8.5 Visibility Study

Attachment 8.5-A: [redacted]

Attachment 8.5-B: [redacted]

Attachment 8.5 – C, D, E: [redacted]

Attachment 8.5-A

1. Visibility and Viewshed Impact Study

1.1 Introduction

Attentive Energy LLC (Attentive Energy) is the leaseholder of offshore wind Lease Area OCS-A 0538 (Lease Area), an 84,332-acre area approximately 54 statute miles[1] from its nearest shoreline point to New York (NY) and approximately 42 miles from its nearest point to New Jersey (NJ). Attentive Energy proposes to construct and operate an offshore wind energy generation facility (Project) within the Lease Area. The Project is expected to reach commercial operation date in the early 2030s.

Attentive Energy has prepared a response to the New York State Energy Research and Development Authority's (NYSERDA's) Request for Proposals ORECRFP24-1 (RFP; NYSERDA 2024). To support the RFP response, Attentive Energy, has solicited [redacted] to prepare this Visibility and Viewshed Impact Study (Study). This analysis addresses the Project's visibility from the shore and was completed in accordance with the requirements of Section 6.2.8.5, "Visibility and Viewshed Impacts" of the RFP.

The Study considers the potential visibility of the Offshore Wind Generation Facility, which includes wind turbine generators (WTGs) and an offshore substation[2] (OSS), from these representative vantage points. Visibility of onshore facilities is not included as part of this Study but will be assessed during Project permitting. [redacted]. As demonstrated, the Project will have very limited to no visibility, due to its distance from the shoreline.

A detailed visual impact assessment will be completed at a future date for the Project's Construction and Operations Plan (COP) per the requirements of the Bureau of Ocean Energy Management (BOEM), which will involve additional technical analysis, including evaluation at additional KOPs, to support BOEM's development of the Environmental Impact Statement (EIS). Development of the visual impact assessment that will be prepared for the COP will be done so in consultation with relevant stakeholders. At that time, the final conclusions to the detailed visual impact analysis prepared in support of the COP will be informed by BOEM's EIS and required Section 106 Consultation.

1.1.1 Principal Conclusions

The Project will be located in the NY Bight, more than 42 miles from the nearest points onshore in NY and NJ.

[redacted]

The Project visibility is very minimal from all three locations as detailed below.

[1] For the purposes of this report, all distances are reported in statute miles.

[2] The offshore wind farm will include offshore substation(s) that convert high-voltage alternating current (HVAC) to high-voltage direct current (HVDC) for transmission through the submarine export cable to the onshore point of interconnection.

[redacted]

[redacted]

[redacted]

As presented herein, the Study concludes that the Project would result in negligible visual impacts to any potential viewers on land, primarily due to the substantial distance separating viewers on-land from the Project. All WTGs and OSSs within the Lease Area would be farther than 40 miles from the nearest shoreline point of any state, and only limited portions of a limited number of WTGs are anticipated to be visible from NJ and from elevated coastal viewpoints in NY. None of the Project is anticipated to be visible from non-elevated viewpoints in NY.

1.2 Project Description

Attentive Energy is proposing to build the Project in BOEM's designated Lease Area OCS-A 0538 (Lease Area), which is located approximately 54 miles south-southeast of [redacted], NY, 56 miles south of [redacted] and 42 miles east of [redacted]. The Lease Area is an 84,332-acre parcel located on the Outer Continental Shelf (OCS). The Offshore Wind Generation Facility will be located more than 40 miles from the nearest shoreline point of NY or NJ (Figure 1-1).

For the purposes of the Study, a conservative layout that conceives a full buildout of the Lease Area is utilized (Figure 1-2). It must be noted that the

-
-
-

This approach was taken in order to provide the most conservative results to support this visual impact assessment. Actual layouts decided upon by the Project may vary from the layout conceived for the Study; however, these changes would not result in offshore facilities being located any closer to the shoreline than what was assessed in the Study. As noted above, this layout considers full buildout of the Lease Area, and therefore is not reflective of the actual number of turbines that will be constructed for the Project.

[redacted]

[redacted]

[redacted]

[redacted]

1.3 Study Methodology

1.3.1 Regulatory Setting

This Visibility and Viewshed Impact Study has been prepared in accordance with the requirements of Section 6.2.8.5 of the RFP. A detailed visual impact assessment will be completed at a future date for the

Project's COP per the requirements of BOEM. The final conclusions to the detailed visual impacts analysis prepared in support of the COP will be informed by BOEM's EIS and required Section 106 Consultation.

1.3.2 Guidance Documents

NYSERDA and BOEM visibility studies, standards, and simulations of offshore wind developments were reviewed to establish a framework for conducting this Visibility and Viewshed Impact Study for the Project, including:

- [redacted]
- [redacted]
- [redacted]
- [redacted]

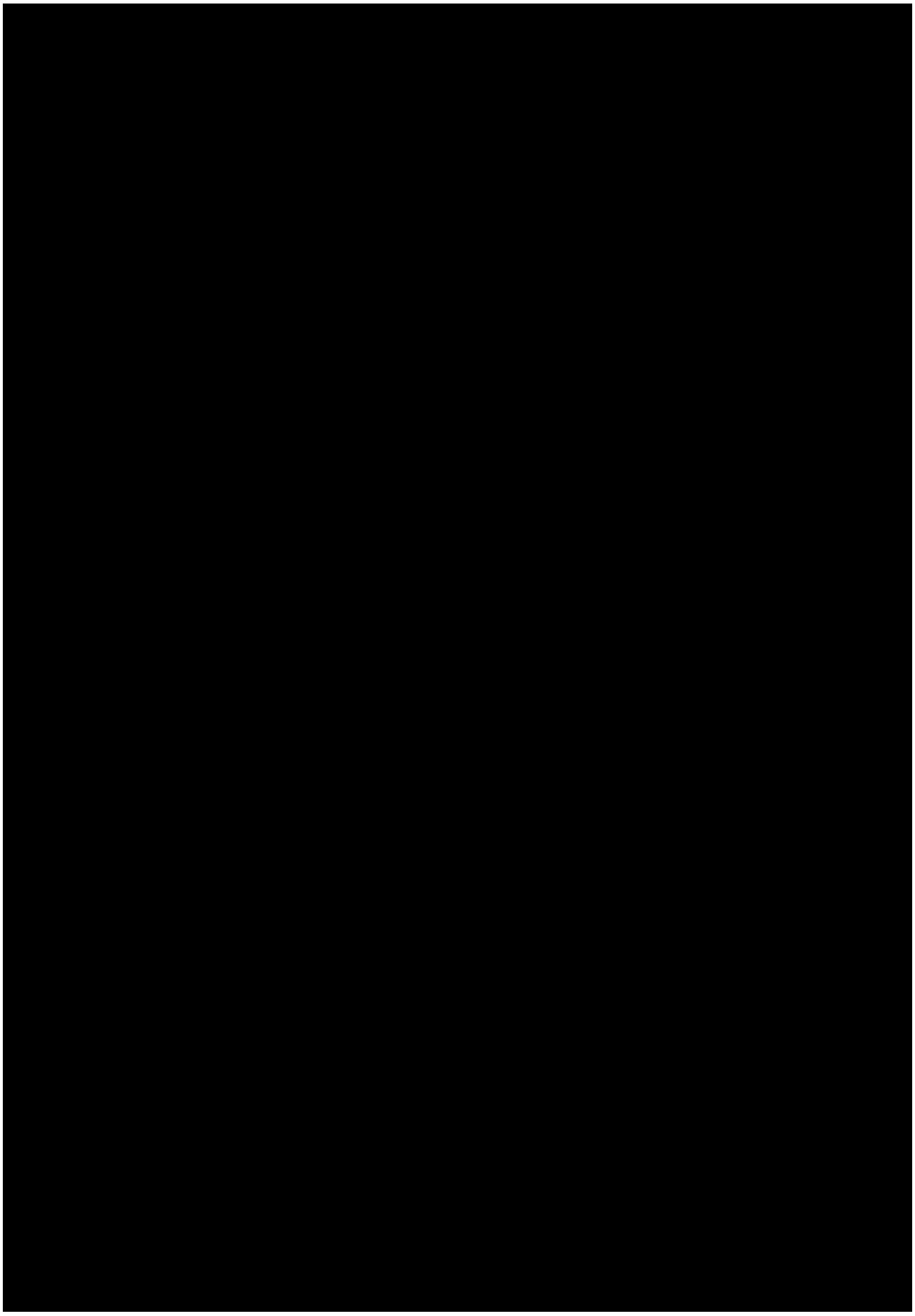
[redacted]

1.3.3 Key Observation Points

A preliminary Geographic Information Systems (GIS) database and matrix of 34 KOPs was developed to identify representative observer locations for the visual simulations. While the Project would be located over 40 miles from the nearest shoreline, this preliminary inventory of potential vantage points along or near the coastlines of NY and NJ included locations that are not only among the closest to the Project, but also represent historic properties, national, state, and local parks and other aesthetic/coastal recreational resources, disadvantaged or overburdened communities, and elevated vantage points such as lighthouses. Specifically, the inventory of resources compiled for consideration as KOPs includes: National Natural Landmarks; National Historic Landmarks; National Park Service properties; National Wildlife Refuges; properties listed on, or determined eligible for listing on, the National Register of Historic Places; New York State Parks; Draft Disadvantaged Communities (NY); and New York historic properties and historic districts; and New Jersey State Parks; New Jersey Scenic Byways; New Jersey historic properties and historic districts; and Overburdened Communities (NJ).

Table 1-1 lists the preliminary inventory of KOPs. This preliminary inventory was then used to select the three locations where visual simulations were prepared for the Study (also bolded in Table 1-1).

[redacted]



In order to refine the preliminary inventory of KOPs to three representative locations for which visual simulations were developed, GIS analysis was used to prioritize the locations closest to the Project in both of the two adjacent states as well as an elevated location in NY (Figure 1-4). The analysis showed:

The closest onshore point in NY to any WTG is [redacted] which is located at a distance of approximately 54 miles (87 km). [redacted]

[redacted]

[redacted]

1.3.4 Visibility Limiting Factors

The Lease Area is located in the open ocean at a distance of greater than 40 miles from the nearest shorelines of adjacent states. While this distance alone will minimize the visibility of the Project, the degree to which the WTGs will be visible or noticeable to an onshore observer depends on several other factors, as described herein.

1.3.4.1 Earth's Curvature

When considering the visibility of tall structures that are tens of miles away, the curvature of the Earth must be taken into account (Figure 1-5). The Earth's radius is approximately 3,959 miles (6,371 km) and its curvature is approximately 0.67 ft/mile2 (0.2 m/1.6 km2). In other words, considering a hypothetical flat plane resting on the Earth's surface at a given point A, the curve of the Earth's surface drops away from the plane at a rate of 0.67 ft/mile2 . A location on the surface 5 miles (8 km) away from point A would therefore be 16.67 ft (5.1 m) below that flat plane; a location 10 miles (16 km) away would be 66.69 ft (20.3 m) below it; a location 20 miles (32.2 km) away would be 266.75 ft (81.3 m) below it, and so on.

Put another way, the surface of the Earth between an observer at or near a waterfront location and WTGs located several or tens of miles offshore is not flat but rather bulges up between them, potentially obstructing the view of some portion of the WTGs below a certain height, or all of them, depending on:

- The elevation of the observer;
- The height of the structures;
- The distance between them; and
- Atmospheric light refraction (see next section below).

The portion of a structure that would be blocked from view by the Earth's intervening bulge can be calculated using standard formulas, used in surveying and other applications, when the above inputs are known.

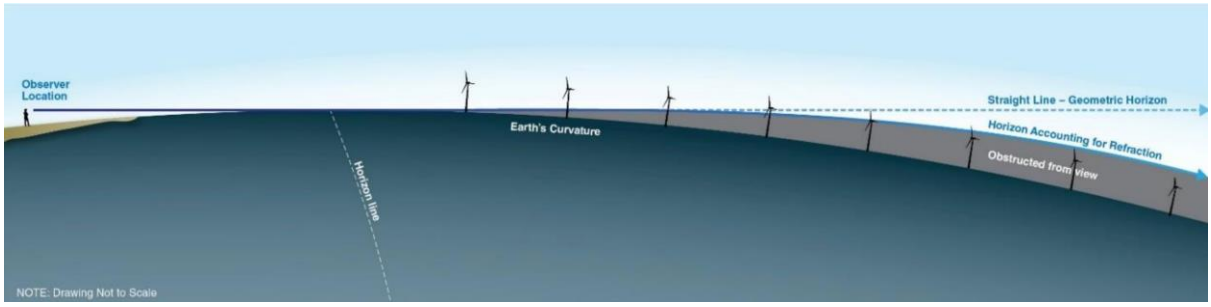


Figure 1-5. Effects of the Earth's Curvature and Atmospheric Refraction on Visibility

1.3.4.2 Atmospheric Light Refraction

The above description of the screening effects of Earth's curvature implies a straight line extending from an observer's eyes to the horizon and beyond, with anything above this straight line (the geometric horizon) visible to the observer and anything below obstructed from view by the Earth's bulge. However, the Earth's atmosphere causes light to bend in various ways depending on elevation, temperature, and air pressure/humidity, but generally "downward" at the Earth's surface, allowing an observer to see just below the geometric horizon. The refraction consequently lessens the effects of the Earth's curvature to some small degree, depending on what refraction coefficient is used. This Study uses the standard Gaussian refraction coefficient of 0.13, typically used in geodetic survey (Brunner 1984) and in other offshore wind visibility studies (BOEM 2015), which assumes standard atmospheric conditions.

As described in more detail herein, in the development of the visual simulations and underlying three-dimensional (3D) model for this Study, for each KOP location, the visible and obstructed portions of each WTG in the array were calculated based on its total maximum height above water surface of 1,010 ft (308 m), its individual distance from the KOP, the elevation of the camera lens at the KOP, and then adjusted with a refraction coefficient of 0.13. This process also guided the assessment of the offshore substations, given that they will be shorter in height than the WTGs.

1.3.4.3 Viewer Distance, Visual Acuity and Viewer Angle (Elevation)

In general, from the perspective of an observer, the clarity and visual impact of an object or feature diminishes as the distance between observer and object increases. BOEM's 2007 study, Programmatic Environmental Impact Statement for Alternative Energy Development and Production and Alternative Use of Facilities on the Outer Continental Shelf, concluded that with regard to objects 5 to 15 miles (8 to 24 km) away from an observer, detail is lost, texture has disappeared, and color has flattened, making objects appear "washed out" or indistinct. Areas farther than 15 miles (24 km) away from an observer were categorized as "seldom seen" due to their distance.

NYSERDA's 2017 New York State Offshore Wind Master Plan: Visibility Threshold Study concluded that "it is expected that offshore wind energy projects of typical magnitude would have minimal visual impact at a distance of 20 miles [32 km] from shore and negligible impact beyond 25 miles [40 km] (NYSERDA 2017). Photographic and personal observations of the constructed Block Island Wind Farm, which is 23 miles [35 km] from Montauk, NY, support this finding." (NYSERDA 2017; page ES-2). NYSERDA's 2017 study also noted that "based on previous studies and field observations of constructed projects, the range of distances at which a project's visibility and visual impact could become negligible is somewhere between 13 and 30 miles [21 to 48 km] offshore." It should be noted that the wind turbine industry has generally been trending towards larger turbines with higher production capacity, and the WTGs in Attentive Energy's proposed Project would be approximately 50 percent larger than those considered in NYSERDA's

2017 study. Nevertheless, they would be located approximately twice as far from shore as the 20-mile threshold identified as constituting a minimal impact and 25-mile threshold identified as constituting a negligible impact in NYSERDA's 2017 study.

Visual acuity is a measure of the clarity and sharpness of vision and the ability to distinguish detail. The resolution of the human eye is typically expressed in terms of the minimum angular size of an object that it can distinguish, or angular resolution, measured in degrees, arcminutes (60 arcminutes = 1 degree), and arcseconds (60 arcseconds = 1 arcminute). Consider two imaginary lines projecting from the eye. One goes to the top (or left) of an object and the other goes to the bottom (or right) of the object. The angle formed by these two imaginary lines is the visual angle, or angular size. Visual angle measures the perceived size of an object, or how much of your field of vision the object fills. For example, a pea held at arm's length appears the same size as the moon observed from Earth, 238,900 miles (384,472 km) away; both measure about 30 arcminutes. The eyes of an observer with 20/20 vision have an angular resolution of about 1 arcminute. Many healthy young adults have a visual acuity closer to 20/15, equivalent to an angular resolution of 45 arcseconds, which enables one to distinguish an object with a minimum length of 14 inches (0.4 m) at a distance of one mile (1.6 km), and of 23 ft (7 m) at a distance of 20 miles (32 km).

With regard to vantage points at or near waterfront locations, from which an observer looks out to sea, higher elevations generally provide greater visibility. Elevated vantage points enable the observer to see above potential obstructions in the foreground such as buildings and other structures, and tree canopy and other vegetation. Further, in cases where greater distances are involved and the Earth's curvature becomes a factor limiting visibility, as described above, elevated vantage points serve to counter this limiting factor to some degree and provide views of objects at a greater distance than would be seen by an observer at a lower elevation. The angle from observer to target (WTGs, in this case) is greater, and less of the WTGs would be obscured by the Earth's bulge. Observers from lighthouses, elevated boardwalks, bluffs, and other elevated features may have comparable or greater visibility than vantage points near sea level even if they are farther inland. As noted above, the portion of a given WTG that would be obscured by the Earth's curvature and light refraction can be calculated for any location and elevation, to compare potential visibility. [redacted]

It should be noted that WTG projects are anticipated to be developed in other lease areas, on a timeline to be completed potentially before or similar to that of the Project. In certain cases these projects would be located closer to shore and between an observer and the Project, such projects in Lease Area OCS-A 0512 [redacted]. For the simulations in this Study, a conservative, "worst-case" approach was taken, presenting views toward the Project without including other intervening or nearby projects that might obstruct or distract from the potential visibility of the Project.

1.3.4.4 Meteorological Conditions

Potential visibility is enhanced or limited by the degree of visual contrast between the WTGs and the background of the sky and horizon. Meteorological conditions can affect the perceived contrast in a number of ways, including lighting conditions connected with sun position and cloud cover, and atmospheric haze and humidity that results in the scattering of light.

The lighting conditions created by the position of the sun in the sky relative to the WTGs (a factor of the time of day and season) and the intensity of the sun (a factor of the degree of cloud cover and the season) can affect visual contrast and visibility. Further, if the distance allows such level of detail to be resolved, the degree of contrast between the color and texture of the WTGs and the backdrop of sky and horizon, which depends on the time of day and degree of cloud cover, can also affect contrast. Cloud cover typically

diffuses sunlight and diminishes crisp shadows and the higher contrast they create, and the light (i.e., white or pale gray) color of the proposed WTGs would blend with overcast or cloudy backgrounds, serving to further dilute contrast. Clear blue skies and bright sunlight, conversely, would be expected to increase potential contrast and therefore visibility.

An analysis of hourly visibility and weather data collected at JFK Airport between January 1, 2010 through December 31, 2016 was presented in NYSERDA's 2017 New York State Offshore Wind Master Plan: Visibility Threshold Study (NYSERDA 2017). See Table 1-2 for a summary of relevant data from that assessment.

JFK Airport is located in southern Queens, near the Atlantic Ocean coast and therefore these reported frequencies of meteorological conditions would be representative of the selected KOPs [redacted] as well as other preliminary KOPs around the coastal areas of the NY Bight.

The visual simulations prepared for this Study include representations of early morning, mid-afternoon, and late day lighting conditions, for each of overcast, clear, and partly cloudy weather conditions, as well as a nighttime simulation under clear skies.

Table 1-2. Visibility and Weather Data (NYSERDA 2017)

KOP Location	Visibility Range	
	10 miles (16km) or greater	Less than 10 miles (16km)*
Annual (Percentage of Daylight Hours)	83.7	54 (87)
Clear	17.1	-
Partly Cloudy	5.9	-
Overcast	60.7	-
Notes: *Due to precipitation, fog, and other weather conditions. Values are not provided for specific conditions.		

Air pollution, water vapor associated with moderate to high relative humidity, and other particles in the air scatter light, thereby reducing visibility. In an effort to identify and quantify offshore visibility distances and patterns in the NY Bight area, BOEM's 2015 Renewable Energy Viewshed Analysis and Visualization Simulation for the New York Outer Continental Shelf Call Area: Compendium Report included an analysis of one-minute-resolution weather data collected at JFK Airport (BOEM 2015). This Study calculated average visibility distances on an hourly, daily, seasonal, and annual basis, by using equations known as the Beer-Lambert Law that quantifies the attenuation of light. These predicted visibility totals were compared to the measured visibility data from JFK Airport, collected at the coarser time resolution of 24-hour averages sampled at three-day intervals. The relationship of the measured and predicted data from JFK Airport was then analyzed and applied to data from other weather stations around the NY Bight, including Monmouth Executive Airport, located approximately five miles from New Jersey's shore. The results of this analysis are summarized by season in Table 1-3. The study concluded that visibility was highest in the fall and lowest in summer, likely caused by higher humidity and concentrations of smog. The study also predicted a maximum visibility at JFK Airport of approximately 38 miles (61 km) in the fall and approximately 37 miles (60 km) in the other seasons. This is consistent with the information provided by the Weather Observer Supervisor at JFK Airport, which reported that maximum visibility on the clearest of days is approximately 35 miles (56 km) (B. Hepler, personal communication, 2014 in BOEM 2015).

Table 1-3. Average Visibility by Season for JFK Airport (BOEM 2015) and Monmouth Airport (Predicted)

Avg. Visibility – Spring (miles) (km)	Avg. Visibility – Spring (miles) (km)	Avg. Visibility – Summer (miles) (km)	Avg. Visibility – Fall (miles) (km)	Avg. Visibility – Winter (miles) (km)
JFK Airport (measured)	19.1 (30.7)	18.0 (29.0)	21.0 (33.8)	20.3 (32.7)
JFK Airport (predicted)	20.4 (32.8)	18.8 (30.3)	21.9 (35.2)	21.4 (34.4)
Monmouth Airport (predicted)	20.9 (33.6)	18.8 (30.3)	21.4 (34.4)	22.4 (36.0)

1.4 Visual Simulations

[redacted]

1.4.1 GIS Map and Database

[redacted]

1.4.2 KOP Site Visits and Photography

[redacted]

1.4.3 3D Modeling

[redacted]

1.4.4 Photomatching and Rendering

[redacted]

1.4.5 Image Editing

[redacted]

1.4.6 Instructions for Viewing

[redacted]

1.5 Visual Assessment Results

1.5.1 [redacted]

[redacted]

[redacted]

[redacted]

[3] [redacted]

[redacted]

[redacted]

Figure 1-7 depicts a visualization of the data including the camera lens/observer at [redacted] he view direction and field of view of the simulations, distances to the proposed WTGs, and the limiting factors of the Earth's curvature

1.5.1.1 Description of Simulations

[redacted]

1.5.1.2 Summary of Potential Impacts

Given the substantial distance between the Project and [redacted], accounting for the Earth's curvature, the Project would not be visible to an observer at this location, irrespective of weather or lighting conditions. Therefore, no visual impacts are anticipated for the proposed Project from New York viewing locations.

1.5.2 [redacted]

[redacted]

Figure 1-9 presents a visualization of the data regarding the observer's location on the observation deck at Fire Island Lighthouse, view direction and field of view of the simulations, distances to WTGs, and the limiting factors of the Earth's curvature (offset slightly by refraction).

[redacted]

1.5.2.1 Description of Simulations

From the [redacted], existing views toward the Lease Area are of open, sandy beach in the foreground with open ocean beyond. Large container ships are occasionally visible on the horizon. The visual simulations prepared for this KOP under clear, partly cloudy, and overcast conditions in the morning, mid-afternoon, and late afternoon and under clear conditions at nighttime illustrate that while [redacted] would theoretically be visible above the horizon in views from this KOP, they would appear so small as to be barely perceptible to the human eye. [redacted]

1.5.2.2 Summary of Potential Impacts

Despite the elevated vantage point of the lighthouse observation deck, given the substantial distance between the Project and the [redacted], accounting for the Earth's curvature and the limits of human visual acuity, the Project would have negligible to no visual impact even on the clearest of days with calm seas and worst-case lighting conditions. Each structure would be appropriately light-colored, in accordance with BOEM (2021b) and FAA (2020) lighting guidelines and/or relevant permit approvals, which may help further mitigate potential visibility. In less optimal viewing conditions, such as overcast days with greater wave activity and sea spray, the Project would not be visible. At night, the Project would not be visible, because all the lighting associated with the Project—lighting on the nacelles, OSSs, Aircraft Detection Lighting System (ADLS; if required), etc.—would be below the horizon.

1.5.3 [redacted]

[redacted]

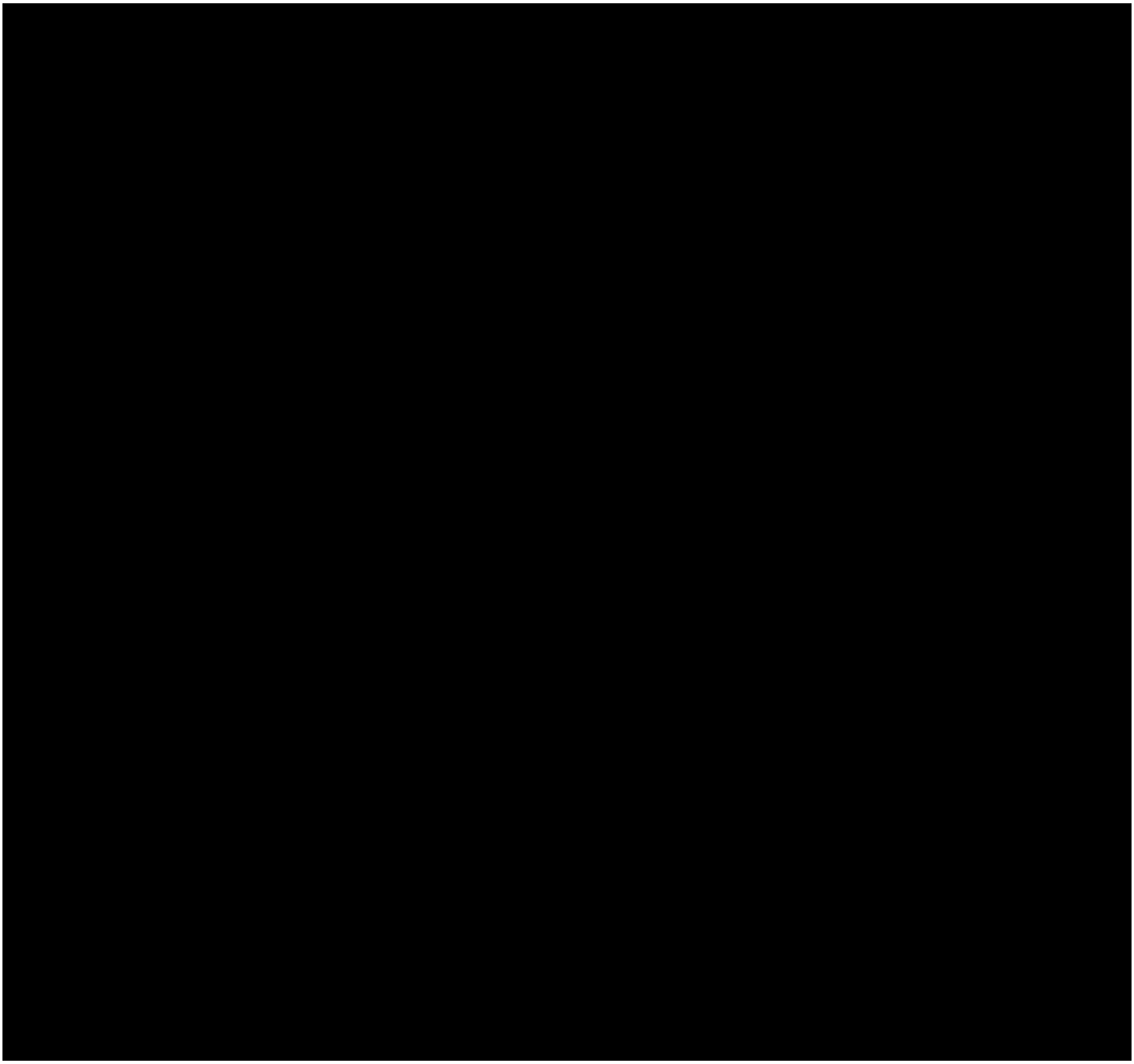


Figure 1-11 presents a visualization of the data regarding the observer's location at [redacted], view direction and field of view of the simulations, distances to WTGs, and the limiting factors of the Earth's curvature (offset slightly by refraction).

1.5.3.1 Description of Simulations

From the [redacted], existing views toward the Lease Area are of open, sandy beach in the foreground with open ocean beyond. Large container ships are occasionally visible on the horizon. The visual simulations prepared for this KOP under clear, partly cloudy, and overcast conditions in the morning, mid-afternoon, and late afternoon and under clear conditions at nighttime illustrate that while the upper tips of the rotating blades of the nearest WTGs would theoretically be visible above the horizon in views from this KOP, they would appear so small as to be barely perceptible to the human eye.

1.5.3.2 Summary of Potential Impacts

Given the substantial distance between the Project and the [redacted], accounting for the Earth's curvature and the limits of human visual acuity, the Project would have negligible to no visual impact even on the clearest of days with calm seas and worst-case lighting conditions. Each structure would be appropriately light-colored, in accordance with BOEM and FAA lighting guidelines and/or relevant permit approvals, which may help further mitigate potential visibility. In less optimal viewing conditions, such as overcast days with greater wave activity and sea spray, the Project would not be visible. At night, the Project would not be visible, because all the lighting associated with the Project—lighting on the nacelles, OSSs, ADLS (if required), etc.—would be below the horizon.

[redacted]

1.6 Conclusion

On behalf of Attentive Energy, [redacted] prepared a visual impact assessment for a conservative indicative layout for the Lease Area that considers full buildout, with the tallest proposed structures (WTGs) being located to the boundary closest to the NY and NJ shoreline. The Study demonstrates that even under optimal viewing conditions, the proposed Project will not be visible from non-elevated viewpoints on the NY shoreline, due to viewing distance and the Earth's curvature. The Study also demonstrates that, while portions of the Project may be visible from elevated locations along the NY shoreline and non-elevated locations along the NJ shoreline, visibility would be limited to a select number of WTGs, but only a very limited portion of the blade tips of those structures [redacted] In support of permitting the Project, Attentive Energy will be conducting a more-detailed visual impact analysis, that will be included within the COP, based upon the final proposed layout for the Project Design Envelope. At that time, the final conclusions to the detailed visual impact analysis prepared in support of the COP will be informed by BOEM's EIS and required Section 106 Consultation.

1.7 References

[redacted]

[redacted]

Attachment 8.5-C Visual Simulations for Fire Island State Park

Attachment 8.5-D Visual Simulations for Island Beach State Park

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Attachment 8.5-E Visual Simulations for Jones Beach State Park