

Vineyard Mid-Atlantic

Project Design Envelope

A project design envelope is a permitting approach that allows a lessee to define a range of design parameters within a Construction and Operations Plan. BOEM then analyzes the maximum impacts that could occur within the range of the design parameters — referred to as the “maximum design scenario.” Representative design parameters for the Vineyard Mid-Atlantic Project are outlined below. Refer to the Vineyard Mid-Atlantic Project Construction and Operations Plan for a detailed explanation of the project design envelope.

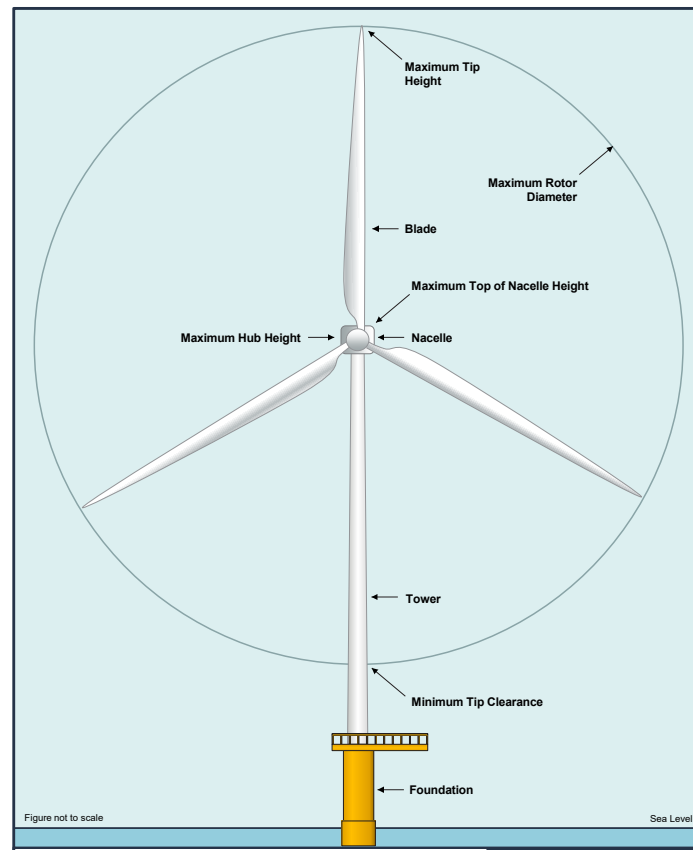


Figure 3.2-1
Wind Turbine Generator

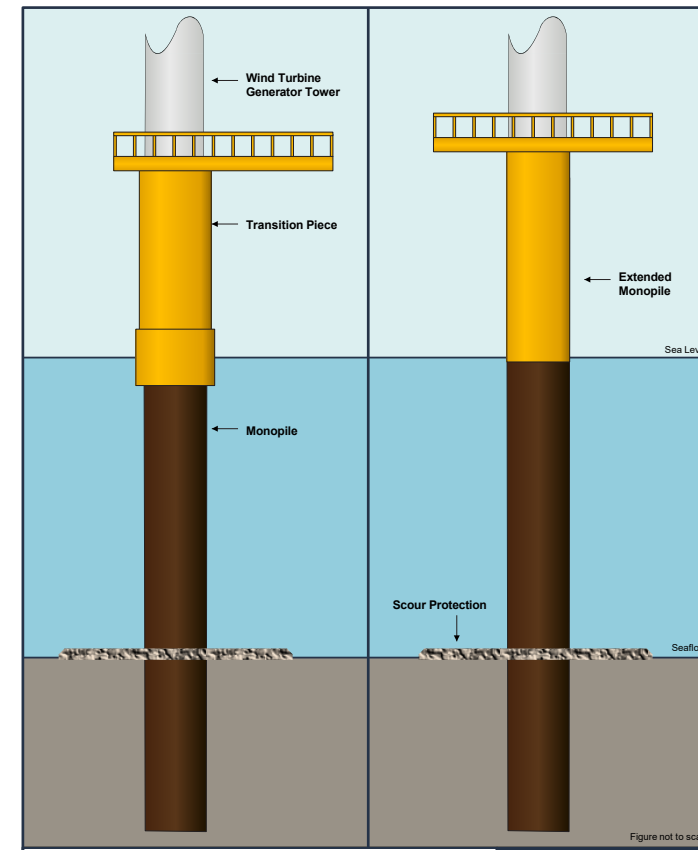


Figure 3.3-1
Monopile Foundation

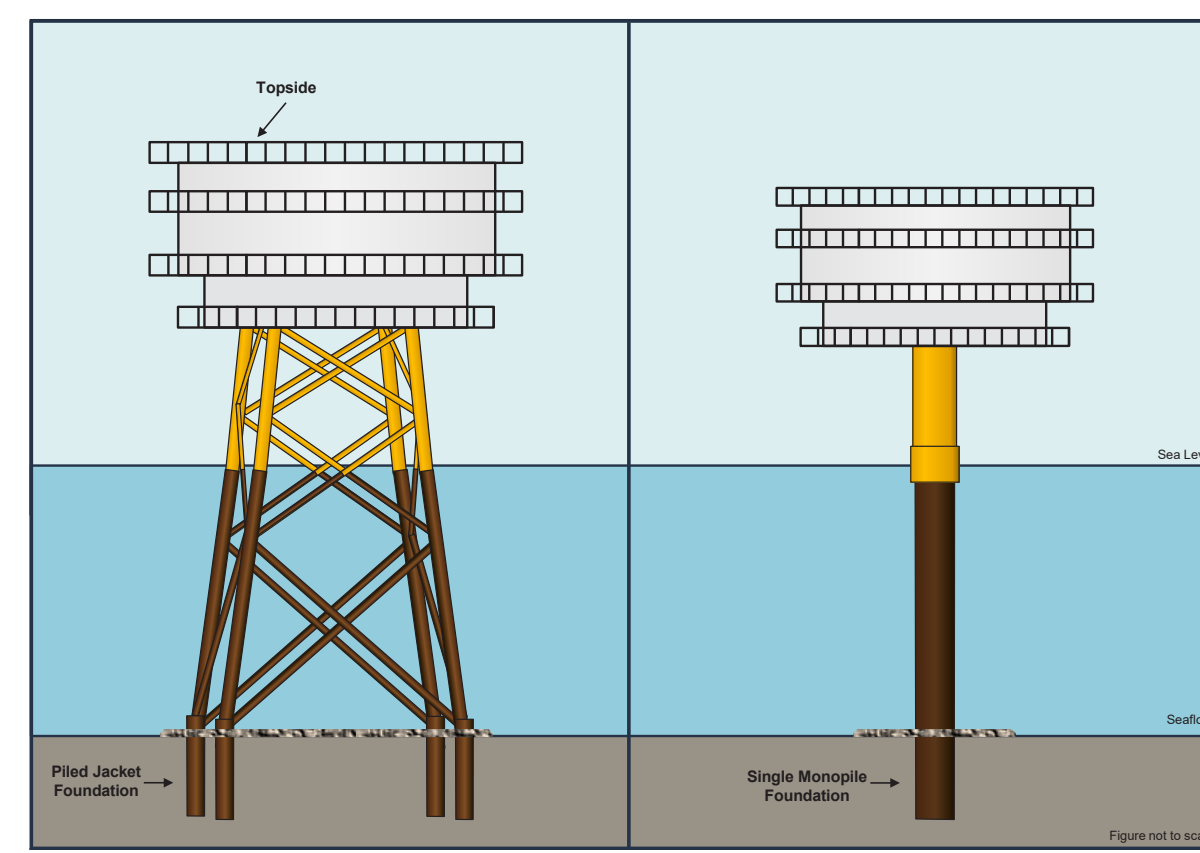


Figure 3.4-1
Electrical Service Platform

| Parameter | Project Design Envelope |
|--|---|
| Maximum number of WTG/ESP positions | 118 |
| Wind Turbine Generators | |
| Maximum number of WTGs | 117 |
| Maximum rotor diameter | 320 meters (m) (1,050 feet [ft]) |
| Maximum tip height | 355 m (1,165 ft) |
| Minimum tip clearance | 27 m (89 ft) |
| Electrical Service Platform(s) | |
| Number of ESPs | 1 or 2 |
| Maximum topside height above Mean Lower Low Water ¹ | 70 m (230 ft) |
| Foundations and Scour Protection | |
| Maximum pile diameter | Monopiles (WTGs and ESPs): 13 m (43 ft) Piled jackets (ESPs): 4.25 m (14 ft) |
| Maximum area of scour protection | WTG monopiles: 7,238-11,660 square meters (m ²) (1.8-2.9 acres) ² ESP monopiles: 7,238-11,660 m ² (1.8-2.9 acres) ² ESP piled jackets: 32,577 m ² (8.1 acres) |
| Offshore Cables | |
| Maximum total inter-array cable length | 296 km (160 NM) |
| Maximum total inter-link cable length | 83 km (45 NM) |
| Number of offshore export cables | 2–6 total cables (up to 6 HVAC cables, 2 HVDC cable bundles, or a combination of up to 4 HVAC cables/HVDC cable bundles) |
| Maximum total offshore export cable length ³ | 594 km (321 NM) |
| Target burial depth beneath stable seafloor ⁴ | 1.2 m (4 ft) in federal waters 1.8 m (6 ft) in state waters |
| Onshore Facilities | |
| Potential landfall site(s) | Up to two landfalls at Rockaway Beach, Atlantic Beach, and/or Jones Beach |
| Potential POIs | East Garden City Substation (Uniondale) POI Ruland Road Substation POI Eastern Queens Substation POI |
| Maximum onshore cable route length | Routes to the Uniondale POI: 29 km (18 mi) Routes to the Ruland Road Substation POI: 35 km (22 mi) Routes to the Eastern Queens Substation POI: 28 km (18 mi) |
| Onshore substation site envelopes ⁵ | Two onshore substations will be located within up to two of four onshore substation envelopes |
| Maximum number of onshore RCSs | 2 |

ESP = electrical service platform; HVAC = high voltage alternating current; HVDC = high voltage direct current; NM = nautical mile; POI = point of interconnection; RCS = reactive compensation station; WTG = wind turbine generator

Notes:

- Height includes helipad (if present), but may not include antennae and other appurtenances.
- A range of the maximum area of scour protection is provided as detailed engineering of the foundations is ongoing.
- Includes the length of the offshore export cables within the Lease Area.
- Based on a preliminary Cable Burial Risk Assessment (CBRA), in a limited portion of the OECC within the Nantucket to Ambrose Traffic Lane, the offshore export cables will have a greater target burial depth of 2.9 m (9.5 ft) beneath the stable seafloor. The target burial depths are subject to change if the final CBRA indicates that a greater burial depth is necessary.
- Since the Proponent has not yet secured site control for the onshore substation sites, the Proponent has identified several potential “onshore substation site envelopes.”