BOEM Bureau of Ocean Energy Management

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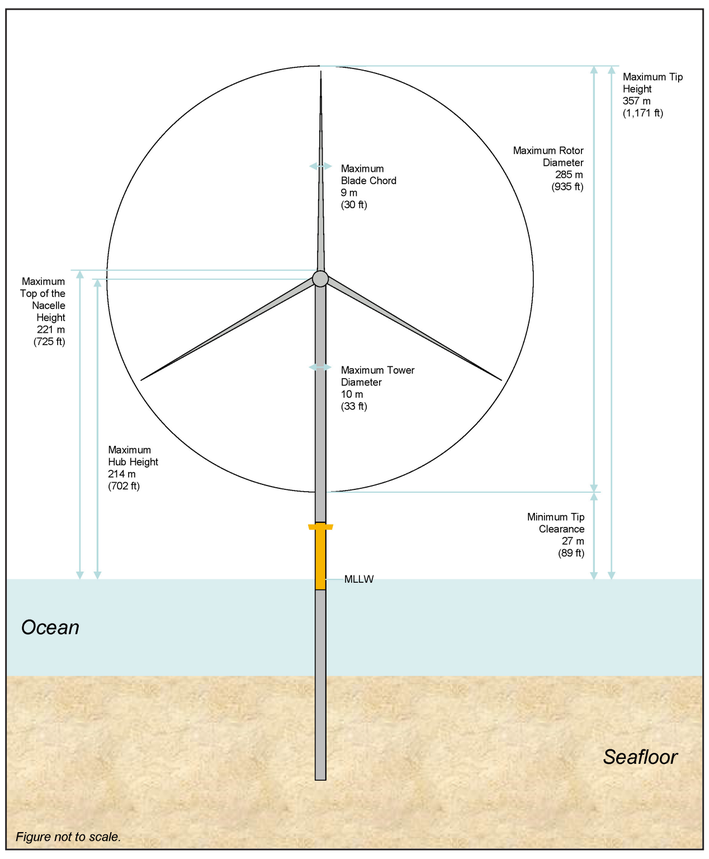
New England Wind Project

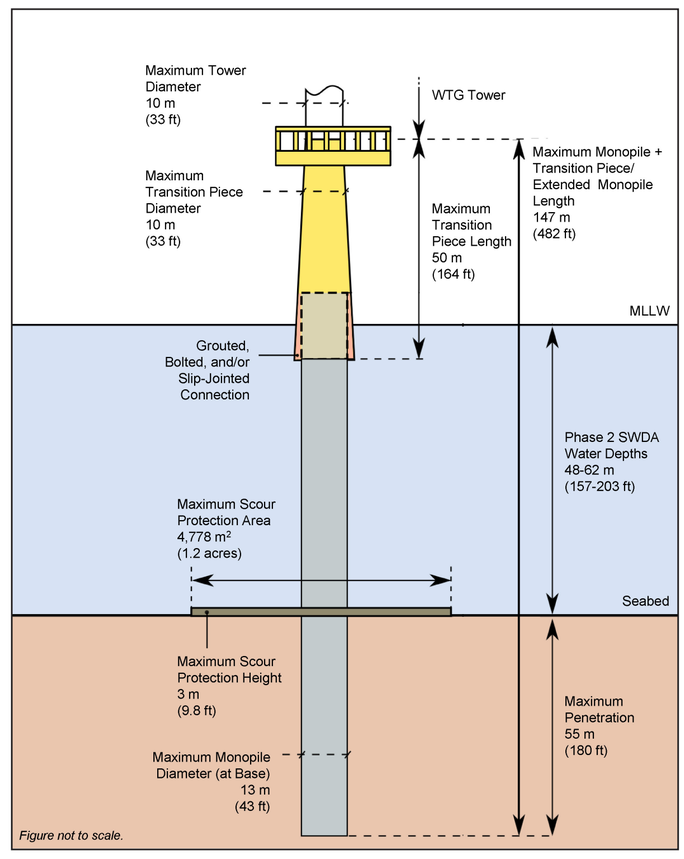
Project Design Envelope

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".

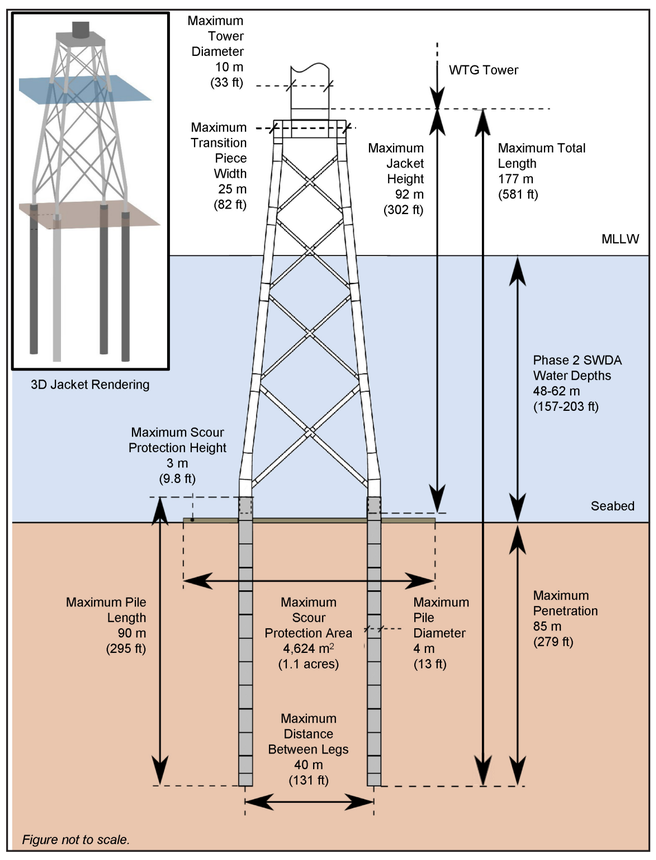
Representative design parameters for the New England Wind Phase 2 project are outlined below. Refer to New England Wind's Construction and Operations Plan for a detailed explanation of the project design envelope.



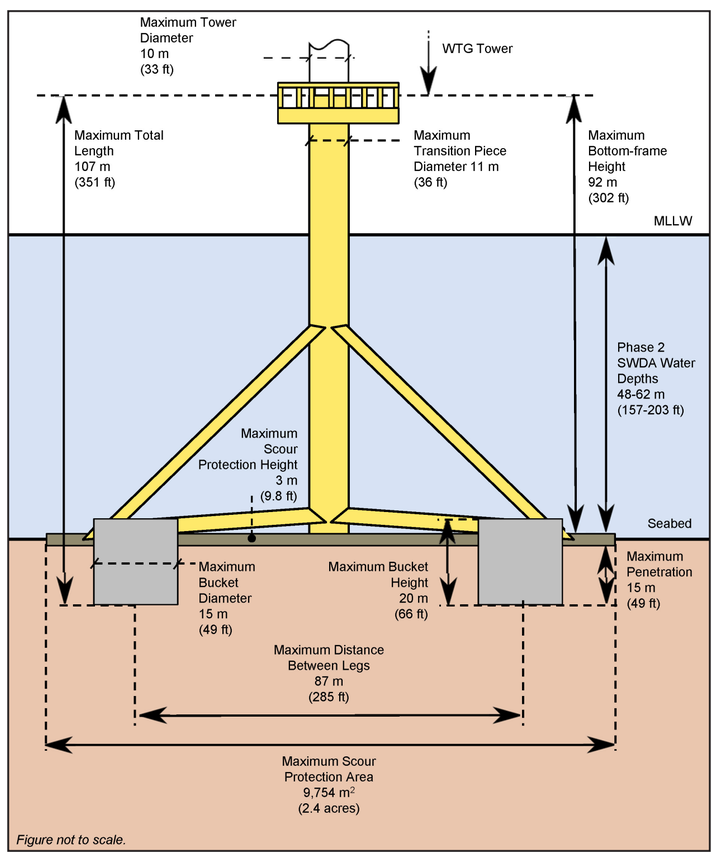
Wind Turbine Generators



Monopile Foundation



Jacket Foundation with Pin Piles



Bottom Frame Foundation with Suction Buckets (Phase 2 only)

Project Component	Representative Project Design Parameters
Wind Turbine Generators (WTG)	• Up to 129 WTGs with rotor diameter up to 937 feet. • Upper blade tip height up to 1,171 feet above MLLW; lowest blade tip height 89 feet above MLLW.
Turbine Foundations	• Phase 1: Monopile or jacket foundations. Phase 2: monopile, jacket, or bottom-frame foundations with scour protection. • Installation with jack-up vessel, anchored vessel, or DP vessel and components potentially supplied by feeder vessels.
Electric Service Platforms (ESP)/Offshore Substations	• Phase 1: one or two ESPs. Phase 2, up to 3 Up to three on monopile or jacket foundations. • Installation with jack-up vessel, anchored vessel, or DP vessel. • Maximum 345 kV inter-link cables with target burial depth of 5 to 8 feet, and options for cable protection.
Inter-Array Cables	• Maximum 132 kV inter-array cables with target burial depth of 5 to 8 feet. • Cable protection (rock, gabion rock bags, concrete mattresses, half-shell pipes [or similar]) in areaswith minimal cable burial.
Offshore Export Cables	• Phase 1: Two 220-275 kV HVAC cables. Phase 2: three 220-345 kV HVAC cables. Target burial depth of 5 to 8 feet. • One export cable route corridor to landfall site(s) in the Town of Barnstable. • Cable protection (rock, gabion rock bags, concrete mattresses, half-shell pipes or similar) in areas with minimal cable burial.
Landfalls and Onshore Export Cable System	• Separate Phase 1 and Phase 2 landfall and onshore export cable route options within the Town of Barnstable. • Onshore export cable routes primarily within road layouts or existing utility rights of way.
Onshore Substations and Interconnector Cable	• A total of up to two new onshore substations with associated infrastructure for both Phases 1 and 2. • Underground cable options to connect onshore substations to the existing grid.

DP = dynamic positioning; HDD = horizontal directional drilling; HVAC = high voltage alternating current; HVDC = high voltage direct current; kV = kilovolt; MLLW = mean lower low water.

For more information on BOEM's Renewable Energy Program, visit www.boem.gov/Renewable-Energy