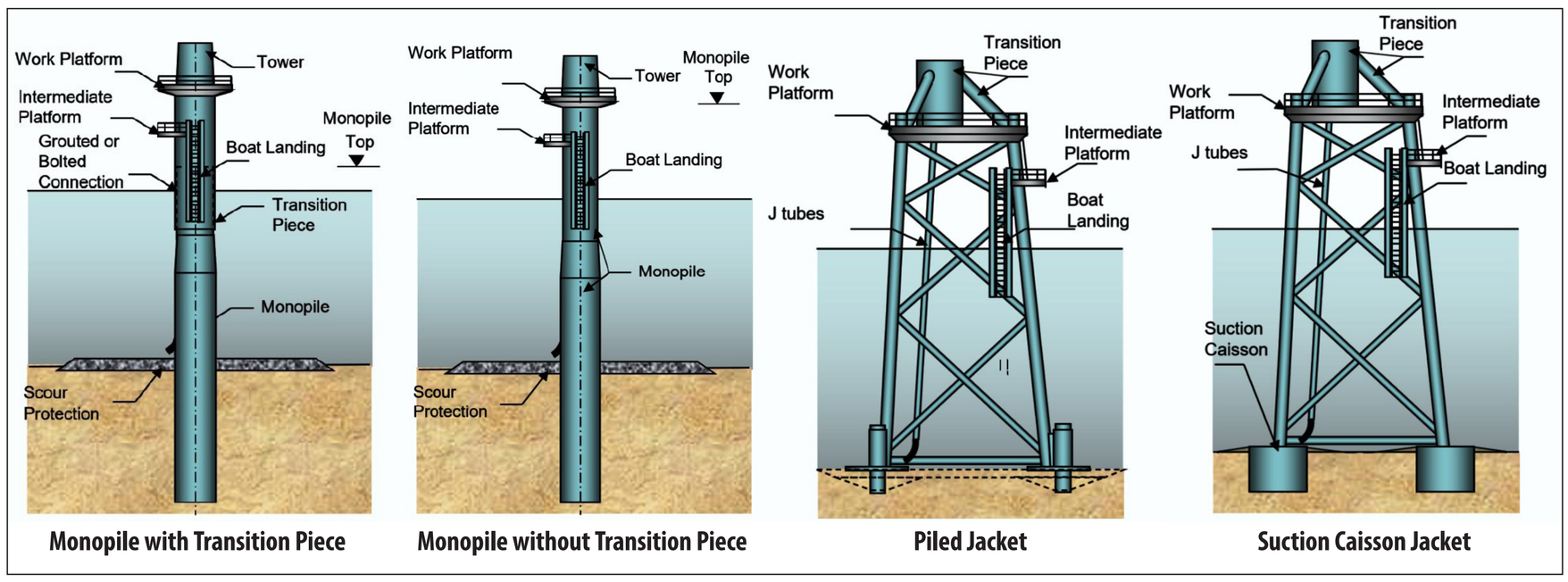
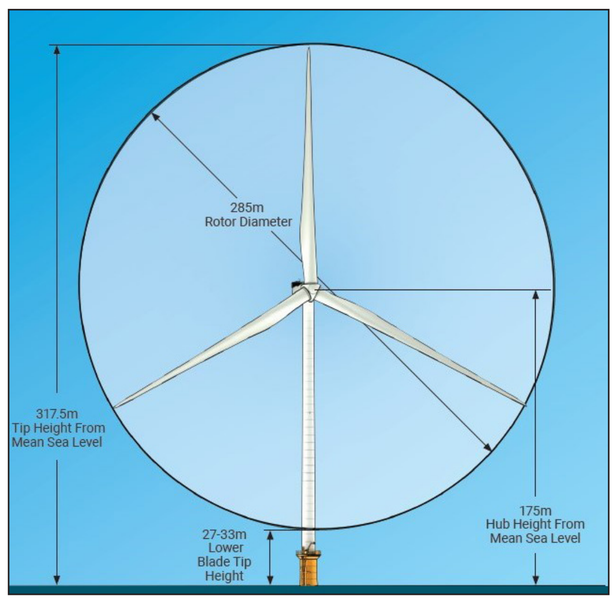
Kitty Hawk Offshore Wind Project

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 Kitty Hawk project are outlined below. Refer to Kitty Hawk Wind's Construction and Operations Plan for a detailed explanation of the project design envelope.





Maximum WTG Dimensions

Project Component	Representative Project Design Parameters
Foundations	• Installation of one or more foundation types: monopile, piled jacket, and up to three suction caisson jacket • Installation using hammered pile driving (for monopiles and/or piled jacket foundations) • Scour protection may be installed around all foundation types
Wind Turbine Generators (WTGs)	• Up to 69 WTGs • Rotor diameter up to 935 feet (285 meters) • Hub height up to 574 feet (175 meters) above mean sea level • Tip height up to 1,041 feet (317.5 meters) above mean sea level • Lowest blade tip height 88 feet (27 meters) above mean sea level
Inter-Array Cables	• 66-kilovolt, 3-core cables buried up to 5 to 8 feet (1.5 to 2.5 meters) beneath the seabed • Maximum total cable length 149 miles (240 kilometers) • Jet trencher, mechanical trencher, and free-lay and post-lay burial installation • Proposed protection if target cable burial depth is not achieved includes rock armor, gabion rock bags, concrete mattresses, and protective half-shells
Offshore Export Cables	• Up to two 275-kilovolt export cables buried up to 5 to 8 feet (1.5 to 2.5 meters) beneath the seabed • Minimum separation distance between circuits is 164 feet (50 meters) • Maximum total corridor length is 50 miles (80 kilometers) • Jet trenching, jet plow, mechanical plow, and free-lay and post-lay burial installation, with dredging in some locations to achieve burial depth • Proposed protection if target cable burial depth is not achieved includes rock armor, gabion rock bags, concrete mattresses, and protective half-shells
Electrical Service Platform (ESP)	• One ESP installed atop monopile, piled jacket, or suction caisson jacket foundation
Onshore Facilities	• Landfall of export cables will be completed via horizontal directional drilling • Construction work area for the onshore substation at Corporate Landing to disturb up to 32.4 acres (13.1 hectares) • Onshore transmission and interconnection cables with total maximum cable length of 7 miles (11.3 kilometers) • Up to six 275-kilovolt onshore export cables and two fiber optic cables • Up to 128 acres (52 hectares) of disturbed area for the onshore export cable corridors
Operations & Maintenance Facilities	• Portsmouth, VA • Newport News, VA • Cape Charles, VA • Chesapeake, VA

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