

Project Construction

Installation of Foundations

- Delivery of monopile foundations to the site by vessel.
- Foundation piles installed using a pile driving hammer, vibropiling, and/or drilling techniques.
- Transition piece grouted and/or bolted onto monopiles; jackets grouted and/or welded onto pin piles.
- Rock scour protection installed at foundation base by side dumping, fallpipes, and/or crane.

Installation of Wind Turbine Generators

- Turbine pre-assembly and transport of turbine components to the site by vessel.
- Turbines installed by one or two jack-up, anchored, and/or DP vessels.
- Installation of the turbine using a crane to lift the tower, nacelle, and turbine blades. Components are fastened together as they are lifted into place.

Electrical Service Platforms and Booster Station

- Topside structure is transported to the site by vessel.
- Topside structures installed onto pre-installed foundations by vessel using cranes or floated and ballasted down.
- Topside structures bolted or welded to foundations.



Wind turbine installation.



Installation of offshore substation.

Cable Laying Process



Cable lay vessel.



Jet plow being lowered.

- The project design envelope includes inter-array cables and two offshore transmission options:
 - All high-voltage direct current (HVDC): up to 4 HVDC export cable bundles.
 - HVDC and high-voltage alternating current (HVAC): up to 5 HVDC+HVAC export cable bundles and a booster station.
- Activities that would be conducted prior to cable installation include boulder clearance, sand bedform dredging, pre-lay grapel runs, and pre-lay surveys.
- Cables will be buried at a target depth of 5 to 8 feet using three common methods:
 - Simultaneous lay and bury: Creates a trench, lays and buries cable. Provides immediate protection but is slower. Expected to be used for offshore export cables.
 - Post-lay burial: Cable laid on seabed surface and subsequently buried by separate tool. Expected to be used on short sections of cables.
 - Pre-lay trenching: Trench excavated prior to cable laying. Used in areas of stiff clay or high concentrations of boulders.
- Two primary cable installation tools would create trenches up to 3.3 feet wide:
 - Jetting techniques: Water jetting systems used for simultaneous lay and bury or post-lay burial in sands or soft clays.
 - Mechanical plowing: Mechanical plow cuts narrow trench and is used for simultaneous lay and bury in stiffer soil conditions.
- The maximum area of temporary seafloor disturbance due to cable installation is 1.84 square miles in the Massachusetts OECC and 1.85 square miles in the Connecticut OECC.

