CLIENT

Beatrice Offshore Wind Farm Limited (BOWL)

OUR VALUES

Safety

Integrity

Sustainability

Performance

Collaboration

Innovation

Beatrice Offshore Wind Farm Project

Project at a glance

Full project information overleaf

In 2019, Seaway7 successfully completed the engineering, design, procurement,construction and installation (EPCI) of 84 jacket foundations and associated inner-array cables, and the transport and installation of two offshore transition modules, on Beatrice Offshore Wind Farm in the North Sea, UK.

Client

Beatrice Offshore Windfarm Ltd (BOWL), a joint venture between SSE Renewables (40%), Copenhagen Infrastructure Partners (CIP) (35%) and Red Rock Power Limited (25%)

Windfarm Information

Beatrice Offshore Windfarm has 84 Siemens Gamesa 7MW wind turbine generators (588MW in total) and two Offshore Transformer Modules. The electricity is transmitted via subsea cables to a point east of Portgordon in Moray and then to the Blackhillock Substation via underground cables.

The windfarm is capable of generating enough electricity to power approximately 450,000 homes.

Source: www.beatricewind.com

clientenquiry@seaway7.com

www.seaway7.com

BOWL - Beatrice Offshore Windfarm

Project

Beatrice Offshore Wind Farm

Location

13km off Caithness coast, Outer Moray Firth, North Sea, UK

Water depth

38m-60m below lowest astronomical tide

Project Type

EPIC

Date Awarded

April 2016

Date Completed

October 2019

Vessels

Seaway Yudin
Seaway Strashnov
Seaway Aimery
Seaway Moxie
and various other 3rd party vessels and barges

Scope of Work

Project Management

EPCI WTG Foundations Scope:

- Design, Procure and Fabricate 84 WTG Jackets (weight 943 - 1052t, height 66.9 - 79.6m)
- Design, Procure and Fabricate 336 Pin Piles (weight 98.2 - 172.2, 2.2m dia., length 32.0 - 54.7m)
- Jacket and pin pile fabrication was divided over various worksites in the UK, The Netherlands, Belgium, Germany and Denmark
- Transport and install 84 WTG Jackets and 336 Pin Piles.

EPCI Inner Array Cables Scope:

- Design/specify, Procure and manufacture 91 33kV submarine composite cables, cable accessories and cable protection systems
- Perform pre-lay boulder clearance, pre-lay grapnel run and route clearance
- Transport, install and burial submarine cable system and associated termination, testing and pre-commissioning.

T&I Substation Scope:

- Transport and install 2 Substation Jackets and 8 Pin Piles (weight 927.8t, 25.9x25.9x67.24m)
- Transport and install 2 Substation Topsides (weight 913.6t, 34.3x19.0x13.0m).

Project Milestones

- Project awarded in April 2016.
- FID May 2016.
- Pin Piles installed - December 2017.
- Substation installation complete - April 2018.
- WTG jackets installation complete - July 2018.
- Offshore cables installed - August 2018.
- Completion October 2019.

Technology and Innovation

- Standardised transition piece top sections allowed greater transferrable of these sections between the fabrication yards
- Jacket-pin pile levelling/locking system to comply with stringent displacement restrictions during grout curing.
- Hydraulic seafastening system for IHC S-2500 impact hammer resulting in shorted cycle times and less manual labour.
- Tailor-made Pile Installation Frame with levelling possibility to overcome for seabed unevenness and to ensure pin pile verticality and spacing.
- Riggerless jacket installation system to enable even the largest jacket to be lifted without the presence of riggers.

Worksites and Assets

The fabrication workscope was divided between various worksites in the UK, The Netherlands, Belgium, Germany and Denmark. This ensured timely delivery of all structures. Offshore installation activities were executed between April 2017 and August 2018 using Seaway7's heavy lift vessels *Seaway Yudin* and *Seaway Strashnov*, cable-lay vessel *Seaway Aimery* and installation support vessel *Seaway Moxie*.