

Installation: Borkum Riffgat



Bold Tern sailing with eight WTGs on board



Bold Tern installing a WTG



GWS technicians at work



Bayard class CTV

The Project

The Riffgat wind farm installation project was the first project assigned to Bold Tern after her delivery from the shipyard. Installation work began on the 1st April 2013 and lasted for approximately 15 weeks with the last turbine being installed on the 18th July 2013. Bold Tern was the first vessel in the world to deliver and install eight complete Siemens SWT - 3.6 120 turbines at a wind farm site in a single deployment.

All turbine components were transported at the same time making the installation process more efficient. The component parts were loaded on to Bold Tern in Esbjerg in Denmark. Each consignment included eight fully constructed towers, eight nacelle and hub assemblies and twenty-four 58.5m blades. During the course of the installation, significant time savings were realised. The fastest full wind turbine was installed in 10 hours and the fastest turnaround time was 16 hours - It is neither technically nor operationally feasible to safely install turbines at a faster rate than this.

A total of thirty turbines were successfully installed by Bold Tern using manpower supplied by Global Wind Service, a Fred. Olsen related company. Fred. Olsen related companies delivered the following scope of work:

- Engineering and manufacturing of grillage including blade rack
- Turbine transport and installation
- Lift planning
- Marine engineering
- Offshore construction management
- Lift supervision
- Offshore HSE representation

Also on site were two Fred. Olsen Windcarrier Bayard service vessels.

The Wind Farm

Riffgat is located 15 kilometres northwest of the German island of Borkum. The wind farm covers a total area of 6 square kilometres. At full power, the wind park will generate 108 MW of renewable energy - enough to power more than 120,000 homes.

The wind farm is owned by EWE AG and ENOVA Energieanlagen GmbH and developed and operated by Offshore Windpark Riffgat GmbH & Co. KG.

Comments

Fred. Olsen Windcarrier Project Manager Petter Faye Søyland said, "We load and transport the towers in one piece, saving one lift per turbine both during loading and installation, as well as enabling more deck space for turbines. And what's more, by carrying eight turbines per voyage, we have been able to reduce the number of transit operations and sailing time. After a significant learning curve, turbines are now being installed in less than 12 hours.

There has been great cooperation between the developer EWE, the turbine manufacturer Siemens Wind Power and Fred. Olsen Windcarrier to ensure that the site is being built safely and efficiently. Bold Tern and her experienced offshore supervisors, supplied by Fred. Olsen related company Global Wind Service, are doing an excellent job."