

Alstom's 6MW Haliade 150 demonstrator

The Project

Fred. Olsen Windcarrier specialist jack-up vessel Bold Tern installed the largest offshore wind turbine ever to be positioned in sea waters. Installation of Alstom's 6MW Haliade 150 was successfully completed on November 16th 2013 despite interruptions from severe weather at the Belwind site 45km off the Ostend coast.

This installation was the sixth successful project for Fred. Olsen Windcarrier jack-up vessels Bold Tern and her sister ship, Brave Tern, in their inaugural year of operation.

The exceptional dimensions of the new turbine meant Alstom called for the Bold Tern, one of the latest generations of jack-up vessels, which entered service with Fred. Olsen Windcarrier in February 2013. As well as its large deck area of 3,200m², the Bold Tern is equipped with a robust and versatile crane capable of handling 800-tonne components at sea.

The Bold Tern also has a DP2 dynamic positioning system for increased safety and can cope with challenging weather conditions. It was the ideal solution for managing Alstom's massive turbine, with its 73.5m long blades of rotor diameter of 150m. The overall weight of the turbine was 1,500 tonnes.

The installation set-up consisted of three tower sections, a nacelle with hub and two blades attached in the bunny-ear configuration and a single third blade.

Fred. Olsen Windcarrier's scope of work was to deliver the fully mobilised Bold Tern along with engineering services, lift supervision and WTG technicians, supplied by Fred. Olsen related company

Global Wind Service, to ensure successful installation for a pioneering project.

Bold Tern was loaded at the Port of Ostend during the week beginning September 30th and left for Belwind on October 7th, ready to start installation the following day.

The turbine's tower sections were smoothly installed before a period of severe winds halted work. As soon as the weather abated the installation of the nacelle and final blade took place and in the early hours of November 16th and the first Alstom Haliade 150 6MW offshore turbine was successfully installed.

Comments

"This project with Belwind asserts our technological leadership and our innovative abilities. The installation of our turbine, which is simple, robust and efficient thus contributing in boosting the competitiveness of offshore wind energy," said Alstom Wind senior vice-president Alfonso Faubel.

Fred. Olsen's Project Manager said, "The strong relationship between Fred. Olsen Windcarrier and Alstom, based on mutual trust and respect, was fundamental to the entire project.

"The successful installation was thanks to the skilled and flexible engineering team, the proactive and dedicated project management team and the vast experience of the offshore construction team. And having a highly competent client that was able to take decisions on site ensured that the installation of the prototype went smoothly in spite of many challenges."



Bold Tern under way with the 6MW Haliade 150 turbine



Bold Tern lifting the nacelle from its deck



Bold Tern at the turbine site off Ostend



Successful completion of the project