

# Windfarm Installation from Heavy Lift Vessel



One of Jumbo Offshore's heavy lift & installation vessels, the DP2-ship *Jumbo Javelin*, is able to ship and install Transition Pieces (TP's) for wind turbines. The vessel has a capacity of nine TP's at a time, each with a weight of about 285 tonnes. All TP's can be stowed vertically in the hold and transported to the offshore location site. There, the *Jumbo Javelin* positions itself on DP next to the monopile of the wind turbine, lifts the TP from the hold onto the monopile and adjusts it. The leveled TP is then fixed to the monopile by pumping grout in the annulus between the pile and the Transition Piece.

The *Jumbo Javelin* and her sister ship *Fairplayer* are two of four J1800-class heavy-lift vessels. During the past years these vessels have proven their value to Jumbo Offshore's clients, because they are ideal for combined transport and offshore installation projects.

This makes double handling superfluous; there's no need for barge-tug combinations and other crane vessels, thus reducing the number of load- transfers and consequently the number of risks.

To give crew safe access from the *Jumbo Javelin* to the installed TP as well as efficiently guiding the grout hoses, an Ampelmann has been installed on the vessel. The Ampelmann is a ship-based, self stabilising platform which provides safe, easy and fast offshore access by actively compensating the motions of the vessel. As the *Jumbo Javelin* will be free-floating, it will be sensitive to waves and swell. The Ampelmann will absorb the vessel motions and make a safe transfer to the Transition Piece possible.

To get the vessel ready for its first assignment, a set of 15 temporary living quarters, additional life-saving appliances, 9 TP-supporting foundations, a complete grouting plant, specialised lifting equipment, supporting auxiliary equipment and an Ampelmann have been installed. It will be the first time that Transition Pieces will be placed on monopiles from a free-floating vessel on DP. The advantage of using a DP-positioned heavy lift vessel compared to the conventional method of moving and installing these pieces, is that the vessel is used for transporting a considerable load of TP's, fast transit to the installation site and the installation on the monopile. Another advantage is that the relocation from one position to the next is a relatively fast one, as the vessel does not need to reposition anchors and jack-up.