DOT Modular drive train

Publieke samenvatting / Public summary

Background

The current state of the art offshore wind turbines have a power capacity up to 9 MW. In the coming years this is expected to increase up to 15 MW. For DOT, the encompassing goal of this project is to develop a high pressure pump which can be modularly upgraded to enhance the power capacity of the drive train. For DOT this is the only way to rapidly achieve offshore wind industry scale machines. It is therefore paramount to the success of the DOT concept.

Objective

Upgraded modular high pressure pump as a hydraulic drive train for wind turbines.

Short description of activities

In the past two years DOT has successfully developed its hydraulic, slip joint founded wind turbine concept in various stages. The proof of concept of the hydraulic drive train setup was constructed and tested indoors in Delft. Next a second hand Vestas V44 was retrofitted with hydraulic drive train and installed using a slip joint connection on the Tweede Maasvlakte. In parallel DOT has been developing its own modular drive low speed high pressure pump for seawater. The design of this prototype pump is nearly completed and the first tests with the assembled pump are expected to take place on September 2017.

Results

The project objective is to improve the current design of the pump and modify it such that a second

Projectinformatie / Project information

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Algemene informatie / General information

Penvoerder / Secretariat
Delft Offshore Turbine B.V.

Publicaties en materialen / Publications and attachments

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  Eindrapport TEHE117012

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segment can be added. The related costs are relatively low and well defined due to experience from the previous project. It is an opportunity to test a modular multiple segment pump already in an early stage.

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