



Maritime DTU
Center for Maritime Activities

Hydrodynamic loading on offshore wind installation vessels

Type of project: MSc or BSc

Project description:

During operations, windfarm installation vessels are lifted out of the water with an airgap of 15 to 20m in order to reach a heavy storm survival configuration. In such a configuration, ocean wave and current forces on the legs are one of the most important contributions on windfarm installation vessels legs. Such forces are required to assess the vessels structural integrity.

Swire Blue Ocean operates two of the largest wind turbines installation vessel working in the North Sea. When analysing the elevated conditions of these vessels, approximations to these hydrodynamic loads are made in order to assess the forces due to added mass and drag on the jack-up legs.

Interested students are invited to get involved with Swire Blue Ocean, with the support of DTU expertise, in the better evaluation of this hydrodynamic loading of our jack-up vessels legs.

Possible project topics include: *hydrodynamic flows around jack-up legs*, *CFD analysis of jack-up leg extension*, *validation of coefficients with rules and regulations*, and *optimisation of the hydrodynamic loads and operations*.

Contact persons

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