Double Slip Joint connection for Offshore Wind Turbine foundations

Publieke samenvatting / Public summary

CAPEX/OPEX of existing offshore wind turbine foundations are high. Costs can be reduced significantly by the use of a new robust “Double Slip Joint” (DSJ) between the foundation and turbine tower. Basically this is a continued development of the so-called “Slip Joint” (SJ), as already used decades for small onshore turbines.

Objective
The objective is to design, test and validate a medium-scale steel prototype Double Slip Joint connection
by comparing the self-settling behaviour with previous small plastic prototypes. Effects of larger scale, the use of steel and
prototype fabrication method by real machines with realistic tolerances are tested.

Short description
Activities will be a joint project of KCI, Van Oord Offshore Wind Projects and SIF. The Dutch test institute WMC will be selected for the execution of the tests. KCI will design the DSJ prototype and the test set-up in cooperation with the test institute. SIF will advise about fabrication aspects, and manufacture and measure the as-built prototype. Van Oord will advise on installation aspects based on practical experience. The test institute will build the test set-up, calibrate the instrumentation and execute the tests and report the test measurements. Results will be compared by KCI to previous

Projectinformatie / Project information

Projectnummer / Project number
TEWZ116901
Subsidiebedrag / Grant amount
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Algemene informatie / General information

Penvoerder / Secretariat
KCI the engineers B.V.

Publicaties en materialen / Publications and attachments

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results of small scale plastic prototype tests. The earlier developed analytical model and detailed FE model will be further refined to provide validated design tools for detailed design for the present and future
turbines with power rating over 10 MW.

De data in deze applicatie is afkomstig van de Rijksdienst voor Ondernemend Nederland (RVO) en wordt in samenwerking met de Topsector Energie ontsloten.
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