ENERGY

JACK-UP AND GEOTECHNICAL SECTION: WIND TURBINE INSTALLATION VESSELS

DNV GL’s Noble Denton marine services group is the premier provider of full life cycle marine and offshore engineering services to the oil and gas, marine and renewables industries.

DNV GL’s Jack-up and geotechnical team of highly skilled engineers have extensive experience in the detailed analysis of structural and mechanical systems and geotechnical engineering. We provide fast, reliable and innovative solutions to complex engineering problems.

Our service offering includes:

- Review, advice and real-time support on geotechnical site investigations.
- Geotechnical categorisation of multiple turbine locations within a single offshore wind farm.
- Leg Penetration Analysis including geotechnical hazards identifications.
- Geotechnical stability assessments of offshore structures.
- Jack-up site-specific assessments according to SNAME 5-5A and ISO 19905-1 including compliance with Norwegian requirements.
- WTIV assessments set to RenewableUK guidelines.
- Screenings of suitable units or locations and provision of capability maps for jack-ups.
- Punch-through/Sudden Drop Unit Capability.
- Rack Phase Difference (RPD) limit analysis.
- Advanced Jack-up structural analyses, e.g. leg touch-down, vessel impact, earthquake response, fatigue analysis, blast response, etc.
Our expertise also encompasses the provision of practical and cost-effective solutions for identification and mitigation of Jack-up geotechnical hazards, such as:

- Punch through: determining a safe pre-loading strategy suited for site-specific geotechnical challenges.
- Spudcan-footprint interaction: determining a safe installation strategy; e.g. by means of a carefully planned stomping sequence.
- Leg extraction: providing safe limits and procedures for leg pulling attempts.
- Spudcan scour: analysis and scour protection.

Our expert team have undertaken numerous assessments of jack-ups, barges and wind farm installation and maintenance vessels.

**EXAMPLES OF RIGS ASSESSED:**


**EXAMPLES OF OFFSHORE WIND FARMS ASSESSED:**

- Beatrice, Belwind, Block Island, Borkum West, Burbo Bank, Butendiek, Galloper, Greater Gabbard, Gwnt y Mor, Merkur, Moray Firth, Racebank, Rampion, Sheringham Shoal, Thanet, Triton Knoll, Veja Mate, Walney, Wikinger.

**Supported by tailor-made software**

DNV GL’s JUSTAS software enables the site-specific assessment of jack-up units in a robust and consistent approach, helping users to evaluate individual jack-up performance in a time-efficient and cost-effective manner.

**CONTACT US**

For further information about our services and products, please contact:

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