Jack-up Structures

PAFA Consulting Engineers are actively involved in the estimation of jack-up platform reliability.

Recently[1], we identified and addressed a number of concerns relating to the adaptation of existing criteria for the assessment of jack-ups in SNAME Bulletin 5-5A, to ISO standard 19905-1. These included:

- Slenderness for rectangular components and lack of criteria to deal with reinforcing plates;
- Slenderness definitions not properly differentiating hybrid sections used in building construction and those used in jack-up chords;
- An inadequate approach to lateral torsional buckling cross-sections;
- No criteria for shear in non-tubular cross-sections.
- Compressed chords required reclassifying to a higher column curve;
- Inconsistency between hydrostatic pressure effects on fixed and jack-up platforms in ISO 19902 and ISO 19905 respectively.

PAFA Consulting Engineers have been involved in the following jack-up related projects:

- Jack-ups load factor impact review[1]
- Jack-ups WSD vs LRFD (SNAME)[2]
- Review of Jack-Up Site Specific Assessment procedures
- Structural reliability of jackets and jack-ups
- West Epsilon jack-up data analysis

[1] Frieze, P. A and Jones, W., 'Structural criteria for high strength jack-up legs', 9th International Conference – The Jack-Up Platform, London, 2003.

[2] Frieze, P. A., Sondhi, N. P. and Jones, W., 'A critical assessment of jack-up WSD and LRFD criteria', 8th International Conference – The Jack-Up Platform, London, 2001.

Summary

- Reliability of jack-ups
- Safety factor derivation
- SNAME Bulletin 5-5A
- ISO Standard 19905
- Improved definitions and consistency in the design of jack-ups
- Worldwide application

Clients

- Global Maritime
- Health & Safety Executive
- ISO TC67 / SC7 / WG7
- MSL

For More Information, Please Contact:

P. A. Frieze
info@pafa.co.uk

PAFA Consulting Engineers
Hofer House
185 Uxbridge Road
Hampton, TW12 1BN
United Kingdom
Tel: +44 (0)20 8979 9544
Fax: +44 (0)20 8979 4887