

Zebec performs structural analysis of Jack-Up structures subject to site specific environmental conditions. The analysis includes both static and dynamic calculations of the structural system. Fatigue analysis of structural joints forms an integral part of the analysis work. Contribution from the primary elements of a Jack-Up i.e. the jacking system, leg guides and fixation systems are all taken into consideration to make the analysis as realistic as possible.

To make the analysis a complete one, geotechnical assessment of the foundation is also incorporated in the analysis. All calculations are carried out as per class recommendations as well as recognized international guidelines.

The typical studies include the following:

- Estimation of extreme load, functional loads, dynamic loads, P-delta effects
- Strength characteristics due to above computed loads
- Overturning stability assessment
- Foundation and pre-load check
- Estimation of leg penetration
- Calculation of air gap
- Estimation of fatigue characteristics
- Hydrodynamic calculations and estimation of extreme motions
- Beam model and detail FE model of the structural system
- Analysis incorporates both elevated and free floating / transit conditions
- Analysis of drill floor with derrick

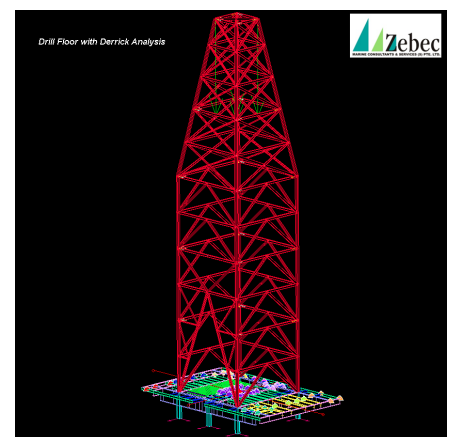


We can model the following facilities:

- Details of jacking and fixation systems can be incorporated in the model
- Dynamic effects can be taken into account in a simplified or in a detailed manner
- Corrosion and marine growth effects
- Accidental conditions involving vessel-leg collision can be computed and simulated
- Estimation of bottom impact during installation and retrieval of the rig

The following environmental conditions can be imposed:

- 100 / 50 year return wave condition
- Constant current speed / linear variation of current speed
- Design wind speed profile as recommended by class



Software used:

- We use the Bureau Veritas suite of programs which includes Hydrostar, Isy most and NSO