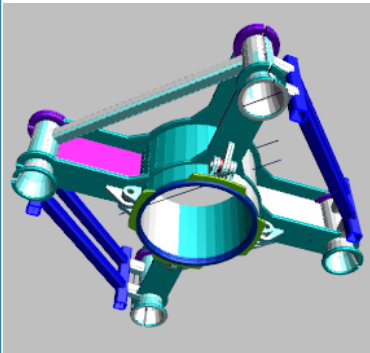




Rig Name: Polar Pioneer
Rig Type: Semisubmersible
Owner name: Transocean Ltd.
Classification Society: DNV
Code design: WSD

[Click below to see model 3D!](#)

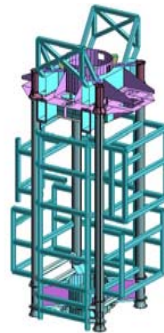


Get Adobe Reader
 To view 3D documents

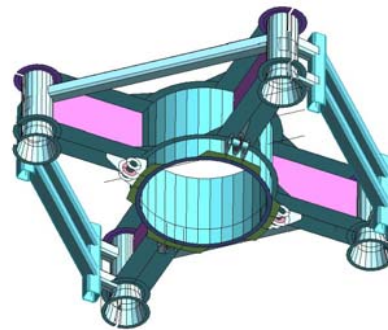


Project description: Search out a solution to house the existing generic type wellhead connector using the same basic framework but replacing the inner core with a new bucket specifically to suit Vetco H4 with smaller diameter. In addition to this, it was requested that an option for dismantling the wellhead connector be accommodated without having to separate the wellhead spider frame from the lower main frame. Design concept consists of one horizontal supporting ring to take the loading from the connector component and this load is taken up by the diagonal framing with 4 pin connections. This is to facilitate offshore quick change out of the connector.

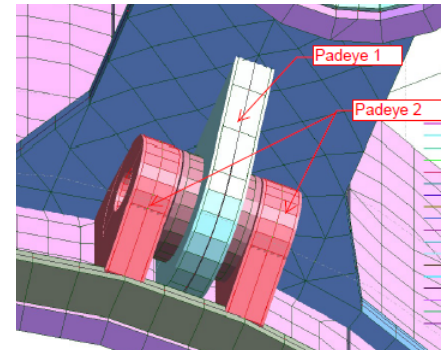
Model of Geometry



Full Model



Existing Spider Frame with New Quick Change Out Bucket



Quick Connection Details



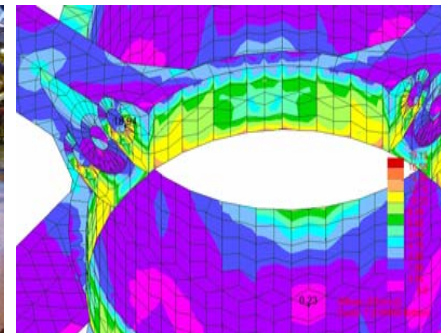
Existing BOP

Existing System



Existing Spider Frame with Wellhead Connector

Load Path and Stress Contours



Stress Plot

R.E. scope of work

Structural FEA model of the proposed spider lower frame was made using Finite Element Assessment Software, ROBOT, provided by Autodesk. Pins and padeyes, the main, critical part of the design have also been evaluated using empirical and FEA means. Assessments have been done and the stresses in the critical areas are found to be within allowable limit of both the operating and accidental conditions. Workshop drawings depicting new design elements have been included to the design pack for solution implementation.

Engagement Condition

Upload your problem to us and give us relevant input to allow us to resolve your problem, we will need:

1. As-built drawings to create 3D model
2. Weight and centre of gravity of BOP components.