Rig Engineering Case Study 2112

BOP Modification

RIG ENGINEERING

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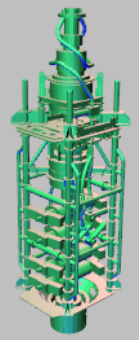
Rig Name: *N. Sea location*

Rig Type: *Semi-Submersible*

Owner name: *N. Sea location*

Classification Society: *ABS*

Click below to see 3D model!

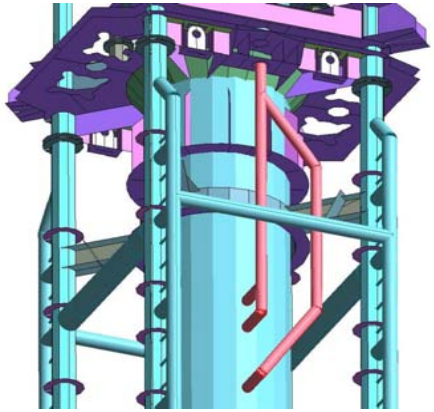


Get Adobe Reader
To view 3D documents

Project description: *To assist in reviewing previous, partial strengthening fix of the unitized structural framing, that caused failure on the side outlet against latest failure (reoccurrence). Then do necessary investigation and structural analysis to ensure that structural modification, if additionally required, is executed to conclusion. This is in order to avoid recurring of this side outlet failure. It is thought that the load path when landing the 215 Te BOP on the angel wings has caused the load to channel to the choke and kill line's side outlets.*

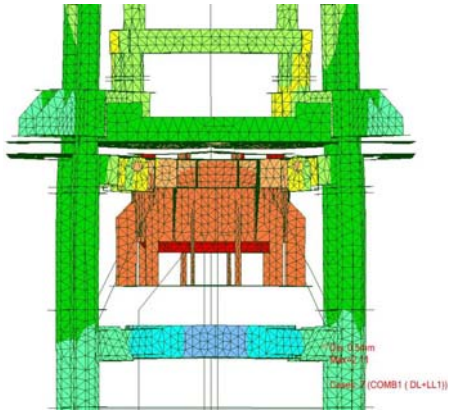
Model Geometry

General View



Close Up View

Results



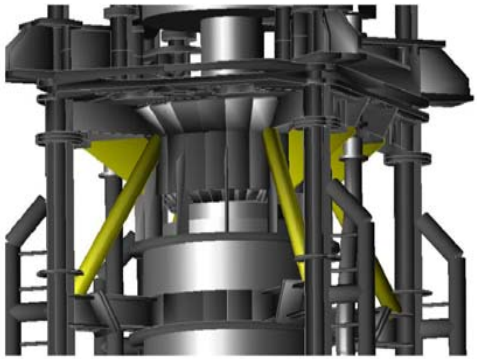
Deformation Plot Under Load

Existing Set Up in Operation

General View

Close Up View

Design Proposal



View of new strengthening member

R.E. scope of work

Rig Engineering (RE) has been tasked to assist with following stages. These are:

1) To review failure report of the side outlets that occurred twice in succession and assist in troubleshooting the likely causes of the hydro test failure and leaks.
2) To do strength verification of the unitized structural frame along with hydro test load conditions and assess the frame stress state when landed on BOP carrier.
3) Ascertain the likely causes and produce fabrication drawings for offshore implementation.
4) Provide TOI with detailed Work Break Down Structure (WBS) for confirming of underlying cause before implementing the proposed frame strengthening solution.

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 COG of BOP components.

Key word: Rig Engineering, BOP modification, BOP frame flexing, Receiver plate strengthening.