



Rig Name: JW McLean

Rig Type: Semi Submersible

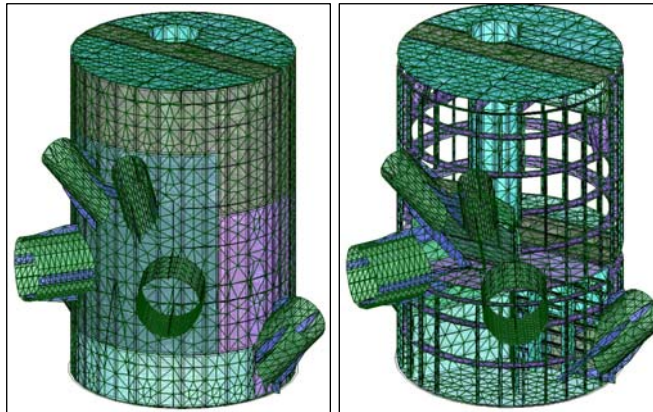
Owner name: Transocean Inc.

Classification Society: DNV

Pertinent code: DNV Modu

Project description: Global steel wastage effect on stability column has been evaluated with respect to column remaining buckling strength. Additional strengthening of column was specified and carried out on location to bring the allowable stress to within class rule requirements without immediate cropping and renewal of wasted steel.

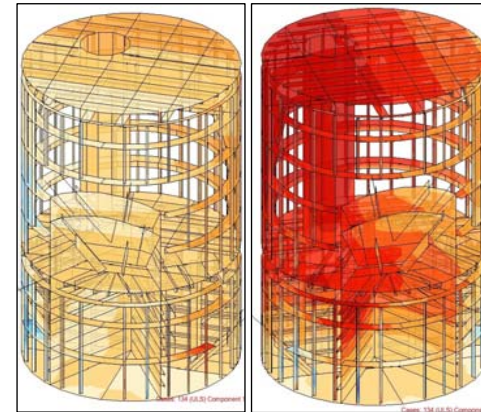
FEA Model



Column Shell Thicknesses

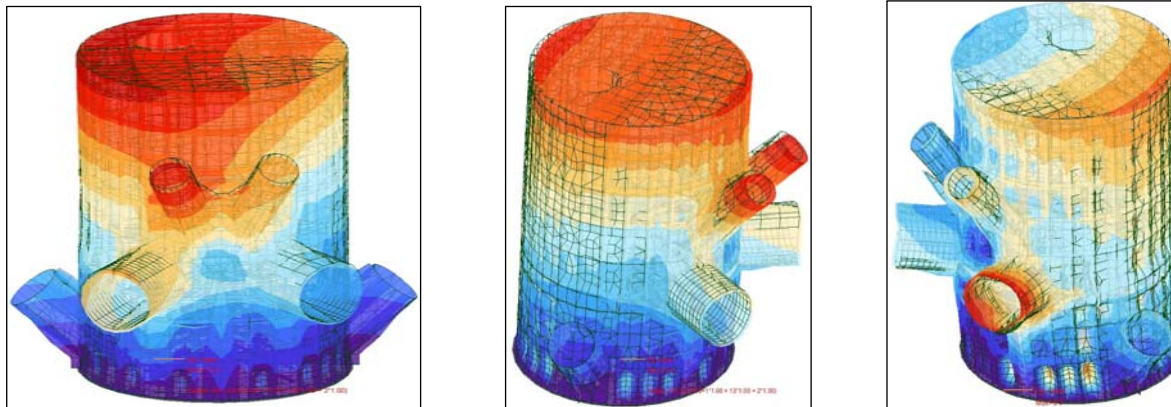
Column Internal Thicknesses

Results



Stress Plots

Deflections



Column Internal Deflections

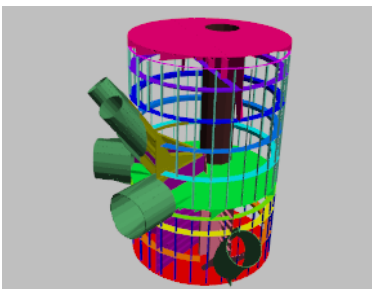
R.E. scope of work
Rig Engineering has been tasked with reviewing, planned gauging campaign thickness readings, supplied to the owners by third party wall thickness gauging company. Stability column construction from main deck to pontoon and all secondary members within, are prepared for Finite Element Assessment, FEA. Local and global loadings supplied by owners are then applied and all operationally critical areas are evaluated. Where required and warranted, intermediate ring frame and additional strengthening members were designed and fabrication drawings supplied to owners to conclude the Special Periodical Survey repairs.

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 of structure to create 3D FEA model.
2. Static and environmental loads of rig
3. Gauging reports showing wastage percentage.

Click below to see 3D model!



Get Adobe Reader
To view 3D documents



Key word: Rig Engineering, JW Mclean, column wastage, buckling check on stability column due to steel wastage, assessment, application of DNV Panel Ultimate Limit State, increasing buckling strength to offset steel wastage.