

Rig Type: Lay Vessel

Work Location: UKCS

Pertinent code: AISC 9th

Edition

Client: [Subsea 7](#)

Project description: Rig Engineering in alliance cooperation with Enterprise Engineering Services, has been tasked by leading underwater engineering services provider, SUBSEA 7 to assist with deflector sheave project on one of their lay vessels. This assignment relates to design of deflector sheave foundation to accommodate free issued 25 Te sheave assembly. This follows with drawings package to destruct existing sheave housing assembly, new fabrication drawings to allow for the system to be shop built and ready to be shipped offshore for final bolting connection to the deck of the vessel.

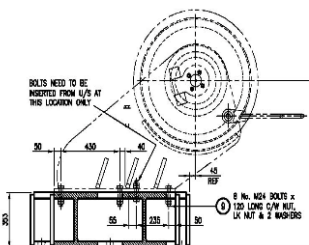
Photographs taken on site



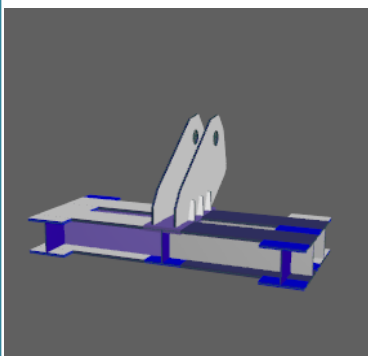
Sheave and Yoke Plates to be adopted for new design



Original Base Frame



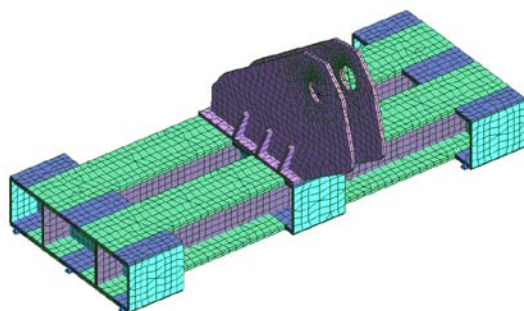
Click below to see model 3D!



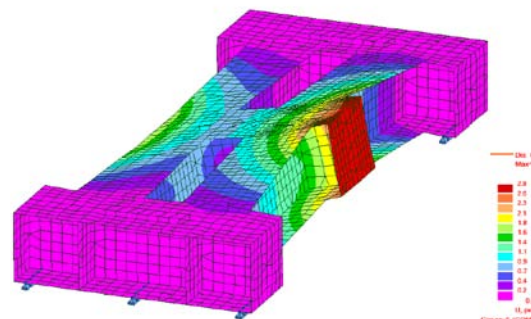
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FEA Phase



FEA Model



Stress Plots

R.E. scope of work

The assignment consists of designing and detailing of a new structural foundation to house the deflector sheave free issued by SUBSEA 7. Functional layout, operational loads and scantlings are fully briefed by SUBSEA 7. This also includes the basic geometry and dimensional layout of the bolting patterns and fleet angle of the wire rope. From this basic information, RE constructs structural Finite Element Assessment (FEA) Model and corresponding operation loads prescribed by SUBSEA 7, has been applied. Iteration was done using off the shelf steel available for this project, which has to be concluded in short design / fabrication life cycle. Further iteration with RE alliance, results in EES obtaining AFC status

Engagement Condition

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

1. Geometry instruction
2. Required payload
3. Wire rope tension, sheave angle.
4. Code and standards
5. DAF factor of the unit / system
6. Time frame from conception to AFC status