Project description: Rig Engineering (RE) was tasked by a leading Drilling Contractor to undertake a feasibility study to quantify the potential candidate means of reinforcing leg truss. This feasibility study is to identify the stress state and what precautionary measures need to be implemented should the needs arise to drill in harsher environment, increased water depth or the effect of corrosion on the truss members which are made of long lead Branded Steel material. RE provides global and local strength verification along with construction drawings of the required reinforcement to accommodate this eventuality for the risk assessment / emergency procedural purpose.
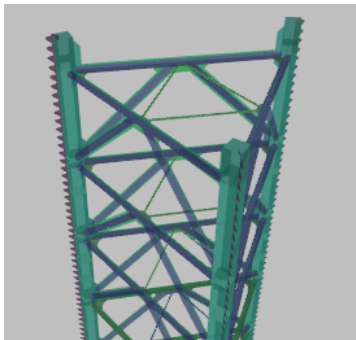
Rig Type: *Jack-Up*

Baker Marine

BMC-300-IC

Work Location: *Non UKCS*

Pertinent code: *AISC 9th Ed.*

(WSD method)
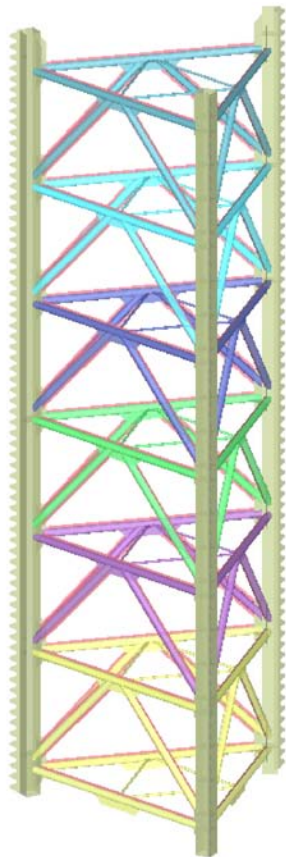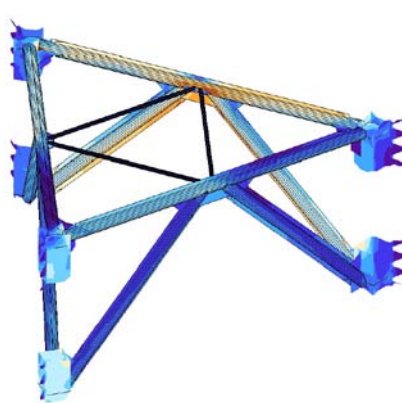
Click below to see model 3D!

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Strengthening of Leg Sections

General View of Truss

Zoom View of Connection

Part of Leg Modeled for FEA
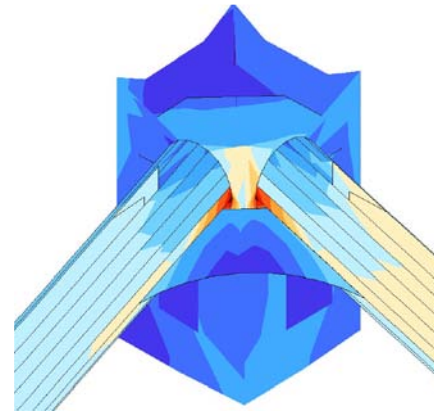
Stress Plot

Stress Plot

R.E. scope of work
R.E. accomplishes this assigned task by performing following tasks. These are:

1. Construct the structural model of the truss legs between the upper and lower guides
2. Load the FEA model with owner furnished leg loads from global assessment.
3. Assess the stress state of each element.
4. Strengthen the areas out with the code allowable stress and rerun.
5. Propose strengthening methods and optimize one solution for ease of implementation.
6. Submit feasibility study to Class Society on behalf of owner.

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