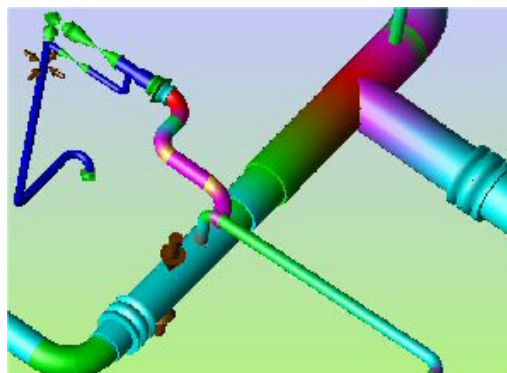


## Our Brief

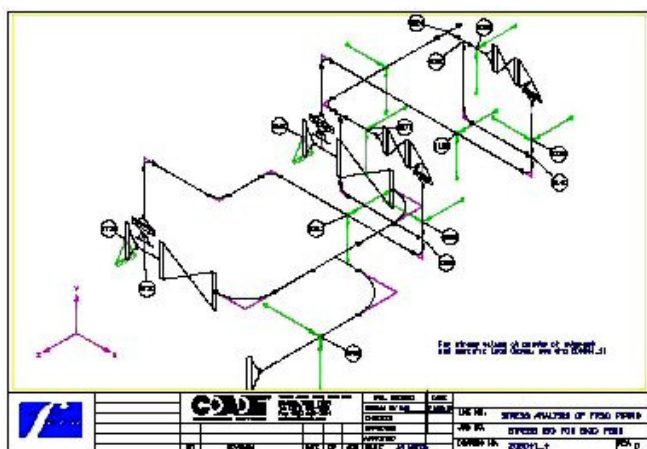
Static and dynamic analysis of a flare header piping system with 9 individual skids constructed on board a Floating Platform, Storage and Off loading facility resident in tropical waters between Indonesia and China. The location is subject to extreme storm conditions involving high winds and piping system accelerations due to pitch and yaw. In addition, each skid has one or more Pressure Safety Valves (PSVs) designed to close quickly and protect the piping system in the event of an emergency.

## Analysis

Fern used CAESAR II to model the flare header and associated skid piping. More than 40 static load cases were applied to cater for the various combinations of wind loading and 'G' forces in order to simulate pitch and yaw accelerations. Finally, the PSV closing times were converted to an equivalent response spectrum and a dynamic analysis performed to assess the effects of the sudden closure.



## Results



Stress isometrics depicted support locations, loads and high stress locations

## Client Report

This was comprehensive, comprising:

- summary
- introduction
- references
- boundary conditions
- assumptions
- load cases
- design methodology
- results summary
- conclusions
- recommendations