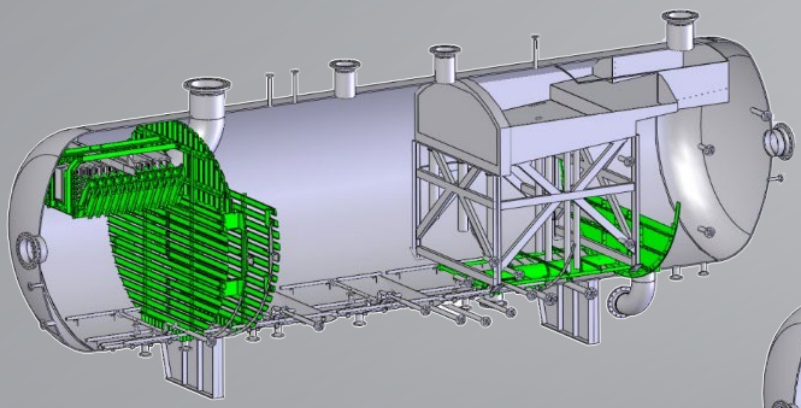
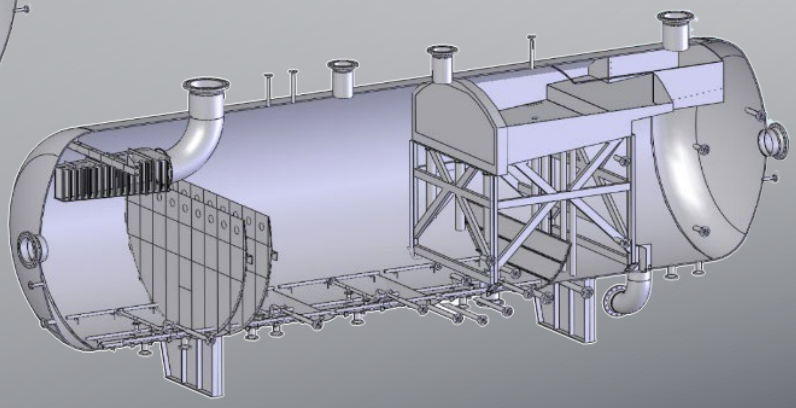
Separation and Produced Water Treatment

Debottlenecking and optimization of platform offshore Malaysia





The operator was considering the installation of a bridge-linked platform or cantilever module to handle the projected increase from 35,000 to 100,000 BWPD of produced water (PW) from a drilling campaign.

We proposed a review of the existing topsides to assess maximum optimized capacity before considering additional equipment. Our comprehensive offshore fluids characterization and process optimization study identified considerable unused capacity with retrofitted advanced internals within separators, hydrocyclone vessels, and the degasser.

We increased the process capacity by almost three times and extended the life of the field without installing new capital equipment.

166% increase in capacity

Extending the life of field by >15 years without installing new capital equipment

Project details

- New wells to be produced with increased PW flows from 35,000 to 70,000 leading to 100,000 BWPD
- Target OiW content at overboard discharge <25ppm

Scope of work

- Comprehensive offshore fluids characterization and process optimization study identified specific areas for improvement
- Detailed process review identified the best gains for the least investment
- Detailed testing using computational fluid dynamics, an offshore field trial of hydrocyclone liners, and finite element analysis
- Supervised all installation with local contractors

Key facts

- Increased process capacity by almost three times the previous rates and on spec
- Study completed to identify requirements to push capacity to 100,000 BPD
- Surpassed target of <25ppm OiW
- Extended the life of the field by 15 years without installing new capital equipment

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