



# High quality, high efficiency, and lightweight

produced water treatment solution  
in the Gulf of Thailand.

This integrated development project in the Gulf of Thailand, has water depths ranging between 55 m and 65 m. Operated by CPOC, the Thai and Malaysian governments have a production sharing contract for the area.

Our team of experienced engineers in Montrose, Scotland designed and built a Produced Water Treatment package with desanding cyclones on the upper level and solids accumulators plus de-oiling hydrocyclones in the middle level, creating a complete integrated solution.

This design allows produced water to be treated in two parallel 50% trains each running at 17,000 bpd. Each vessel has solid/liquid liners, in a compartmentalized design, arranged in a 70/30 split where either section can be operated in isolation or together, conveniently providing flexibility for turn down.

Plus, the solids separation performance is a very efficient d98 of  $>10\mu\text{m}$  with a pressure drop of  $<2$  bar across the cyclones. The pressure vessels installed are ASME VIII Div I U stamp with 22% Cr duplex desanders, de-oiling hydrocyclones, and a lined carbon steel degasser.

With an all up package dry weight of only 72 tonnes, we delivered a lightweight system that maintained a high equipment quality and high process efficiency.

## Project details

### Scope of work

Produced water treatment package

- Complete engineering, including all process, mechanical, and C&I design
- Project management and fabrication
- ASME VIII Div I U Vessels
- De-oiling hydrocyclones
- Desanding cyclones

### Key facts

- Location: Malaysia-Thailand Joint Development Area (JDA), Block B-17, Gulf of Thailand
- Operator: Carigali-PTTEPI Operating Company (CPOC)