



CLEAR SOLUTIONS for complex fluids

FPSO NW Shelf Australia



CHALLENGE

- For FPSO near the Ningaloo Reef, a World Heritage Site, re-injection of Produced Water (PW) was not a discharge option
- Pressure in the reservoir during drilling operations needed to be maintained at a lower level, making normal re-injection rates unacceptable
- As a result, the facility could not meet requirements for discharge to marine environment



SOLUTION

- CETCO Energy Services (CETCO), provided a Produced Water Treatment (PWT) to allow marine discharge and maintain production
- Rapidly mobilized a Free Oil Recovery of our proprietary Hi-Flow® Advanced Coalescing Technology
- Reduced Total Petroleum Hydrocarbon concentration in the PW well below maximum marine discharge level of 30ppm



RESULTS

- Project ran for almost three months with a total fluid flow of over 1.1 million barrels of water treated
- Average Oil-In-Water (OIW) concentration outlet was 15ppm
- Field drilling projects were completed while maintaining production

SUCCESS STORY

FPSO Water Solutions

FPSO NW Shelf Australia

CHALLENGE

A major operator of a FPSO in the North West Shelf of Australia near the important Ningaloo Reef (in 2011 the reef and surrounding areas were World Heritage listed by the United Nations). This success is in no small part due to the normal re-injection criteria being consistently met by operations. However, in 2010, field drilling projects dictated that re-injection of PWT was not a discharge option for the facility for a four month period. The pressure in the reservoir during drilling operations was to be maintained at a lower level which meant that the normal re-injections rates were not acceptable. While the PWT system on board could easily meet re-injection criteria, the facility could not meet the requirements for discharge to the marine environment. They quickly needed a high efficiency package of reasonable footprint and acceptable flow rate.

CETCO SOLUTION

CETCO was contacted to suggest an option of PWT to allow marine discharge and hence maintain production.

CETCO Australia team immediately mobilized a trial package of their Hi-Flow[®] Advanced Coalescing Technology Free Oil Recovery technology in order to demonstrate its ability in reducing the Total Petroleum Hydrocarbon (TPH) concentration in the PWT to well below the maximum marine discharge level of 30ppm.

RESULTS

With the technology proven, CETCO mobilized a full scale package of filtration and proprietary Hi-Flow[®] Unit from the Perth operations base in WA. An Hi-Flow[®] unit provided scope to treat up to 20k bpd on a single treatment pass which had proved viable from trial data. Two CETCO filtration units were mobilized to allow complete redundancy for solids filtration

The use of an online OIW analyzer in conjunction with spot test lab analysis monitored TPH values for water discharged.

Automated valve controls were employed to re-direct fluids to onboard tanks in the event of any OIW value above 30ppm. Excellent communications between CETCO Australian Operations and the FPSO core crew of fluid rate control, start-up and shut-downs made for an efficient process.

