

# Topside Design by Kavin for APACHE's Ningaloo Vision FPSO

Objective *To design and deliver FPSO process topside facilities within 12 months duration*

Ningaloo Vision FPSO

Detailed Design and Engineering of Process topsides

Kavin Engineering And Services Pvt Ltd (KAVIN) successful works in the design, Installation and commissioning of FPSO process topsides, given an opportunity for complete process topsides design of Apache FPSO to be located in the Exmouth Field, Exmouth sub-basin-Australia. Project was awarded in the month of October 2007 for the agreed 6 months duration to complete the engineering design.

Kavin provided support during fabrication and conversion in shipyard.

Lead Engineers (Structural, Mechanical) and project co-coordinator from Kavin were stationed in Singapore for a period of 1 Month and successfully carried out the engineering design.

The design of the FPSO is in complete compliance with Australian regulations.

#### Deliverable →

Process simulation  
PFD/HMBT  
P&IDS  
Process calculation  
Process Description  
Operation and Maintenance manual  
Datashets – Equipment & Instrument  
Equipment layout  
Piping GA / Isometrics  
Piping Stress Analysis  
Structural analysis and design

#### Customer Profile →

Prosafe Production operates globally and has about 1 200 employees. The company is headquartered in Limassol, Cyprus and is listed on the Oslo Stock Exchange with ticker code PROD.

Prosafe Production comprises a parent company and a floating production business division. Prosafe Production is a leading owner and operator of Floating Production, Storage and Offloading vessels (FPSOs).

Prosafe Production has more than three decades of operational experience from the world's largest oil and gas provinces. With an excellent uptime record, a solid financial performance and the ability to offer innovative in house technology and cost-efficient solutions, the company has positioned itself as a provider of high quality services.

Prosafe Production owns and or operates seven FPSO/FSOs offshore Brazil, New Zealand, West Africa (Gabon, Nigeria and Ivory Coast) and India. In addition, Prosafe Production is converting three tankers to FPSOs with delivery in late 2008 / early 2009



#### Project outlay →

The FPSO is double-sided and is fitted with a disconnectable mooring system and topsides processing facility. Usable storage volume, excluding slops tank, is approximately 620,000 barrels of processed crude oil with offloading to

tandem moored off take tankers.

All process treatment of the production fluids will occur onboard the FPSO. The topside facilities will process reservoir fluids to product quality specifications and rundown for storage and offloading, produced water for re-injection into the aquifer and gas for fuel and re-injection into the reservoir. The topside facility also includes utilities and safety systems to enable operations to be carried out in a safe and environmentally acceptable manner.

#### Project Details →

Ningaloo Vision FPSO has a capacity to process total fluids of 150,000 BPD, Oil Processing Capacity of 63,000 BPD, Produced Water re-injection rate of 147,000 BPD, total gas reinjection capacity of 80 MMSCFD, total gas lift Capacity of 30,000 MMSCFD (including total gas reinjection rate), Gas re-injection back flow 10MMSCFD and well testing (1 x 1<sup>st</sup> Stage Separator) 30,000 bfpd @ upto 97% water cut.

Duration: 6 months

#### Partners and Vendors →

VME Process Inc, USA

