

Hang Tuah MOgPU Platform Installation

Client: Conoco Indonesia Inc.

Contractor: Hyundai Heavy Industries Co., Ltd.

Consulting Engineer: Arup Energy



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- Load out the MOgPU from its fabrication site in Ulsan, South Korea onto M.V. Transshelf, a semi-submersible heavy lift vessel.
- Mate the platform base to the underside of the deck, whilst pretensioning the strand to overcome hydrodynamic forces to the structure during its sea passage to site.
- Lower the steel base to the seabed and elevate the barge deck on all four legs whilst levelling and supporting the deck for weld out.
- Provide a system to raise the base from the sea and clamp it to the deck for future transportation and reinstallation.

Fagioli PSC employed a total of sixty L600 strand jacks, each having a 560 tonne load capacity, controlled by three inter-linked computer systems. Each leg housed five identical vertical assemblies of three Fagioli PSC L600 strand jacks, a 37 part cable and an anchor housing with pin attachment to the platform base. Each assembly contained one pretensioning strand jack affixed to the top of the leg with one lowering and one lifting strand jack placed back to back at deck level. All equipment and systems were installed, commissioned and rigorously tested in Korea prior to load out.

After separating the deck and base, pretension jacks were adjusted to tension the strand. The lowering jacks then lowered the base (6,700 tonnes) 80m to the seabed. The deck (6,300 tonnes) was then raised by the lifting jacks to its final elevation in readiness for weld out. The entire operation was completed within 48 hours.

HANG TUAH, Mobile Offshore Gas Production Unit (MOgPU) Platform was installed in April 2001, in the West Natuna Gas Field, an Indonesian sector of the South China Sea. The MOgPU comprised gas compression and accommodation facilities on a steel barge deck supported by four triangular lattice legs (each 118m) connected to a deep-skirted steel base weighing a total of 14,800 tonnes.

Fagioli PSC was appointed by Hyundai Heavy Industries to develop, design and operate jacking systems to encompass the following functions:

