

**MURPHY SARAWAK OIL CO. LTD**  
**WEST PATRICIA FIELD DEVELOPMENT**

WP-PA Topsides Installation, Sarawak, Malaysia

Following the successful installation of the West Patricia WP-PA jacket in October 2002, ICON was engaged to install the 600 tonne topsides production module using the floatover method. The floatover was performed in April 2003 after completion of the drilling programme.

ICON was engaged at an early stage of the platform design to conceptualise and confirm feasibility of the floatover method. The design incorporated all the necessary features to allow both crane barge or floatover installation. The final installation method was then chosen on the basis of lowest risk and cost. The decision to proceed with the floatover method was made on 15 November 2002, the installation occurred five months later. ICON carried out all the engineering associated with the floatover, supervised loadout jointly with Murphy's chosen fabricator in Lumut and performed the offshore installation. The project represents the first of a series of minimal deck floatover installations planned by Murphy in Malaysia.



View of Floatover Operation from Barge Deck  
(Jacket is White)

To achieve the necessary clearances over the wellheads, the deck was cantilevered high off the barge bow on a 6m deep truss. Four hydraulic rams allow the deck to be raised an additional 3.5 m above the truss. The rams allowed set-down to be achieved with minimal barge ballasting in a very short time frame, minimising installation weather risk and docking loads. The deck was skidded inboard during marine transport. The various hydraulic docking and lowering systems were custom designed and supplied by ICON.

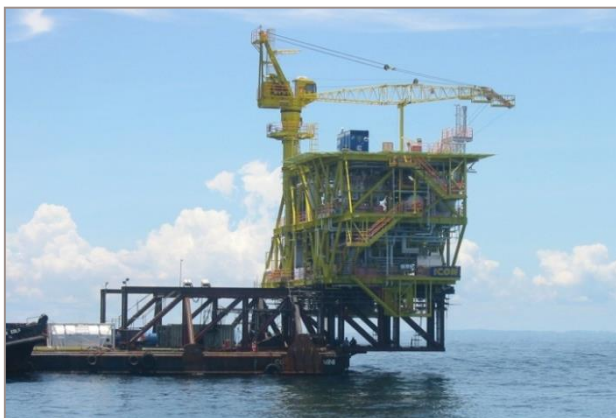
The barge anchoring, positioning, floatover and docking operation was completed within eight hours of the barge arriving in the field.



WP-PA Topsides after Loadout – Inboard Transport Position



The floatover method is cost competitive compared to traditional crane barge installation methods. The decoupling of the project schedule from the availability window of a crane barge is another significant advantage of this method.



WP-PA Topsides Marine Transport – Jacking Position

**Topsides Data**

Topsides Lift Weight	600 metric tonnes
Well slot	6 x 3 (triple wellheads)
Deck dimensions	31 m x 15 m (excluding flare)