



# PROJECT SHEET

**CKX BCP TOPSIDE**  
OFFSHORE TRANSPORT AND INSTALLATION

## BOSKALIS ENERGY SOLUTIONS

Boskalis is a leading global dredging and marine expert. With safety as our core value we provide innovative, sustainable and all-round solutions for our clients in the energy market. Realizing projects in remote locations with a heightened environmental focus is one of our specialties. Under the brands Boskalis, Dockwise, Fairmount, VBMS and Smit Lamnalco we offer more services than any other company in our industry, making us your next one-stop solution provider.

We support the development, construction, maintenance and decommissioning of oil and gas import and export facilities, fixed and floating exploration and drilling facilities, pipelines and cables, and offshore wind farms.

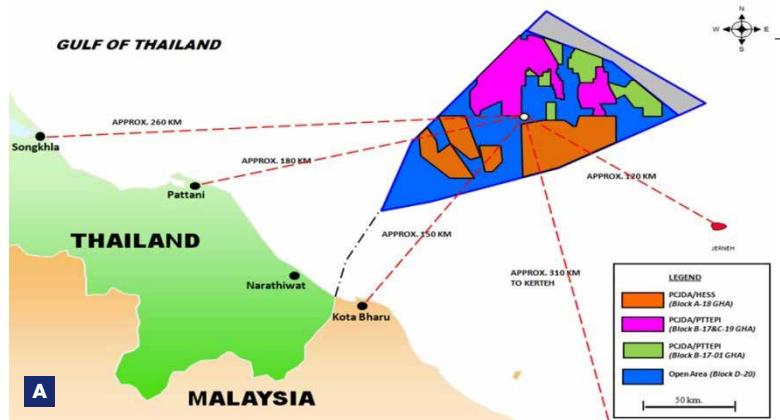
## CKX BCP PROJECT

CKX is a booster compression platform (BCP) for the Cakerawala oil and gas field, operated and developed by Carigali Hess. Carigali Hess, a joint venture between PCJDA Ltd and Hess Oil Company of Thailand Ltd, is engaged in gas production in Block A-18 of the Joint Development Area. The block is located offshore in the lower part of the Gulf of Thailand approximately 150 km NE to Kota Bharu and 160 km East of Narathiwat in about 60 m water depth.

The facilities include central gas processing facilities at Cakerawala Production platform, a riser platform, a bridge-linked wellhead platform and a number of remote wellhead platforms.

## FEATURES

From	Hyundai Heavy Industries, Ulsan, Korea
To	Malaysia Thai Joint Development Area (Gulf of Thailand)
Client	Hyundai Heavy Industries Co., Ltd. (HHI)
Operator	Carigali Hess
Execution period	April – August 2015
Vessel	HYSY 278



**A** Location map  
**B** CKX BCP float-over operation



**B**

The BCP is to be bridge-linked to facilities at the central processing area and expected to be ready to operate by the end of Q1 2016.

HHI, responsible for the fabrication of the CKX topside, awarded Dockwise the full EPIC float-over contract, including management, engineering and procurement for the vessel's deck preparation.

**TRANSPORT AND INSTALLATION**

The engineering scope included the design of the float-over aids, i.e. surge stoppers, stern entry guide, deck furnishings and sway fenders installed on the jacket. Furthermore, Dockwise designed the grillage and skid beams and delivered the load-out support frames. Boskalis E&I installed tide gauge, environmental buoy and the survey positioning system.

Dockwise has a great deal of experience with operations of this kind. The exceptional feature of this project was that the entire process had to be completed using a vessel equipped with a dynamic positioning (DP) system. The advantage is that the float-over can be done without using tugs. The DP system makes anchor cables, winches and other external auxiliary systems redundant. On this project, the DP system was useful as it avoided the need to position anchors in an area with a lot of pipelines on the seabed.

**CARGO PARTICULARS**

Type	Topside / Booster Compression Platform
Weight	15,200 t
Length	66.00 m
Width	50.00 m
Height	42.00 m

**LOAD-OUT OPERATION**

Loading	Skidded side load-out
Discharging	Float-over installation (DP-2 assisted)



Dockwise deployed the medium-sized, semi-submersible transport vessel HYSY 278. The topside was taken on board in a skidding operation at the HHI yard in Ulsan, South Korea. It was pulled onto the transport vessel with a load-out support frame. Dockwise compensated for the tides and trimmed the HYSY 278 by constantly adjusting the ballast. After load-out the vessel departed to the float-over location. Before commencing the float-over, extensive DP trials were performed according to the vessel's FMEA. Upon arrival in the field the sea fastenings were removed and final checks were made. Using its DP 2 system, the vessel was moved close to the jacket and ballasted to position the topside precisely on the jacket. The heart of this kind of projects is the actual installation, which takes only a couple of hours, after preparations lasting more than two years. The whole operation went according to plan and was a resounding success thanks to all involved.

This DP-assisted float-over was the first of its kind in the Dockwise history. Not only the reduction of heavy transport vessel days in the field, but also the smaller amount of equipment and assets, make the DP-assisted float-over an economically attractive solution.



- C** Surge stopper engaged
- D** Heavy transport vessel withdrawing
- E** CKX BCP topside installed

Royal Boskalis Westminster N.V.  
PO Box 43  
3350 AA Papendrecht  
The Netherlands  
  
T +31 78 69 69 000  
F +31 78 69 69 555  
  
royal@boskalis.com  
www.boskalis.com