

PROJECT SHEET

ESPOIR IVOIRIEN BLOCK CI-26, IVORY COAST
MOORING LEGS AND PRODUCTION RISER REPLACEMENT

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.

ESPOIR IVOIRIEN PROJECT

The FPSO 'Espir Ivoirien' operating for CNR is located in Block CI-26 in Ivory Coast, approximately 60km Southwest of Abidjan in approximately 110m water depth.

CNR/BWO decided to replace the top 500m of each mooring chain (6 pieces) with chain of higher strength which will extend the operating life of the FPSO by 20 years. Also, the 12" production riser would be removed and replaced with a new riser during a planned shutdown.

SCOPE OF WORK

Boskalis Subsea Services has been contracted by BW Offshore to replace the mooring chains and the production riser of the Espoir Ivoirien FPSO.

Boskalis mobilized three AHT's (Union Bear, Union Lynx and Union Sovereign) from its own fleet to assist with heading control of the FPSO during Moorings and Riser replacement.

FEATURES

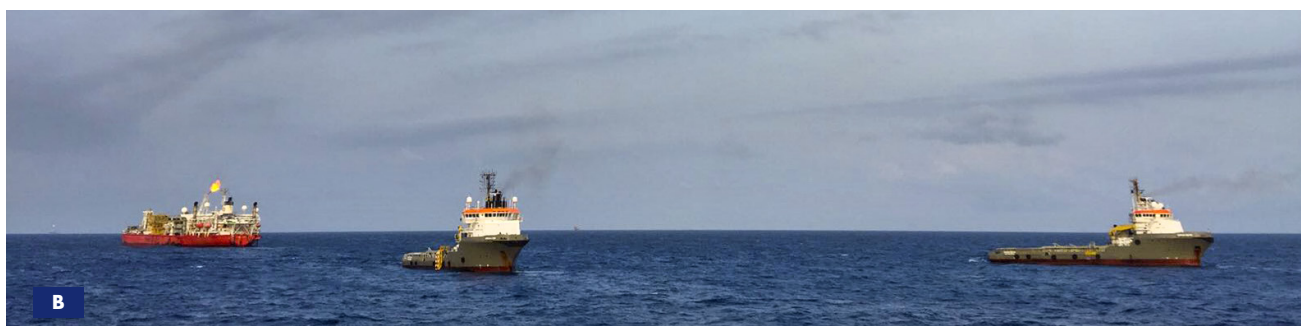
Client	CNR International
Location	Block CI-26, Ivory Coast
Period	Q2 2017
Contractor	BW Offshore



A Mooring chain replacement
B Boskalis Heading Control AHT's

Boskalis chartered Construction & Dive Support Vessel 'SBM Installer' to provide chain handling and saturation diving services during the Moorings and Riser replacement in one continuous campaign.

Boskalis provided air diving services from a BWO Chartered vessel to assist the operation alongside the FPSO.



MOORING REPLACEMENT

The FPSO mooring system is a non-disconnectable internal turret located at the bow of the vessel. The mooring system consists of three clusters of two legs.

All mooring legs were inspected by ROV, especially near touch down zone. The old chain (500m) of all mooring legs was recovered onto the deck of the SBM Installer and replaced with a new segment of equal length.

During the operations no offtakes were scheduled; the FPSO was kept in production while the mooring line replacement works was ongoing.

RISER REPLACEMENT

The Espoir field is connected via two flexible production risers (East and West Espoir) to two Wellhead Towers. In addition, one gas flexible is exporting to shore.

Boskalis disconnected the flanges of the old east production riser by means of AIR diving intervention at the turret end and SAT diving intervention at the mid-water arch and flowline end. Once the old riser was removed and wet stored, a new 328 m 12" flexible riser was installed.

After installation the flexible riser was dewatered from the FPSO and an annulus vacuum test performed to demonstrate that the riser had been successfully installed.

CONCLUSION

With the efforts of all stakeholders, the project was successfully executed. The operational lifetime of FPSO 'Espoir Ivoirien' has been extended by 20 years to the satisfaction of Contractor BWO and end client CNR.



C Production riser replacement