

PROJECT SHEET

TRANS THAILAND MALAYSIA GAS PIPELINE PROJECT

BOSKALIS OFFSHORE: SKILLS, RESOURCES, EXPERIENCE

Boskalis Offshore brings together the offshore skills, resources and experience of Royal Boskalis Westminster. The group's offshore capabilities include seabed rectification works for pipeline/cable on platform installation, construction of pipeline shore approaches and landfalls, offshore mineral mining, offshore supply and support services and decommissioning services. Boskalis provides clients with tailored, project-specific solutions for above dredge related offshore services, as illustrated by the following project summary.

TRANS THAILAND MALAYSIA GAS PIPELINE PROJECT

The Trans Thailand Malaysia Gas Pipeline Project comprised the installation of a 34 inch concrete coated gas pipeline, running from the joint Thai-Malaysia development area approximately 270 kilometres offshore towards the southern Thai coast near Chana. As part of this project a contract was awarded to the Boskalis Offshore bv - Tideway bv consortium for the provision of the dredging and backfilling works, whereas Boskalis Offshore provided the main equipment and project support.

Boskalis Offshore's scope of work comprised the burial of the near shore section of the offshore gas pipeline. All works have been executed in compliance with requirements of OHSAS 18001

FEATURES

Client	Trans Thai-Malaysia (Thailand) Ltd.
Location	Chana, Thailand
Period	2004
Main contractor	Saipem Asia Sdn Bhd
Consultant	Bechtel International Inc



- A** Location map
- B** Silt screen in operation
- C** Construction of silt screen



and ISO 14001. Most demanding issue for the works was to manage the suspended solids concentration.

THE DREDGING WORKS

These works comprised the excavation of a trench for the 34 inch gas pipeline, 3,910 metres long, 10 metres wide at trench bottom level and 4.2 metres deep below the seabed, to ensure a minimum cover of 3.0 metres above the pipeline. The trench ran over a natural seabed with depths between 4 and 10 metres below Chart Datum.

An approximate volume of 320,000 cubic metres was dredged by the Cutter Suction Dredger “Gironde”. This volume included a sedimentation buffer, to capture the expected natural siltation rates between trench delivery and pipe installation. The dredged material was temporarily placed into an underwater storage area using a spreader pontoon with a silt screen configuration. The temporary stockpile was located along the trench route, minimum 200 metres and maximum 250 metres off.

THE BACKFILLING WORKS

Upon completion of the pipe lay operations the trench was backfilled to natural seabed level with dredged material from the temporary stockpile, utilising the Cutter Suction Dredger “Gironde” and the spreader pontoon with silt screen.

An amount of 340,000 cubic metres was deposited on top of the installed pipe, to provide

a 3 metres cover on top of pipe in the trench. Utilising real time position monitoring and discharge process measurement, the trench was backfilled in a time-efficient manner.

ENVIRONMENTAL MITIGATIONS

Upon request of Trans Thai-Malaysia (Thailand) Ltd, Boskalis Offshore developed and constructed a spreader pontoon to mitigate the suspended solids concentration during the dredging and backfilling works.

The spreader pontoon was equipped with the following features:

- moon pool to allow for adjustment of the diffuser vertical position
- primary silt screen, connected to the pontoon and operated by winches to enable vertical adjustment of the silt screen
- secondary silt screen, connected to a floating frame and operated by winches to enable vertical adjustment of the silt screen.

During dredging and backfilling an independent third party monitored the suspended solids concentration; an increase in the suspended solids concentration at the environmentally sensitive sites was not encountered.

QUALITY GUARANTEED

The engineering departments within the Boskalis group’s organisation provided the project support, firstly with respect to the design and construction of the spreader pontoon and by interpretation of the field data.

The works were executed at the highest levels of Quality Assurance, Quality Control and commitment to Health, Safety and Environment. The project was completed by the end of August 2004, in accordance with Client’s time schedule and to Client’s full satisfaction.



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- D** Floating line and spreader pontoon.
- E** Cutter Suction Dredger “Gironde”
- F** Moon pool on spreader pontoon