

PROJECT SHEET

CUYUTLÁN, MEXICO
EXPANSION LNG TERMINAL
DREDGING OF ACCESS CHANNEL AND TURNING BASIN

INTRODUCTION

The Mexican Ministry of Communications and Transport awarded Royal Boskalis Westminster N.V. two contracts for dredging an access channel and turning basin at the Cuyutlán liquefied natural gas import terminal on the west coast of Mexico.

SCOPE OF WORK

This first phase of the project required the construction of an access channel and the deepening of a lagoon to create part of a turning basin. Due to two existing bridges it was required that the dredging equipment was mobilized to Cuyutlan on top of pontoons so it could be offloaded onto the shore and transported over land for several hundreds of meters and launched into the lagoon before the dredging operations could commence.

This port expansion project was driven by a need to cater to larger vessels and future trade volumes. This Liquefied Natural Gas (LNG) project emphasizes the need for infrastructure to accommodate strong demand for energy resources.

The second and final phase of the dredging work required further dredging in the lagoon and at the outer part of the access channel. The work includes the deepening of the basin, the construction of an access channel and the creation of a turning basin. Boskalis has a strong home market position in Mexico and the majority of the Boskalis work was executed by our own local employees.

DESIGN AND EXECUTION

During the execution of the project the scope of the work shifted continuously. As a consequence access to the site was held up by delays in the work of other parties. The client extended the contract duration and it was therefore still possible to deliver the project on time.

FEATURES

Client	Mexican Ministry of Communications and Transport
Location	Mexico, Cuyutlán
Period	2009 - 2012
Contractor	Royal Boskalis Westminster N.V.



A

- A Dredging of access channel by CSD Urso, seen in front of the temporary bridges
- B Removal of existing breakwaters by heavy land based equipment
- C Overview of ongoing dredging works in the access channel
- D Arrival of first LNG tanker in March 2012, seen in the process of berthing at the terminal



C



B



D

Most of the engineering was done by third parties, with Hydronamic (the Boskalis engineering consultancy) playing a supporting role. The most significant changes in the scope of work, such as the clearance of old breakwaters of 175,000 m³, were solved by Hydronamic.

DREDGING AND RECLAMATION

During phase 1 a total of 4.5 million m³ of sand and clay was dredged using a medium-sized or large Trailing Suction Dredger Hopper (TSHD) and two Cutter Suction Dredgers (CSD). A total of approximately 13 million m³ of sand and clay was dredged in the second phase using a medium-sized or large TSHD and three CSDs.

ENVIRONMENTAL MANAGEMENT

Cuyutlán's lagoon is surrounded by mangroves in a wetland area where exceptional flora and fauna motivate the very strict environmental requirements imposed on the project. The government commissioned an environmental impact report which served as the basis for the work methods used on this job. The work methods and the successful execution of an extensive monitoring program led to full compliance with the license conditions.



E Initial situation, CSD Mercurius is seen being transported over land

CUYUTLÁN, MEXICO

EXPANSION LNG TERMINAL

DREDGING OF ACCESS CHANNEL AND TURNING BASIN



F Dredging of access channel by TSHD Gateway and CSD Para

HEALTH AND SAFETY MANAGEMENT

The Boskalis safety philosophy NINA (No Injuries, No Accidents) was introduced at the beginning of the project. After the initial launch of NINA, several activities were undertaken to anchor NINA thinking on the project. A total 1704 people received induction training on the Cuyutlán project. Most of this training was given by project SHE-Q staff. A total of 2,160 toolbox meetings were held, which were attended by 21,347 people. In general, the effort put into toolbox meetings contributed to the development of an open culture in which knowledge sharing was appreciated and normal. This also includes accepting corrections from, for example, colleagues. All these things contributed positively to preventing accidents. A total of 364 training courses were given, which were attended by 2,653 people.