

**Country**

Qatar

Client

De Nul/Boskalis consortium

Date

2006-2008

Cost of works

€2000M

Sogreah's services

- Design Services for the consortium

Description / Particularities

- Very large harbour project (23 km of breakwaters);
- Extremely short completion time (30 months);
- Strong pressure from the end client, Qatar Petroleum;
- Considerable financial stakes;
- Search for savings in comparison with the basic design;
- Studies and works carried out simultaneously.

Detailed services

In an integrated team comprising the contractors and Sogreah:

- Finalisation of project criteria and conditions;
- Wave modelling;
- Scale modelling of structural stability;

- Final design of all the breakwaters and protective structures for the inner reclamation areas;
- Assistance to the consortium during the works.