



Gate LNG studies

In the Port of Rotterdam Gate LNG B.V. (Gas access to Europe) has built the first LNG import terminal in the Netherlands. The Gate terminal has received its first LNG carrier in June 2011. The terminal is located on the Maasvlakte, see red circle in top left figure.

The LNG terminal is protected against waves from the North Sea by the Northern Breakwater, which has a limited crest height of NAP+2m. Especially during high water levels a significant amount of the wave energy will pass this breakwater and contribute to the wave climate in the LNG channel. With the numerical wave models SWAN and HARES Svazek Hydraulics has constructed a transfer matrix which converts the forecasted swell conditions at Europlatform and the forecasted water level at Hook of Holland into a swell wave height at the LNG terminal.

Other studies for Gate LNG were:

- metocean study (waves, currents, morphology, wind, sea water temperature);
- current modelling in the Gate channel;
- analysing the effects of cold water discharge;
- weather downtime assessment Gate terminal facilities;
- wave buoy measurements at both sides of Northern Breakwater to determine the amount of wave transmission;
- analysis of methods to improve the swell forecast system for Gate LNG.

Client
Gate LNG B.V.

Location
Rotterdam, the Netherlands

Date
2005 - 2011

Services
HARES wave penetration study, SWAN wave modelling, WAQUA current modelling, cold water discharge modelling, metocean study, weather downtime assessment, wave buoy measurements, analysis improvement swell forecast system

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