

Lighter process location IJmuiden

NAUTICAL SAFETY ASSESSMENT

In the outer Port of IJmuiden a lighter location is present for coal carriers. The lighter operation enables the coal carriers to reduce their draft and pass the locks of IJmuiden to sail to Amsterdam. The lighter location is very close to the fairway to the locks and the lighter operation is therefore affected by passing ships. In the past mooring lines did break due to the effect of passing ships. To reduce the mooring forces the passing ships need to reduce their speed while having a certain minimum speed at the port's entrance to be able to manoeuvre.

At this moment a new 500m long sea lock is being built. This sea lock will be the largest lock in the world and enables larger vessels to sail to Amsterdam. When a coal carrier is moored at the lighter location the navigational width of the waterway is significantly reduced, which makes the passage of large or wind-sensitive ships difficult. Therefore, the current lighter location in the outer harbour of IJmuiden must be moved to improve nautical safety.

Svašek Hydraulics has investigated the nautical safety for the present location of the lighter location and four alternative locations within the outer harbour of IJmuiden. For this assessment a multi criteria analysis (MCA) has been applied.

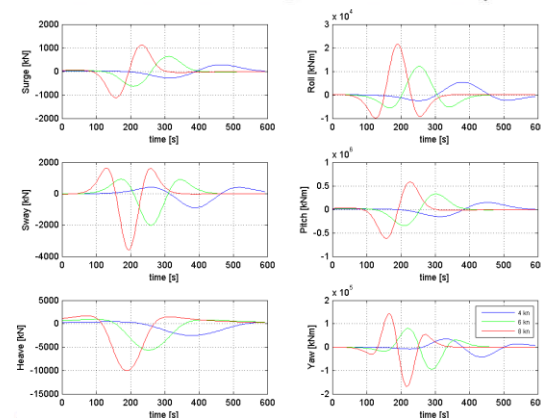
One of the aspects in the MCA is to establish the mooring forces of the coal carrier at the lighter location. With the numerical modelling tool ROPES the captive mooring forces are derived for various combinations of type of passing ship, passing distance and vessel speed. ROPES, an acronym for Research On Passing Effects on Ships, is developed by several parties, including Svašek Hydraulics.

CLIENT
Port of Amsterdam

LOCATION
IJmuiden, Netherlands

DATE
2015

SERVICES
Nautical safety assessment,
ROPES modelling of captive mooring
forces.



SVASEK
HYDRAULICS
COASTAL, HARBOUR AND RIVER CONSULTANTS

Svašek Hydraulics
Schiehaven 13G
3024 EC Rotterdam
the Netherlands

Phone: +31 10 467 13 61
Internet: www.svasek.com
E-mail: info@svasek.com