

NEW SHIPLOCK TERNEUZEN

WAVE LOADS ON LOCK DOOR BY PASSAGE OF SHIPS

A new ship lock between the Western Scheldt and the Channel Ghent-Terneuzen is being designed. Svašek Hydraulics has determined the water level variation at the seaside of the new sea lock as a result of different (average and extreme) ship passages in the vicinity of the sea lock using the numerical current model FINEL2D.

As a result of the passage of ships near the port of Terneuzen, water level variations will occur at the door on the sea side of the new ship lock. The ship induced water level variations cause different forces on the door. It is important to know the maximum forces on the door as a part of the design of this door.

Svašek Hydraulics has determined the average and extreme loads caused by the ship induced waves using the numerical flow model FINEL2D. The ships are included in the model as a moving object. For this study ship passages on the Westerschelde and ship passages to and from the existing Westsluis are examined.

In the model it was found that the ship induced waves and the corresponding loads on the door could be significant.

To validate the FINEL2D model results, Svašek Hydraulics has performed measurements of the ship induced waves near the existing Middensluis in the West Buitenhaven of Terneuzen.

The unexpected large water level variations which followed from the model results were confirmed by these measurements. This gives good confidence in the model outcome. Ship induced waves, especially from ships passing by on the Western Scheldt, appear to be an important design load factor in the design of the lock door.

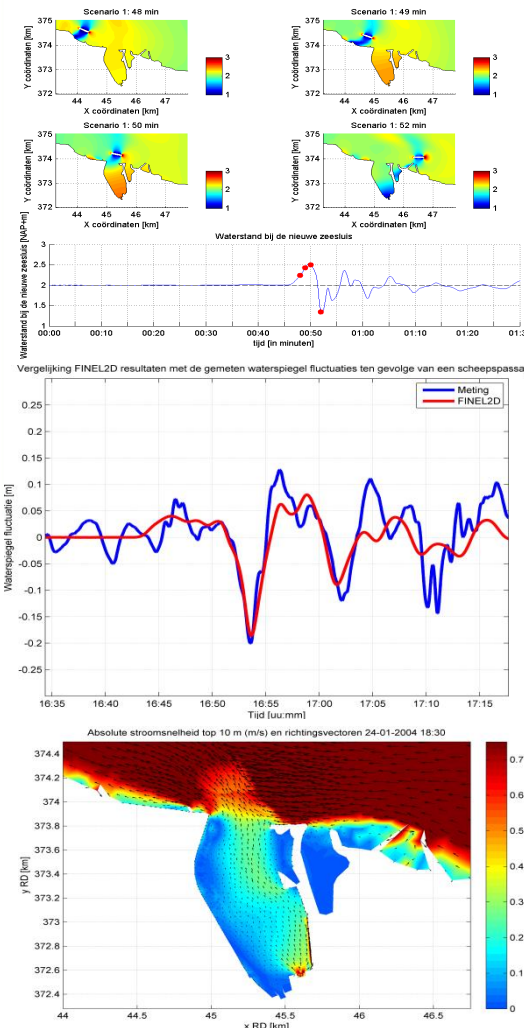
CLIENT
Boorsma B.V.

LOCATION
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DATE
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SERVICES
Modelling water level variations as a result of ship passages

Water level measurements



SVASEK

HYDRAULICS

COASTAL, HARBOUR AND RIVER CONSULTANTS

Svasek Hydraulics
Schiehaven 13G
3024 EC Rotterdam
the Netherlands

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