DESIGN NSRP MARINE WORKS

The Nghi Son Refinery Petrochemical (NSRP) Complex project consists of the design and construction of an oil refinery and necessary marine facilities in Nghi Son, Thanh Hoa province, Vietnam. Employer is Nghi Son Refinery and Petrochemical Limited Liability Company. The subcontracting team Royal Haskoning, Intec Engineering and Svašek Hydraulics is responsible for the design of the marine works i.e. to develop a complete FEED design package.

As Within this subcontracting team Svašek Hydraulics is responsible for the provision of metocean day-to-day and extreme conditions, like water levels, wave heights and periods and currents. In order to acquire in situ data, Svašek Hydraulics has defined the scope of work and specifications of a hydraulic survey campaign.

In this typhoon-prone area extreme conditions are dominated by typhoons. But since no locally measured data of wave conditions during typhoon passage are available, a SWAN wave model of the Gulf of Tonkin has been set up. Also the day-to-day wave conditions at the berths in the projected harbour have been calculated with this SWAN model.

A FINEL2D model of the Gulf of Tonkin has been set up in order to provide current data for the calculation of the spreading of cooling water. The presence of nearby coral reefs requires that the cooling water does not lead to a significant increase of the water temperature.

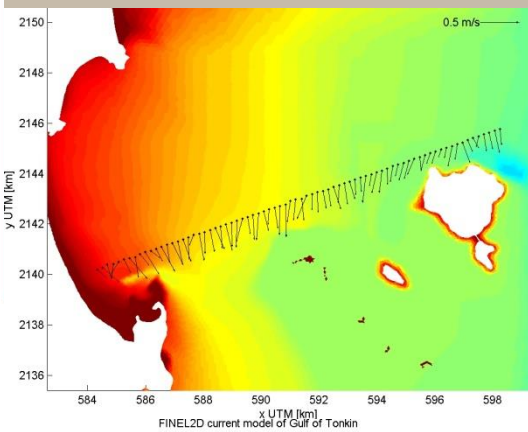
The same FINEL2D model, finally, has been used to assess the morphological impact of the projected harbour on the adjacent coast and to make an estimate of the annual maintenance dredging quantities.

CLIENT
Royal Haskoning

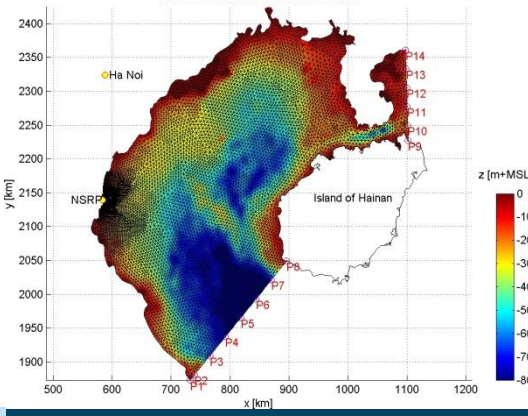
LOCATION
Vietnam

DATE
2009

SERVICES
Metocean data analysis,
Definition hydraulic surveys,
SWAN wave modelling,
FINEL2D current predictions,
FINEL2D morphological predictions.



FINEL2D current model of Gulf of Tonkin



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