Discussions and studies continue

SAFETUG provides first conclusions

The tug industry is extremely busy and changing rapidly. Healthy order books are filled with interesting and innovative designs.


'Thruster ventilation tests in beam waves'

42855

Johan de Jong
J.H.de.Jong@marin.nl

Almost two years ago, MARIN started the SAFETUG Joint Industry Project together with 29 participants including the major oil companies and industry stakeholders. The main objective of the JIP is the operation of tugs in waves – safety and capability issues. Here is an update on this interesting project.

Many industry developments are being driven by the end-users of tug services. Currently, the most important services required are the standard harbour assist manoeuvres. These are being challenged by the increasing size of the container fleet – both in vessel dimensions and numbers. The high safety demands of LNG carriers and offshore offloading activities are other important services.

Harbour assist manoeuvres within existing port infrastructures require large, high-speed sailing tugs due to the high, 'dead slow' speed of the large vessels. LNG assists require high-speed assistance and this is often combined with an escorting assist requirement in case of an emergency. Offshore offloading services make it necessary to stay out at sea, assist for longer periods and to perform operations in exposed conditions in open sea.

SAFETUG is focusing on the exposed conditions requirement and reaching its first conclusions based

on a tremendous amount of model test data. Model tests for both a thrusters and Voith-type of hull form were carried out. Thruster/Voith propulsion performance degradation and berthing assist capabilities in waves were both examined. In addition, vessel-tug interaction affecting the assist capability and escorting assist capabilities in waves were looked into. Large sets of data were obtained on the pull and push capabilities in various sea conditions and on the relative vessel-tug positions and also on the motions of the tug, the line/bollard forces and many of the operational aspects.

The latter aspects particularly, have led to many discussions and have given rise to the further study of a number of issues such as the stability and motions in extreme conditions and the consequences of winch behaviour on tow line forces. An assessment of the criteria on motions, deck wetness, heel angles and operations, will also take place.

An original proposal to look at parameter variations in tug design has been postponed for a follow-up project. This is likely to start in the second-half and new participants are still welcome to join the project at that stage. MARIN