

USCGC BERTHOLF (WMSL 750) being positioned to her mooring by tug after being launched.

Courtesy US Coast Guard



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## VALID project launches US Coast Guard leads hull integrity study

**When asked to carry out a fatigue study for the United States Coast Guard (USCG), MARIN was keen to involve other stakeholders to ensure the best results possible. American Bureau of Shipping, Bureau Veritas and Lloyd's Register have already signed up but others are welcome.**

The USCG contracted MARIN to carry out fatigue, structural maintenance validation work on a Coast Guard cutter in a bid to further improve the understanding of the fatigue life, to increase the confidence level in predicting fatigue life and to forecast the likely structural maintenance needs of Coast Guard cutters.

In order to assure the best possible result in terms of technical achievement, MARIN wanted to involve other organisations in the project. MARIN therefore decided to launch the Joint Industry Project VALID, which is chaired by the USCG. Although there are already some major institutes involved, it is expected that naval designers, shipyards, class societies, coast guards, navies, consulting companies and research institutes, will join in.

### Scope

After achieving a consensus about the scope of work, the project will proceed with dedicated trials and a follow-on, long-term monitoring campaign on a selected USCG cutter. Model tests are foreseen. To provide extensive information on hydrodynamic loading affecting fatigue lifetime in controlled sea conditions, model tests are also foreseen.

This information will then be correlated with full-scale trials and will be used to validate computational methods. Trials will provide data for correlation

with model experiments. Long-term monitoring data will then facilitate the ultimate validation of the fatigue life prediction methodologies.

In addition, the information will support future fatigue analysis and predictions. Subsequently, prediction programs can be updated and validated against the model test results.

MARIN believes the study will provide a detailed insight into the physics and operational factors that govern fatigue damage, as well as the validity of contemporary concepts and tools. Data from sea trials and model testing will also enable participants to validate their own tools.

The VALID JIP will run for six years because of the extensive monitoring campaign involved. MARIN as an independent organisation is the project manager and will carry out most of the work. The project started on July 1 and the first participants' meeting was held on October 3, in Houston. New participants are still welcome to join.

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