P.O. Box 23541
3001 KM Rotterdam
The Netherlands

Willemswerf
Boompjes 40
3011 XB Rotterdam
The Netherlands
+31-88 44 51 064
+31-183 63 99 66

Public Summary

1.1 Annex A: Public summary

1.1.1 Problem definition

The objective of task T 4.1 is to set the detailed requirements for "low-impact" workboats and ferries design and operation properties. These requirements are set in the form of KPIs which are to be used as input to the design efforts in the other work packages of the project.

1.1.2 Results

An overview of the applicable legislation has shown a predominance of IMO instruments being applicable to ship emissions. National and local regulations are mostly minor modifications to IMO instruments or non-binding recommendations. The most relevant emissions, including Oil, Sewage, CO_2, NOx, SOx, VOCs and URN were selected for KPI setting.
A "minimum performance" KPI will be set at the applicable regulatory requirements as further detailed in the report. Improved performance relative to the regulatory requirements is required to achieve the objective of "low-impact" vessel designs. NAVAIS will work to combine several emission categories in a single "Cost To Society" KPI, allowing a holistic and cost effective "low-impact" design analysis.
Tools are available for prediction of Underwater Radiated Noise (URN) due to cavitation on propellers, which typically is the dominant noise source, for the ferries in transit. For the other cases (ferries during deceleration, workboats during dynamic positioning), the tools are either not yet available or need additional study. This development work will be done within NAVAIS WP4. For URN originating from machinery, transferred through the hull into water, prediction tools are available.

1.1.3 Conclusions and recommendation

It is recommended that, rather than setting a number of individual KPIs on emissions which are derived in a more or less arbitrary manner (apart from the regulatory limits); the total impact is translated to the "Cost To Society" KPI. By using the CTS as a performance indicator, the designer can focus on obtaining an overall minimum cost design, being comprised of the vessel equipment cost, operational cost AND the cost to society.
For some sailing conditions (ferries during deceleration, workboats during dynamic positioning), the tools to predict URN are either not yet available or need additional study. It is recommended to develop these tools and to validate them.

Name of responsible partner:
MARIN
Name of responsible person:
F.H. Lafeber
Contact information:
e-mail: f.lafeber@marin.nl, telephone: +31 6 1110 9736
MARIN, Haagsteeg 2, 6708PM, Wageningen, The Netherlands

The project has received funding from the European's Horizon 2020 research and innovation programme (Contract No.: 769419)

market analysis some conclusions regarding the size of the market share for each operation will be drawn. Finally, after conducting the detailed market analysis this report will be updated if other consecutive tasks reveal new findings.

Name of responsible partner: Scheepswerf Damen Gorinchem B.V.
Name of responsible person: B. Messina
Contact information: e-mail: baldo.messina@damen.com, telephone: +31 183 65 50 83