

HMC's Products geared towards ISM Code compliance

All shipping companies have to comply to IMO's ISM Code (International Safety Management). Shipping companies should take into account that software solutions can support procedures and ensure employees to carry out the procedures in a uniform way.

In general, HMC software systems supports the objective of the ISM Code of ensuring safe operations. HMC provides several software products that support the processes of shipping companies. From experiences with our products we can conclude that mentioned products provide the possibility of an easier ISM Code compliance. Legislation demands more detailed engineering to prove the safety of the procedures in maritime operations. To that end, HMC has been awarded to perform the engineering and to compile different documents. Some examples of documents we can deliver are

stability books related to transport of JU rigs on semi submersible heavy transport ships and manuals for self elevating platforms. We could also deliver Ballast water management plans and various other procedures for marine operations. From experiences with our products, we can conclude that mentioned products provide the possibility of an easier ISM Code compliance. Installing HMC's products on your ship always benefits compliance to the ISM regulations. Please, visit our online to see our [portfolio](#) of HMC projects. More info about all our services and/or products can be obtained at info@hmc.nl

"HMC supports the ISM Code to ensure safe operations"



OHGC vessels (Open-Top) will increase flexibility of the vessel

An Open Hatch General Cargo (OHGC) is a vessel-type designed to transport forestry products, bulk, unitized cargoes, project cargoes and containers. The vessel is typically fitted with two Gantry cranes for self-loading and unloading.

Different equipment is connected to the gantry crane depending on cargo type as vacuum clamps for paper, unihook for unitised cargo, container frame and grab for bulk cargoes. Cargo holds are box shaped to fit containers and some holds can be equipped with tweendecks. Holds are typically equipped with dehumidifier for sensitive cargo. Hatch covers for holds are opened and closed by means of gantry crane. Space on those hatch covers can also be used to carry containers, lumber or project cargoes. Open top or hatchless (container) ships are ships without hatch covers. This will decrease the loading and unloading times and increase the flexibility of the ship. Because heavy rain and shipping water

implies large quantities of water inside the cargo holds, additional requirements are specified. The interim IMO guidelines, which were published in 1994, specify amongst others the allowable amount of water in the holds and the minimum pump capacity. These guidelines also specify seakeeping model tests in order to quantify the amount of water entering the cargo holds in severe weather conditions (source: MARIN).



"Open-Top vessels decrease the loading and unloading times"



The importance of safety in offshore operations

Nowadays oil and gas companies will have to prove their ability to cover potential liabilities from their operations and submit major hazard reports and emergency response plans before commencing any drilling operation.

Transportation of oil and gas by sea imposes risks which need to be managed well. The risks and hazards may lead to losses; for instance, wasting oil and gas, injuries of people, damaging ships and her properties and damaging the environment. Health and safety are an important part in the offshore sector and no other industry puts more effort into improving its safety performance. Transparent reporting and learning from accidents and incidents. HMC emphasizes in the importance of proper upfront risk analysis. Risk analysis describes probability of unforeseen events and quantifies these

probabilities and the related consequences. HMC emphasizes the importance of these assessments for years and is relieved to find support from the EU. HMC will continue to analyze risks to a further extend in close cooperation with our customers.



"Risk Analyses describes probability of unforeseen events"



HMC's Bollard pull calculations method

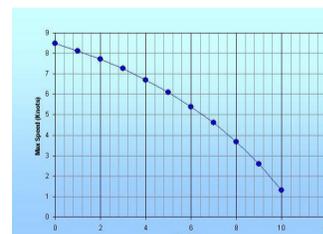
Bollard pull calculations are made to check whether a given amount of tug power (bollard pull) is sufficient for towing a floating object during a wet-tow towing operation. HMC developed a tool that now incorporates the effects of marine growth to the hull and headwinds for a more accurate result.

Large components, such as monopiles or jacket structures, are often transported on a barge towed by a tug. In order to select a suitable tug for the job, it is necessary to determine the required bollard pull. The three main environmental forces required for the bollard pull calculation are Wind, Current and Wave Drift forces. In the conventional method, calculations were made assuming no (significant) headwind. Although these towing operations are usually only performed under favourable weather conditions, it might be interesting to plot the effect of headwinds as a function of the speed differential. Another factor of influence appeared to be marine growth on the hull. This severely increases friction and drag. To further increase the accuracy of bollard pull

calculations, HMC researched and developed a method to implement these factors in its current bollard pull calculations. An accurate prediction of the resistance and the speed loss in waves would require physical model tests. HMC can calculate the necessary bollard pull with sufficient accuracy to select the right tug.



"HMC calculates a Bollard pull with sufficient accuracy"



"HMC: Passion for Engineering"

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