



What you order is what you get

In a time of a continuously growing demand for gas products, MARIN has recently performed the sea trials for two new LNG carriers built in Korea. To ensure that what you order is what you get, there is a growing understanding that high quality wind and wave data are essential to improve the level of accuracy for the trial speed results. What's MARIN's approach?

Increasingly, shipowners are asking MARIN for assistance during sea trials, Shell Shipping Technology is one such example. "A major benefit of the MARIN technology allows the environment conditions and ship's behaviour to be established more scientifically than the usual practice".

From interviews it has been discovered that even very experienced personnel can under or over estimate wave heights and the periods and this has a great impact on the calculation of the result of the trial speed.

The need for accurate wind measurements is related to the typical silhouette of an LNG carrier. Wind resistance data specifically for this type of ship is crucial to give the most accurate speed trial results. In addition to wind, wave elevations on a time trace have also been measured. MARIN developed a wave measurement system consisting of a wave radar mounted on the bow of the vessel, recording distance from radar to water surface-data. To be able to convert this from relative distance to absolute distance, a six DOF system has been

included. From there the significant wave height and period the ship has undergone during the trials can then be determined.

This advanced system goes beyond the common method for wave correction which is generally based on the visual interpretation of the conditions and consequently introduces inaccuracy on determination of trial speed.

Growing awareness of these issues has led to the Sea Trial Analysis- JIP, initiated by MARIN and supported by 10 leading ship operators. Described in Report (No. 80, Sept. 2003), the STA-JIP is aiming at transparent and accurate methods for speed and power tests upon delivery.

As well as the expertise in measuring the performance of ships at full sea, the Trials and Monitoring department is very successful in cavitation observations with its special high speed video apparatus, which can be used as a trouble-shooting tool in case of noise and vibration problems aboard ships.

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