

SAFETY FLYER

Hoegh Osaka: Listing, flooding and grounding on 3 January 2015



Hoegh Osaka

Narrative

At 2109 (UTC) on 3 January 2015, the pure car and truck carrier (PCTC) *Hoegh Osaka* was departing Southampton, UK, and turning to port around the Bramble Bank when the vessel developed a significant starboard list. As the list increased in excess of 40° the ship lost steerage and propulsion, and subsequently drifted aground on Bramble Bank. A cargo shift as the vessel listed resulted in breaches to the hull and consequent flooding. All crew were safely evacuated from the ship and surrounding waters. There was no resulting pollution, and the ship was later successfully salvaged.

Hoegh Osaka was employed to move vehicles between Europe and the Middle East. European ports were usually visited in the order Bremerhaven, Hamburg and, finally, Southampton; fuel was normally embarked in Hamburg. On this occasion, due to New Year holidays, the cycle was changed with Southampton being the first European port visited, but the cargo loading plan was not adjusted.

Findings

Stability modelling and analysis following the accident show that *Hoegh Osaka* heeled heavily to starboard while turning as a result of having departed port with inadequate stability. Cargo distribution was such that the upper vehicle decks were full while the lower vehicle decks were lightly loaded. *Hoegh Osaka* was low on bunker fuel oil, which was stored low down in the ship, and the ship's overall vertical centre of gravity (VCG) was relatively high.

Hoegh Osaka's inadequate stability had not been identified prior to departure. The figures in the pre-stowage plan were significantly different to the final cargo tally; the estimated weight of many items of cargo was less than their actual weight; and no allowance was made for the VCG of the cargo loaded being above deck level. Finally, it was onboard practice to alter the ballast tank quantity readings on the loading computer so its output would match the observed draught readings. It would have been possible to embark additional ballast prior to departure to reduce the ship's VCG as necessary, but as the shortcoming in stability had not been identified this was not done.

Witness and anecdotal evidence, and the findings of other investigations, suggest that it is a general practice in the car carrier industry for ships to sail before an accurate departure stability condition has been calculated, on the assumption that their stability condition is safe.

Safety Lessons

- Assessing a ship has adequate stability for its intended voyage on completion of cargo operations and before it sails is a fundamental principle of seamanship that must not be neglected. Sufficient time must be made before departure for an accurate stability calculation to be completed.
- A loading computer is an effective and useful tool for the safe running of a ship. However, its output can only be as accurate as the information entered into it.
- The master has ultimate responsibility for the safety of his/her ship. This responsibility cannot be delegated to shore-based managers or charterers' representatives.

This flyer and the MAIB's investigation report, which identifies a number of further contributing factors to the accident, are posted on our website: www.gov.uk/maib

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