

CASE STUDY: A RIB RIDE IN THE NORTH SEA



OVERVIEW

A Hefring Marine system was placed on a Marathon 900 RIB-D boat from Viking Norsafe. It was then sailed from Hanstholm in Norway to Hvide Sande in Denmark in late November 2021. The trip spanned 11 hours and 212 nautical miles. The Hefring Marine system was actively monitoring the trip but did not feature

the HM Captain on-board interface, and therefore no real-time guidance. The goal of the monitoring was to observe and analyse the operator's behaviour. The boat had a crew of two, both of whom have prior experience in high-speed boat operations.

APPROACH

For this trip, the Hefring Marine system used a single sensor configuration, which was placed by the helm's position. This was the front-most seating position in the vessel and the best place to monitor the impacts and motions felt by the operator. The Hefring Marine system monitors impacts and motions and calculates a

recommended safety speed (Redspeed over Ground, or ROG), which uses an impact threshold to determine on-board safety compared to actual SOG (Speed over Ground). The impact threshold was set to 3.0g because at this limit, crew can start to experience extreme discomfort but are unlikely to suffer injuries.

RESULTS

Every 1.8 minutes, an impact greater than 3.0g was recorded.

72% of the trip was done at a higher actual speed (SOG) than the recommended speed (ROG).

66% is the average by which SOG exceeded ROG during the trip. Average SOG and ROG were 35 and 21 knots, respectively.

6.0g was the peak impact recorded on the trip. The US Navy defines 6.0g, measured as an average over 10 peak impacts, as the limit for small craft accelerations which can cause physical injury and should be expected only when military crew is under fire.

90% of impacts recorded above 3.0g occurred where SOG exceeded ROG.

CONCLUSION

The operator did not have an HM Captain interface for guidance, but this could have significantly contributed to improving overall safety during the trip.

Had the operator followed the ROG speed guidance during the trip, the average SOG, impact count and severity would have been lower but the average ROG would have been higher.

The operator's actions and the system's guidance differed significantly. The system continuously suggested a slower speed to reduce the number of high and dangerous impacts.

The crew reported fatigue after the trip, but they recovered quickly. As a one-time event, they are unlikely to experience further discomfort. However, the effects on crew could be severe if they repeated this regularly.