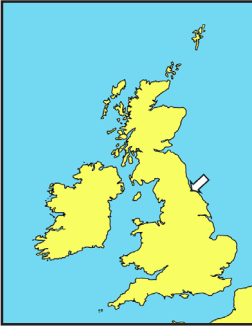


## SYNOPSIS



On 23 March 2009, the starboard windlass hydraulic motor on board the oil tanker *Stella Voyager* exploded as the vessel was attempting to recover her starboard anchor in adverse weather and sea conditions, off Tees Bay, UK. Fragments of the motor and its casing seriously injured the windlass operator, who was evacuated to hospital in Middlesbrough by helicopter, where he was treated for a broken leg and injuries to his groin.

The investigation identified that the catastrophic failure of the windlass, which was manufactured by Friedrich Kocks GmbH, resulted from the anchor chain being 'heaved in' under considerable tension, exceeding the machinery's safe operating limit. Examination of the failed components indicated that the windlass had over-pressurised.

This accident is one of a series of recent catastrophic failures of anchor windlass motors supplied by TTS Kocks GmbH and other manufacturers. The number and frequency of these failures is a serious cause for concern, and on 17 August 2009, the MAIB, together with the Australian Transport Safety Bureau, the Bundesstelle für Seeunfalluntersuchung (Germany) and the Bahamas Maritime Authority, issued a Safety Bulletin highlighting the failures and providing guidance on how they can be avoided. It made an urgent safety recommendation to TTS Kocks GmbH aimed at identifying the technical causes of the failure of its machinery and determining technical solutions for preventing similar accidents in the future. TTS Kocks GmbH has partially rejected the recommendation. The Chief Inspector of Marine Accidents has written to TTS Kocks GmbH urging them, in the interests of safety, to reconsider the recommendation.

The American Bureau of Shipping has been recommended to submit a proposal to the International Association of Classification Societies which seeks to ensure: a revision of its technical requirement for windlass hydraulic motors in order to prevent the catastrophic failure of this type of equipment; and class approval of equipment is conditional on thorough technical investigation into the causes of catastrophic failures being conducted by equipment manufacturers whenever these occur. A recommendation has also been made to the Oil Companies International Marine Forum with the aim of providing guidance on weighing anchor, particularly with regard to the safe operation of windlasses. A further recommendation has been made to TTS Kocks GmbH intended to improve the technical and operational information it provides when supplying windlass machinery.