SYNOPSIS

Narrative:

Neermoor, a single hold coaster, had discharged her cargo at Southampton, UK and was on ballast passage to Teignmouth, UK to load. The ship was fitted with two portable bulkheads that could be moved within the hold in order to divide the space up into three sections.

After sailing from Southampton, the ship's two Able Bodied Seamen (ABs) were tasked to thoroughly clean the cargo hold before arrival in Teignmouth. To achieve this, there was no requirement to move the bulkheads from their existing longitudinal positions, but both had to be vertically raised to ensure that all remaining traces of the previous cargo were completely removed; this was normal practice for this trade. While cleaning beneath the bulkheads, they were supported by timber packing.

The ballast passage was made in good weather conditions, and when the ship arrived off Teignmouth the cleaning was almost completed. The two ABs assisted with anchoring the vessel and then returned to the hold to finish the task.

Working at the forward face of the aft most bulkhead, the ABs used two separate, portable, hand powered jacks to lift vertically the aft bulkhead off its temporary supports; one jack was operated by each AB.

One AB stopped operating his jack and stepped through the opening in the bulkhead to the aft side. Almost immediately, the bulkhead began to topple, rotating about its lower locating pins so that its top edge moved aft. The bulkhead continued to fall aft, generally rotating about the lower pins until they, too, became disengaged and the bulkhead fell to the deck.

The AB working on the forward side escaped uninjured. Tragically, the second AB was fatally crushed between the fallen bulkhead and the bottom of the hold. The accident occurred at 0538 BST on 27 April 2006.

The sound of the impact was heard throughout the ship. Having seen the fallen bulkhead, and realising that an AB was missing, the master made emergency calls by both VHF and telephone. The remaining crew rushed to the hold to try to free their trapped colleague, but without success. The dead man was not recovered until the ship berthed in Teignmouth and a crane with sufficient capacity to lift the bulkhead arrived on site, several hours later.

Analysis:

The bulkhead fell on to the AB because the upper pins that should have secured it in the upright position became disengaged from the hold sides. The position of the bulkhead securing pins had not been checked for some time, and there was no procedure to ensure that this vital check was made. The upper securing pins were difficult to see and their latches were not well maintained. The bulkhead was sitting lower than designed, consequently the securing pins were making contact with the bottom of the recesses in the hold sides. This contact end-loaded the pins, which then bent their securing latches. With defective latches, there was then little to prevent the securing pins from moving as the bulkhead was raised and lowered to allow hold cleaning over a number of voyage cycles. The lifting method used

was not in accordance with the designer's instructions, and it is likely that asymmetric jacking of the bulkhead caused the securing pins to be forced back into their housings within the bulkhead.

There was no formal survey or inspection regime that covered the portable bulkhead system, thus their gradual deterioration went unnoticed.

Neermoor's SMS did not cover the operation or maintenance of the portable bulkhead system. The crew were not adequately trained and were provided with too little guidance and supervision to operate or maintain the system safely.

The investigation also revealed that *Neermoor* made a night passage without lookouts on the bridge and with the hold hatch covers open.

Conclusions:

Although of poor design, the portable bulkhead system could have been operated safely if the correct lifting equipment had been available, procedures were in place and the system was operated and maintained by trained personnel who followed a fully documented safe system of work.

The checks and balances that should have been provided by an effective survey and inspection regime were not in place and so failed to detect and prevent an unsafe operation.

The number of crew provided to comply with the minimum safe manning certificate was not adequate to operate *Neermoor* in the way required by her owners.

Recommendations (abridged):

Kapitan Siegfried Bojen Schiffahrtsbetrieb is recommended to: conduct a full review of the Company Safety Management System, covering operation, maintenance, inspection, training, management and supervision requirements relating to portable bulkheads systems for all vessels in their fleet that are fitted with similar equipment.

Classification Society Germanischer Lloyd is recommended to: conduct a comprehensive review of the survey and certification requirements relating to portable bulkhead systems on both new build and in-service vessels. The findings of this review should be further promulgated through IACS.

The Secretariat of the Paris Memorandum of Understanding on Port State Control (PSC) is recommended to: bring to the attention of its members, the issues raised in this report so that whenever possible, portable bulkhead systems can be checked during PSC inspections.

The Antigua and Barbuda, Germany, Netherlands and United Kingdom Flag Administrations are recommended to: review their requirements for the design approval, survey and inspection of vessels fitted with portable bulkhead systems, to include the associated Safety Management Systems.