



## SYNOPSIS

At 1125 on 21 June 2008, a diver entered the water from the Belgium registered self-propelled crane barge *Norma* in order to replace a line marking the position of the wreck of a German submarine which had been sunk during World War One off the 'Varne' bank in the Dover Strait. As the diver descended to a depth of about 20m, the umbilical cord containing an air supply became entangled in the vessel's aft Voith Schneider propeller, and the diver was dragged towards its rotating blades. The diver's air supply was also pulled from the deck but the diver succeeded in transferring to a bottled air supply before it severed. The diver was approximately 3m from the rotating propeller when the propeller was stopped by the vessel's chief engineer. The diver then managed to cut himself free and make his way to the surface from where he was recovered without injury.

The investigation identified a number of factors which contributed to this hazardous incident, including:

- The control system for the vessel's propulsion had recently been installed, and no procedures for its use had been developed and no familiarisation training had been provided.
- Neither the OOW nor the master verified that the propellers were stopped or informed the engine room that diving operations were about to take place.
- The procedures for diving operations in the vessel's safety management system lacked detail and were not sufficiently robust. They placed an undue reliance on the effectiveness of procedures followed by the embarked diving contractor.
- Diving operations had not been identified as a key shipboard operation by the ship manager or by external audit.

Following the incident, Scaldis Salvage & Marine Contractors N.V, the vessel's manager, and Northern Diving Ltd, the diving contractor took immediate steps to prevent a recurrence. Details of the incident and lessons to be learned have been promulgated to the shipping industry by a flyer published by the MAIB and by a safety alert issued to diving contractors by the International Marine Contractors.

Recommendations have been made to the Maritime and Coastguard Agency, the Health and Safety Executive, the International Marine Contractors Association, the Association of Diving Contractors and the International Chamber of Shipping aimed at ensuring that guidance on the safe conduct of commercial diving operations involving merchant vessels is readily available. Recommendations have also been made to the International Association of Classification Societies and Scaldis Salvage & Marine Contractors N.V. to improve the effectiveness of safety management audits.