Volume 10 Issue 4 October/November 2012

SORJ

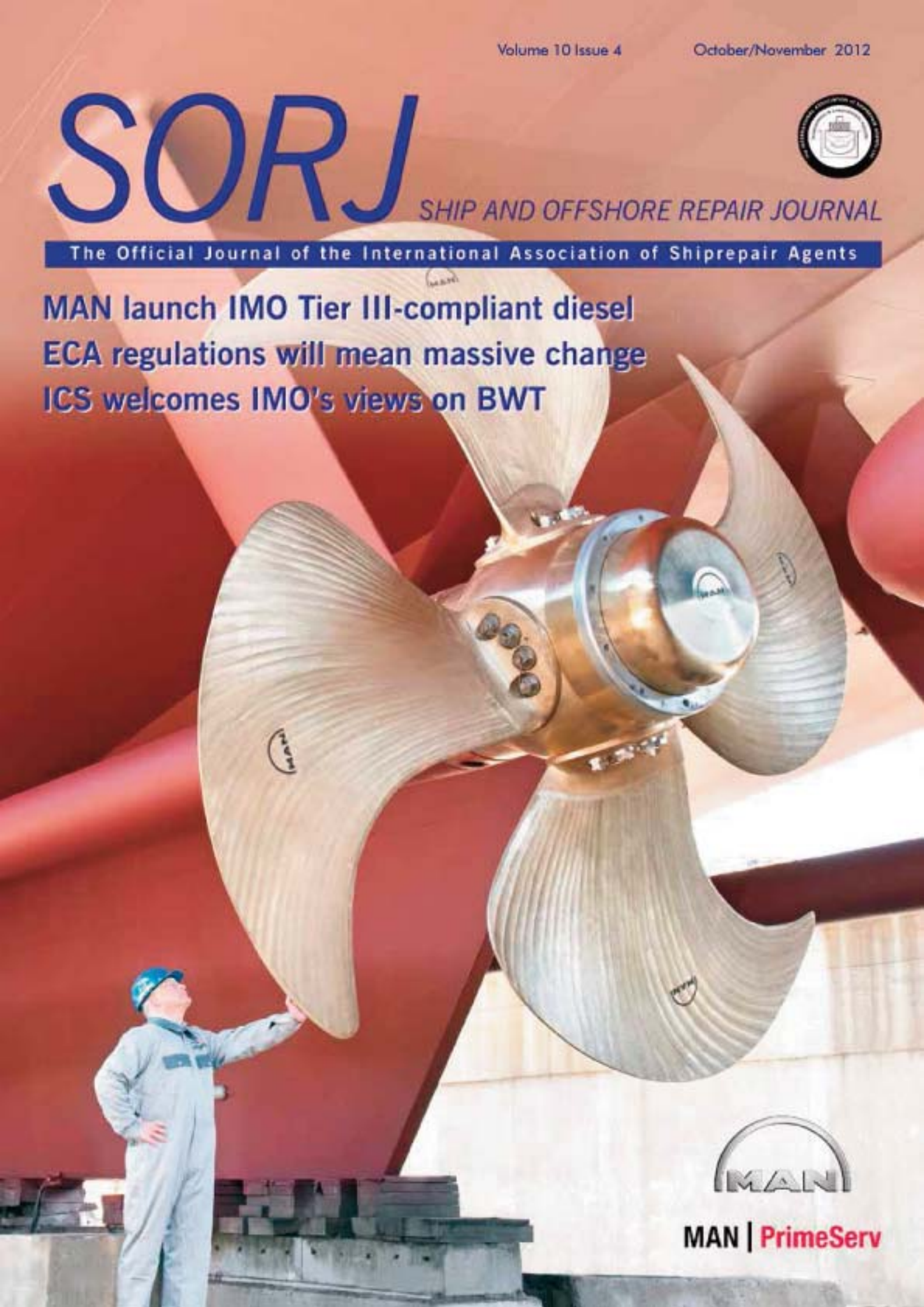
SHIP AND OFFSHORE REPAIR JOURNAL

The Official Journal of the International Association of Shiprepair Agents

MAN launch IMO Tier III-compliant diesel

ECA regulations will mean massive change

ICS welcomes IMO's views on BWT

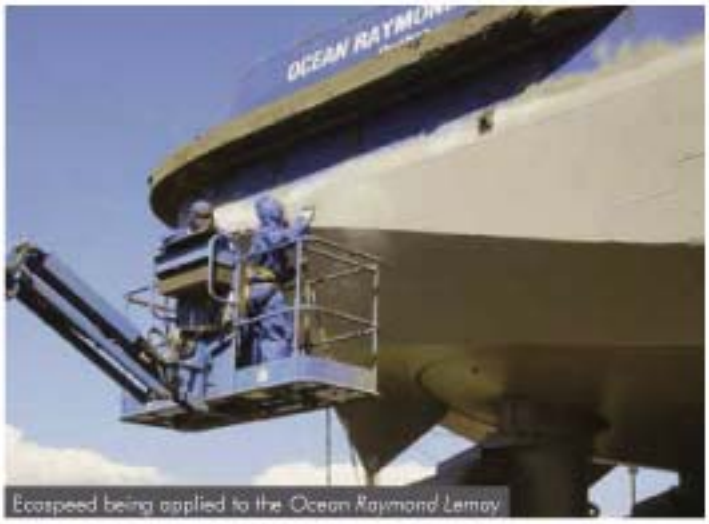


Ecospeed for tugboat

During August, the 31 m tug boat Ocean *Raymond Lemay* was coated with Ecospeed on the Isle-aux-Coudres in Quebec, Canada. The vessel is owned by Ocean Group Inc, which operates in the ports of Quebec, Montreal, Toronto and a number of smaller harbours.

Ocean *Raymond Lemay* is both an Ice Class and a Firefighting Class vessel, which means she can be used in a wide range of operations. Besides various harbour manoeuvres, the vessel is used during emergencies or to provide prevention services. The ship is also used to open up the frozen passageways in ports during the winter season.

During such operations, Ocean *Raymond Lemay* has to use her weight to ram into thick ice and force a passage. She is constantly hit by chunks of ice, which may be 50 cm or more in thickness. Not only is the ice highly abrasive, there is the additional factor that the steel of the hull flexes under the impact. When the metal sheets that form the hull flex and bend under the impact, the paint that is supposed to protect them does one of two things: it either is flexible and adheres so well to the metal that it is virtually part of the steel itself and thus survives; or it is less flexible than the hull and cannot flex with the steel, in which case the paint gradually, or not so gradually, is forced away from the hull and rubbed away under the impact. It is a problem which is unique to ships faced with ice impact.



Ecospeed being applied to the Ocean *Raymond Lemay*

Tahoka Press publishes van Rompay book

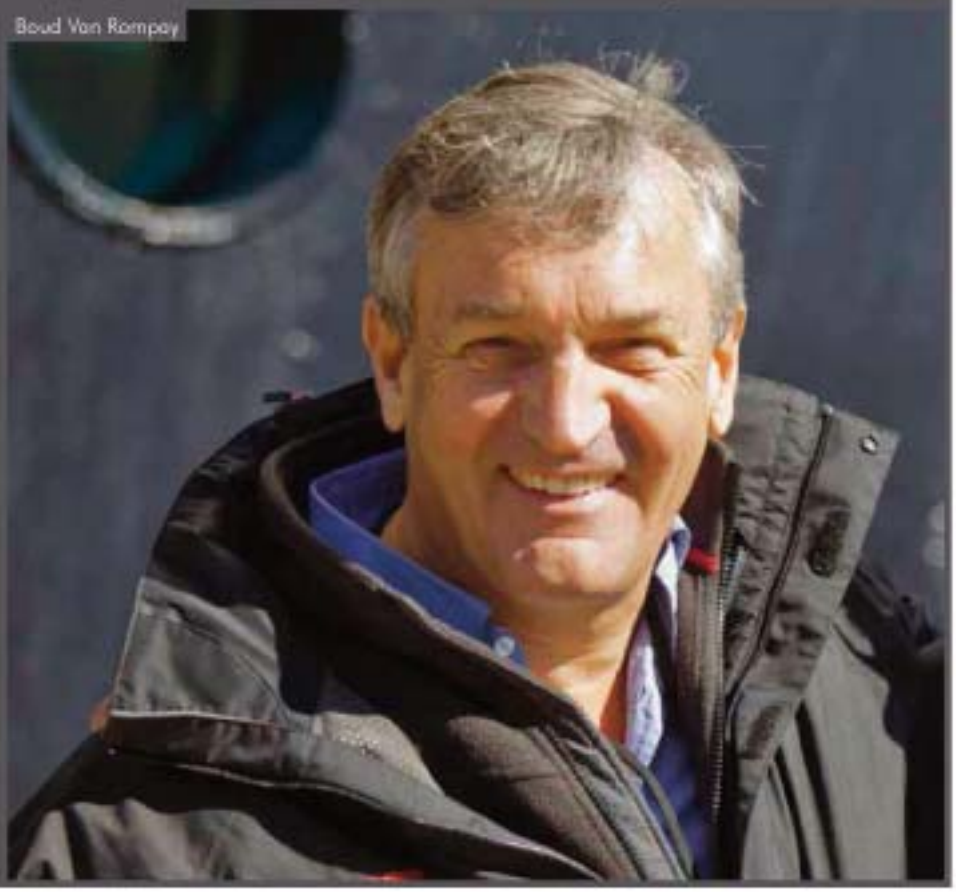
A new book, Surface Treated Composites White Book – A proven, non-toxic, cost-effective alternative technology for underwater ship hull protection and biofouling control, by Boud Van Rompay has been published by Tahoka Press and is available for purchase online at TahokaPress.com.

The Surface Treated Composites White Book is a complete reference on hard, non-toxic hull coating systems and in-water cleaning. It covers all related issues including the environmental hazards of biocidal coatings and the cost-effectiveness of surface treated composite hard coatings combined with routine in-water cleaning. The information in this book can save shipowners and operators between 8 and 40% of their current fuel bill while giving them an environmentally benign way to protect their ships' hulls and keep them smooth and free of fouling.

The Surface Treated Composites White Book is a description of a better, alternative, non-toxic, cost- effective, environmentally safe technology for protecting the underwater hulls of ships and keeping them free of biofouling. 'Alternative' because it takes a 180° opposite vector to the generally used, conventional systems of painting the underwater hulls of ships with highly toxic heavy metals and biocides as a means of protecting the hulls and keeping them clean. 'Better' because its standard application can reduce the cost of maritime transport significantly while greatly lowering the environmental impact of shipping. This alternative technology begins with the premises that the marine environment should be kept clean and free of toxic chemicals which pollute the water and contaminate the sediment, that shipping should be able to operate and expand without harming or destroying the very environment on which it operates, that there is a non-toxic answer and that that answer is also the most economical way to sail.

The Surface Treated Composites White Book is essential reading for anyone who has any connection with protecting the underwater hulls of ships, who is responsible for operating ships economically, for reducing the impact of shipping on the environment. Shipowners, ship operators, officers, naval architects, ship builders, the IMO, government officials responsible for maintaining a sustainable marine environment, officials in charge of navies and government owned and operated fleets, NGOs, shipyard operators, anyone who has any interest in or responsibility for the efficient and ecologically sound operation of ships and shipping. The book is the result of 40 years of research, development, study and practical application and experience added to the wealth of information on the subject which has been researched and recorded by caring and intelligent minds around the world.

Boud Van Rompay is the Founder and CEO of Hydrex, an international underwater technology company which delivers advanced underwater repairs and maintenance. Mr Van Rompay began his career as a diver and acquired extensive experience with underwater technologies. He is also an inventor with a long string of patents to his name. One of these patents is for Surface Treated Composite (STC) underwater hull coating system which he researched and developed as an answer to the very serious marine pollution which he witnessed and quickly traced to the toxic antifouling coatings in use on ships and boats generally. Seeing that a non-toxic solution was urgently needed, he set out to develop one. That system and its success are fully documented in this book, with all the theoretical and practical knowledge to put it into full effect. Mr Van Rompay sees every ship that gets off the toxic bandwagon and adopts an environmentally safe approach to hull protection and fouling control as one step closer to a clean, pollution free marine environment – his goal.



Boud Van Rompay

Underwater Repairs

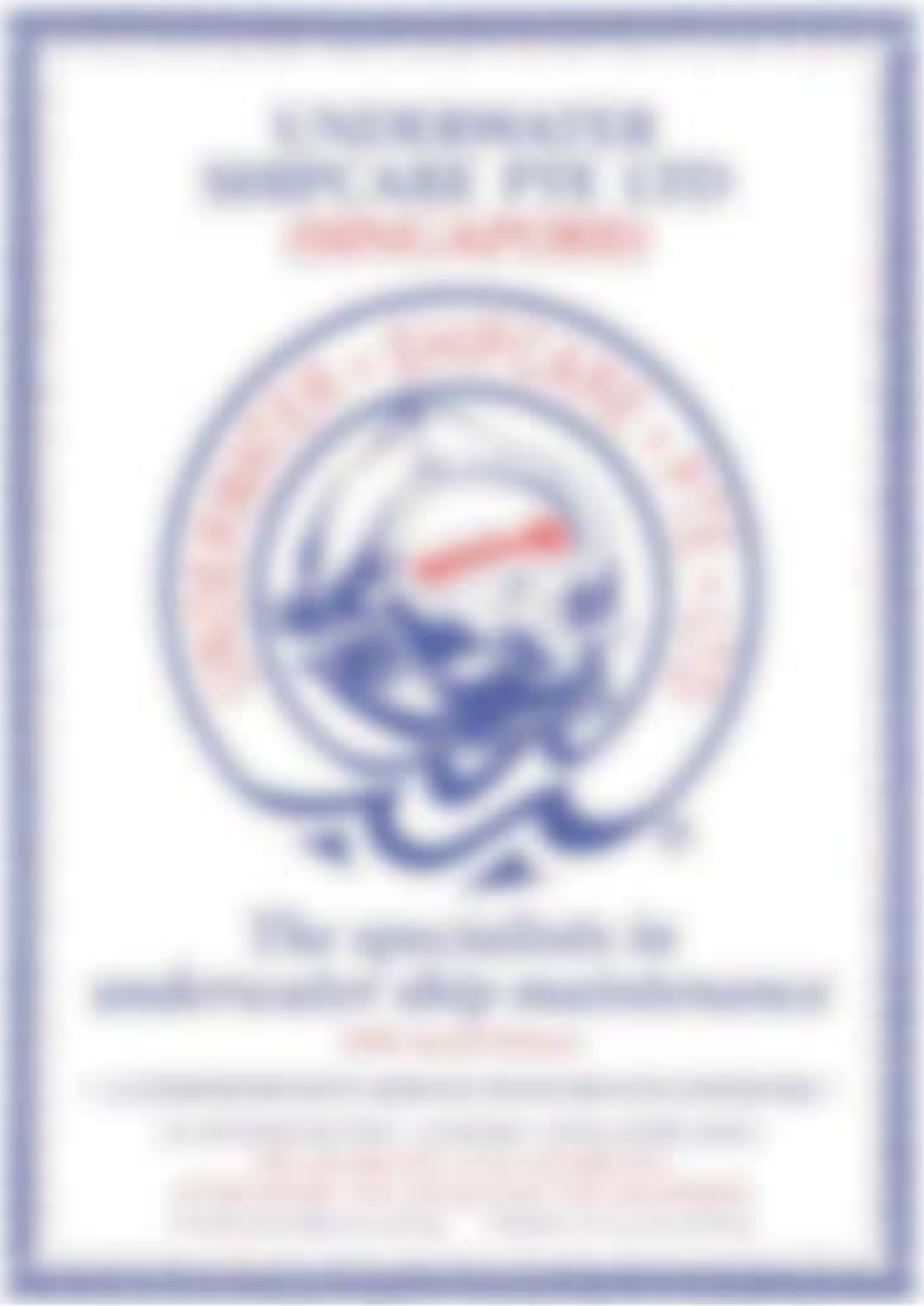
West African contract for Hydrex

When the fore, as well as the aft stern tube seals of a 247 m tanker were leaking, the vessel was not given permission to enter any ports. Unloading the vessel at sea and going to drydock seemed the only option for the vessel, until Hydrex sent a diver/technician team with one of the company's flexible mobdocks to the ship's location in Port Gentil, Gabon, to replace both sets of stern tube seals on-site.

The team loaded the necessary equipment on a barge on which they set up a work station to monitor all underwater activities. The barge then sailed to the tanker and the Hydrex team leader met up with the vessel's owner and superintendent. The rest of the diving team made all remaining preparations for the main activity, which started, immediately after the meeting, with the removal of the rope guard. This was followed by a thorough underwater inspection and shaft wear down readings.

While the Hydrex flexible mobdock was installed around the stern tube seal assembly to create a dry underwater environment around the assembly, Hydrex technicians replaced the fore stern tube seals which are located on the inside. Next the team started the work on the aft seals. This was done inside the flexible mobdock in drydock-like conditions, which are essential for stern tube seal repairs. The diver/technicians cleaned the entire assembly before they removed the damaged seals one by one and replaced them with new ones. Like the fore seals, these were prepared onshore by the attending Aegir-Marine specialist.

All parts of the stern tube seal assembly were then reinstalled and secured. After a successful leakage test the team removed the flexible mobdock and repositioned the rope guard. By sending the Hydrex flexible mobdocks in special fly away cases together with all equipment, fast response to any emergency call like this is guaranteed to locations around the world from the various Hydrex offices.



Underwater repairs by Hydrex on-board a tanker offshore West Africa

More recently Hydrex teams carried out a wide range of underwater propeller operations on tankers around the world. Among them a spinner cone (Propeller Boss Cap Fin –PBCF) replacement on a 110 m vessel in Singapore, a propeller blade straightening on a 248 m ship in Algeciras, Spain, and a blade cropping on a 183 m vessel in Flushing, the Netherlands.

Hydrex was contacted to install two new spinner cones (PBCF) during a LPG tanker's scheduled stop in Singapore. After the team arrived at the vessel's location, they started the operation with a full inspection of both propellers. Next the diver/technicians removed the port side propeller spinner cone (PBCF) and hoisted it on board the vessel. After they had cleaned the area under the spinner cone (PBCF), the team lowered the new cone into the water and positioned it on the propeller. When this was done, grease was inserted in the space underneath the propeller cone for lubrication and the bolts were put on torque and secured with wire, finishing the replacement of the first spinner cone (PBCF). The divers then repeated this procedure with the starboard side propeller.

The PBCF alignment was monitored on an underwater CCTV camera and supervised by the maker's specialist on the diving boat. The makers informed us that this was the first installation of a PBCF underwater. The Hydrex team worked around the clock. No gas free operations were required for the above work, saving time for the owners of the LPG tanker.

With three of the four blades of its propeller

severely bent, a 248 m tanker needed a fast, on-site solution to restore the propeller's balance and efficiency. Hydrex diver/technicians are trained to carry out repairs underwater in the shortest possible time frame. A team was rapidly mobilised to the ship's location close to the Hydrex office in Algeciras Spain to perform a cold straightening of the blades.

After the equipment arrived at the vessel's location with one of the Hydrex workboats the team started the underwater operation with a detailed underwater survey of the damaged propeller blades. The inspection revealed that the three blades had suffered deformations along the trailing edges.

The team then carefully positioned the straightening machine over the bends of the trailing edges of the first blade and, in close communication with the team leader on the work boat, applied pressure to return the bent blade to its original state. This procedure was then successfully repeated for the other damaged blades, restoring the propeller's efficiency.

Busy summer for [illegible]

Wide range of activities at [illegible]

Training programme at [illegible]