A track record in navigation safety

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The recently appointed CEO of Shipping Australia, Commodore Rod Nairn AM, in his presentation at NAV 2013 in Darwin earlier this year, posed the question, what does shipping want and provided this answer - reduced costs for increased benefits through effective and efficient trade in an environmentally safe manner.

Dynamic Under Keel Clearance (DUKC®) technology, designed by OMC International (OMC), has been in operation for two decades now and has maintained an incident free safety record while significantly increasing the efficiency of transporting around the world bulk cargos, liquid fuels and container goods.

What does this track record mean for today and for the next decade? It certainly suggests that our focus will continue to be aligned with the needs of shippers and their regulators, including the International Maritime Organisation (IMO) whose agenda is to ensure compliance with the standards it is developing for safe, secure and efficient shipping on clean oceans. OMC will continue to expand the usefulness of what is an accurate, proven and cost effective e-Navigation (e-Nav) tool for UKC management and to facilitate its wider acceptance in the maritime world especially by Safety Authorities.

It is indeed a fact that for the past 20 years OMC has been making a significant contribution to the practical application of e-Nav by providing a tried and tested tool which can safely manage the vertical dimension in ports and waterways around the world.

Further progress has been made recently with Australian Maritime Safety Authority (AMSA), who in 2011, commissioned OMC's UKC management technology for the remote and environmentally sensitive Torres Strait and has been trialling it and training the pilots for the past 2 years. Although the system is not yet mandatory, it is now well validated for these waters and running smoothly and AMSA is expecting to make it compulsory for pilot use for vessels over 9 m draught by the end of 2013. The current limit of maximum draft 12.2 m will remain for a period of time during which AMSA will evaluate the appropriateness of this limit, a positive step in the direction of going deeper and improving productivity for shippers using these waters.

Another recent development in the pursuit of safer navigation has been the concept of a testbed which is defined as a platform for trialling development projects. It generally involves rigorous, transparent and replicable testing of, for example, new technologies. The 58th session of the IMO Sub-Committee on Safety of Navigation agreed to the development of guidelines for the harmonisation of e-Nav testbeds and concluded that IALA take on this role.

e-Nav testbeds that have already been already undertaken include MARNIS (EU) and Efficien Sea (Baltic Sea), and there are a growing number currently underway including ACCSEAS (North Sea), MONALISA (Baltic Sea) and the Marine Electronic Highway (MEH) in the Straits of Malacca and Singapore. OMC were participants in the MARNIS project and are currently involved in the MEH project.

AMSA, as an active participant of International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA), are considering e-Nav testbed projects in Australia. OMC and AMSA have had preliminary discussions on the possibility of leveraging off the existing and operational e-Nav project, the UKC management system (UKCM) through Torres Straits, as a testbed for innovations in line with the core objectives of e-Nav.

Nevertheless, validated and extensively tested UKC technology with a long unblemished track record, should not encourage complacency. For 37 years the Port of Richards Bay in South Africa has been shipping coal out without incident. However, on 19 August 2013 the coal carrier "MV Smart" grounded while in the port departure channel and broke its back in heavy seas similar to conditions at the entrance to Port Phillip Bay where heavy swells cause much larger vertical ship motions than would normally occur at most ports. There may be lessons to learn for the regulators of both ports including how prepared they are to handle such an incident should

it occur.

It is not surprising then that pilots are seeking greater certainty as the pressure for greater efficiency, through bigger ships and reduced UKC, increases. In transit pilots are, after all, in the unique position of being concerned with safety while free from commercial interests.

To this end OMC is putting significant research and resources into integrating new products which increase pilot safety. This includes Port Hedland who installed their first DUKC® in 1995 and in late 2012 signed a 5-year Platinum Package agreement to update to the web-based DUKC® Series 5. Pilots are presently being trained in the use of the DUKC® Chart Overlay as part of an electronic charting package carried aboard on the PPU. This provides a significant risk management tool by forecasting and clearly showing in real-time safe and unsafe ('go' or "no go") transit areas while the vessel is underway.

This year, after several years of visits and studies, the Port of Montreal has also contracted us to install and support of our DUKC® for use on the St. Lawrence Seaway between Montreal and Quebec. Another recent initiative is its possible use, following implementation, for the identification of UKC critical areas on the seaway suitable for hot spot dredging to relieve bottlenecks. This will further facilitate more efficient navigation. This initiative also has the potential for wider application elsewhere.

The port of Fremantle has also agreed this month to move to DUKC® Series 5 with the Forecasting module as major additional component of the new upgrade.

In October, OMC was invited to participate in the 6th Co-operative forum on the Safety of Navigation and Environmental Protection in the Straits of Malacca and Singapore (SOMS) held in Bali, Indonesia where the views of the shipping industry on e-Nav and its benefit to safe passage through the SOMS were again the focus. OMC presented the results of a Singapore Government contract awarded to them to undertake a Concept Study to investigate the feasibility of real-time monitoring of UKC for deep draught ships transiting the SOMS. This study is part of the IMO's Maritime Electronic Highway Project (MEH) which aims to enhance navigation safety and environmental protection in the SOMS.

Finally, this year OMC has installed Berth Warning Systems at the Rio Tinto ports of Cape Lambert and Dampier. The parting of lines due to overloading by wind current or swell provides a significant safety hazard to mooring personnel, as well as risking damage to the moored vessel land berth structure and in the worst case scenarios risking collision with other vessels in the harbour. Perhaps, in the interest of safety, the definition of e-Nav should be extended to include this practical application for the safe mooring of ships. In 2013 safety clearly remains our priority!