COMPANIES GEARING UP

Port Hedland ship loading record

INGRID BEDFORD

WORLD-leading and award-winning OMC DUKC technology assisted the Port Hedland Port Authority (PHPA) to set a recent shiploading record in August.

"Port Hedland Port Authority approached OMC International to investigate how its proven DUKC technology can help the port regularly repeat its recent record of five ships sailing on the one tide," OMC founder and executive director Dr Terry O'Brien said.

PHPA reported that five capsize bulk carriers (four BHP Billiton Iron Ore and one Fortescue Metals) had sailed on a single morning high tide in June, with a combined total cargo of 841,062 tonnes.

"DUKC played a major part in our setting a new record for Port Hedland," PHPA harbour master Lindsay Copeman said.

The previous single tide record in 2005 had a combined total of 657,029 tonnes and the company believed the iron content within this combined shipment of iron ore would be sufficient to build 10 Sydney Harbour bridges.

OMC's computer-based DUKC system maximises the cargo-carrying capacity of large vessels and ensures safe navigation through shallow, depth-restricted waterways.

An estimated 80 per cent of Australia's coal and iron ore exports sail on ships with maximum safe drafts (the depth a ship sinks in the water) and sailing times determined by DUKC systems.

This technology was introduced to WA about 15 years ago, and is in 19 ports worldwide and 5 in WA: Port Hedland, Dampier, Geraldton, Fremantle and Bunbury. It is in some of the largest bulk container and multi-cargo ports in the world, and in the Pilbara iron ore ports of WA (with beneficiaries such as BHP Billiton and Rio Tinto).

OMC founder and executive director Dr Terry O'Brien

With a 16-year proven, incident-free track record, it is the only under keel clearance system in the world and it takes large vessels deeper than static rules. DUKC systems successfully assist more than 50,000 bulkers, tankers and container vessels in depth restricted ports and waterways around the world. It has provided more than $10 billion in economic benefits to port users.

World-leading DUKC technology from OMC International continues to be recognised in prestigious international shipping awards. In May this year, OMC was runner-up in the Ship Operations Innovation category at the 2009 Seatrade Awards held in the UK. The company's DUKC In-Transit technology won the Marine Civil Engineering and Construction category at the 2009 Seawork Awards (sponsored by Marine South East and the University of Southampton) in the UK in June.

Since 1995, Port Hedland has used the DUKC technology in its operations. It has delivered significant safety and economic benefits to the port during the last14 years. An additional 8000 tonnes can be loaded in good conditions (90 per cent of the time) and during periods of high swell it provides a greater margin of safety.

"It has been a busy time in WA for OMC, which is about to celebrate the first anniversary of its Perth office," Dr O'Brien said.

"It is no longer a fly-in, fly-out office and this reflects our growing workload in WA.

"It is exciting times for OMC in WA. We are also working on a feasibility study for a channel design of a proposed port. Our WA workload is increasing as more ports recognise the proven safety and economic benefits of our world-leading and award-winning DUKC technology."

In WA, OMC is working on several new software development projects such as WaSP (wave spectrum predictor), which was introduced into Geraldton Port in April last year and to Port Hedland in February this year.

"PHPA and OMC are working together to see how the port could maximise cargo throughput from Port Hedland, which is Australia's largest iron ore port," said Dr O'Brien.

"PHPA is keen to work with OMC to see how we can optimise the sailing drafts and times of multiple vessels on each tide. At the moment, the average is two to three ships on a tide, but this will need to increase to four to five ships per tide as export volumes grow."

"Recently we have had a break through with a DUKC development, which essentially considers forecast swell rather than just relying on actual and historic data," Geraldton harbour master Captain Martin North said after the Geraldton installation.

"The results here have been very useful and we are now able to give good accurate departure drafts 36 hours out where previously, if swell built up near the end of a ships loading program, the consequences of that swell only became apparent as it was happening and being recorded."