

Feeling the draught of change

Port of Melbourne experience giving valuable insights into strengths and areas for refinement for under-keel clearance technology, reports ROB MCKAY

IT HAS been an exciting month just past for OMC International. This has included more important recognition for its Dynamic Under Keel Clearance (DUKC) technology and an early workout after its deal with Port of Melbourne Corporation (PoMC).

For the first time, OMC has been able to supply all pilots at a major port with portable units.

This has given them transit under-keel clearance information adjustable to changes of speed and conditions, live and in real time.

At the start of this month, two weeks after the deal was unveiled, the system was put to the test when Melbourne's port experienced a negative tidal residual.

This relatively rare occurrence – in this case, the tide failed to reach predictions by 30/40cm – saw a ship make passage out of the port that previously would have been affected by draught restrictions.

Optimum and flexible speeds were worked out through the related vessel tracking system (VTS), including a reduction in the South Channel, to avoid delay that would have otherwise occurred if a static window was in force.

"The harbour master, with the assistance of VTS, through having this monitoring capability was able to allow that



CONFIDENCE: The new technology being used at the Port of Melbourne is increasing safety as well as efficiency.

transit to continue and that the confidence was there to ensure a safe passage," OMC managing director Peter O'Brien said.

This was the culmination of a three-year effort to get the technology accepted in Melbourne.

OMC founder and executive director Dr Terry O'Brien insists Melbourne has the most forward-looking approach of any major port in the country.

Customisation

"I think the Melbourne situation is great because you have such variety – where the wave motion can be very significant, to the South Channel of the river, where there are squat-related problems and heeling on the bends, tidal residuals and rapidly changing conditions because [weather] fronts can go through here quickly," he said.

Peter O'Brien concurred, saying: "The key benefit that

the DUKC provides in Melbourne, where you have very large swells and big current interaction, is the certainty you have of the allowances needed going through the heads."

OMC won the tender in early 2006 after winning an open competition.

DUKC underwent full-scale validation and trials, with risk assessments carried out by

Monash University and Marico Marine, OMC said.

With the external validation process complete, PoMC approved the customisation of a full DUKC system for Melbourne for both vessel passage planning and for in-transit monitoring and control.

Port Phillip Sea Pilots managing director Rob Buck said his staff had spent the past few

months familiarising themselves with the system.

Pilots had been introduced to it late last year and the major rollout began in February.

Early teething problems had been ironed out and the pilots had become used to using it.

Feedback

Peter O'Brien confirmed that its introduction threw up challenges early on.

"For the 35 pilots, it has been an enormous logistical and training exercise," he said.

"There have been some communications issues in the bay that we have sorted through. The software had needed to communicate to the landside to get environmental data and ships' positions."

These had related to the interface with communications firm Telstra, rather than being down to the software.

"The other side of this is the training of the VTS operators and they have an im-

portant role in communications with the pilots too," Dr O'Brien said.

"If there is a breakdown in communication for a short time, the system is running in the VTS as well as on the pilots' laptops, and they are able to communicate with the pilots by radio."

This had actually happened early and OMC was in the process of getting feedback from pilots on this and other experiences.

"I think it is fair to say that this is a paradigm-shift away from how under-keel clearance is managed and it is a learning process for pilots.

Elsewhere, the company was digesting the lessons of the *Iron King* grounding at Port Hedland last August, when the system was used to provide UKC predictions for the safe removal to deep water of the bulker. *Iron King* had run aground just outside the harbour after a steering malfunction.

The VTS was used to ensure there would be adequate clearance as tugs moved her to deep water. And it was essential to unblock the shipping channel outside the standard sailing windows.

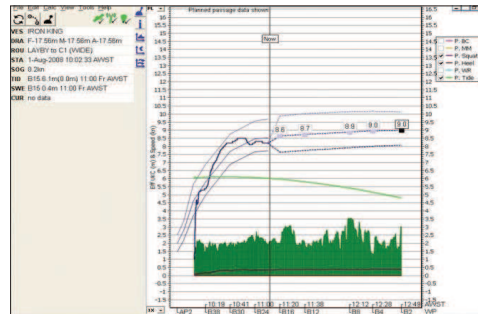
"We are gradually building up different case studies such as the *Iron King* so as to be able to see how these tools can be made more widely applicable," Dr O'Brien said.

"It is only by using them in different places that you get new uses for them."

For the future, OMC was waiting on the Australian Maritime Safety Authority to clear the under-keel clearance system for use in the Torres Strait.

That has also been three-years in the making.

The company, which has already gained acceptance in Europe, was also in discussions to introduce DUKC at additional locations in the northern hemisphere.



GRAPHIC PROOF: Print out data on refloating the *Iron King*.



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