



# THE MASTER MARINER

NATIONAL MAGAZINE OF THE COMPANY OF MASTER MARINERS OF AUSTRALIA



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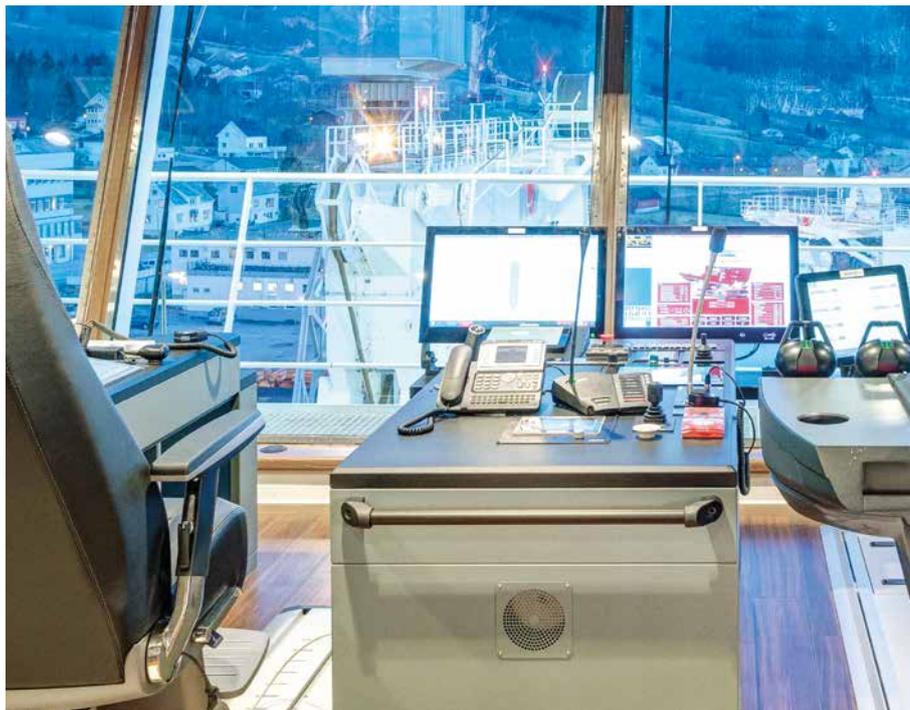


- ECDIS assisted accidents
- Outstanding bridge work
- Playing battleships
- Aus to Japan the hard way

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# From the Federal Master



**T**his edition focuses on ECDIS (Electronic Chart Display & Information Systems) and some of the issues arising in connection with ECDIS.

Electronic chart systems have their roots in the leisure sector which is not constrained by SOLAS convention regarding standards and carriage requirements. Although paper charts were reliable, they were cumbersome to use on small craft and by the early 1990's several companies were in the process of developing systems for displaying digitised versions of paper charts.

Rapidly developing computer technology and the introduction of automatic radar

plotting aids (ARPA) on to the navigation bridge of commercial ships made the initial systems possible with little collaboration between individual manufacturers.

As systems became more complex and sophisticated manufacturers added interactive features. So much so that currently there are 24 suppliers of ECDIS systems on the market today. In some cases, one supplier can have several different systems and a ship could find itself in a situation where it can not sail due to the fact that an officer is not educated in the specific system used on board.

ECDIS will become mandatory on all vessels over 500 gross tonnage on inter-

national voyages. One must note that it is not details that differ from systems, but that one function can have total different name and position in different systems, which is not the case with radar where functions have the same name.

Pilots act as advisors with knowledge of local conditions. They are supposed to take part in the navigation onboard, which is conducted in the ECDIS system. For pilots of the future to follow rules, can we really expect pilots to be familiar with as many as 24 ECDIS systems?

There is a need in shipping to unify and get a full ECDIS standard throughout the industry. Will this be possible? ■

## EDITOR'S NOTE

The Company congratulates Capt van Bronswijk and his bride Sandra, who got married in April in Sydney.



Capt van Bronswijk with his lovely wife Sandra after their recent nuptials

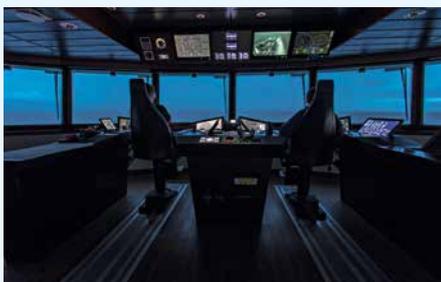
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### Cover Photo:

Screens are a major feature of the modern-day bridge

Photo courtesy Rolls Royce

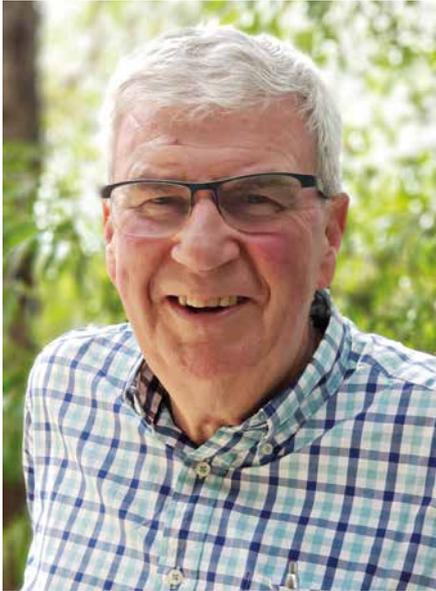
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# The 2008 Annual General Meeting



Federal Secretary Capt Frank Kalaveld, who ran his last AGM as secretary last month after handing the role over to Capt Stuart Davey.

The focus of the meeting was on the Company's financial management, in particular the management of an annual budget which has been confronted with:

- A reduction of members
- Increased costs
- No ability to raise revenue, and
- The wishes from the Branches not to increase the Federal Levy

Discussions by conference line does have its disadvantages as it restricts the flow of conversation due to the fact that only one person can use the line at any one time. Despite this restriction, the Court managed to conduct its business and managed to address all the scheduled agenda items. The Court decided that meeting by conference line does save costs and that every second AGM should be held in this way, and that traditional meetings hosted by one of the Branches should continue biannually.

**T**he 2018 Annual General Meeting was held by phone conference line on Wednesday 18th April. Unlike the traditional interface meetings, which were conducted every year, the Court decided that a meeting by conference line should be trialled.

Approximately four general meetings are held by phone conferencing each year, so members of the Court are familiar with the process. Thanks to Norton Rose Fullbright, who has been the regular sponsor to our phone conferencing, the lines were arranged for two two-hour sessions during the day.

**The Federal Court for 2018 was confirmed to be:**

- Federal Master: Capt. Ted van Bronswijk
- Branch Masters: Capt. Kasper Kuiper  
Capt. Ian French  
Capt. Bob Westley  
Capt. Steven Wenban
- Federal Secretary: Capt. Stuart Davey
- Federal Treasurer: Capt. Francis Castellino
- Federal Registrar: Capt. Dick Whittington
- Webmaster: Capt. Mike Tyler
- Historian: Capt. Iain Steverson
- The Federal Editor is still to be appointed.

Other decisions made by the Court were:

- Approval for the WA Branch to convene a congress in Fremantle in 2019
- The next AGM will be held in Fremantle in 2019
- Capt. Ravii Nijer was awarded the 2017 Outstanding Achievement Award
- The Queensland Branch will be hosting the Boulton Lecture for 2018
- The incoming Secretary will be looking into improving remote conferencing, ie through the use of video linkup.

The final view of the Court members about this style of meeting was that all of them preferred interface meetings, but that the financial benefits of meeting by phone outweighed the objections to it. The Court also missed the social interaction with local members during and after the meeting and most regretful was the inability of taking the traditional photo of the attending participants. ■

By Capt Frank Kalaveld



Photo: Helen Lyth

## Safely Channelling Victorian Shipping

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# Change of Guard for Federal Secretary



Capt Stuart Davey, CMMA's new Federal Secretary.

The retirement of CMMA Federal Secretary Capt Frank Kalaveld was ratified at the recent Annual General Meeting, which was held via telephone conference.

Capt Kalaveld will pass the baton on to WA branch member Capt Stuart Davey, who is deputy harbour master at Port of Fremantle. He said it had been a pleasure to serve the company in the role for the last nine years.

"When I took on the job, I expected it to be a matter of organising meetings, transcribe the minutes and do the formal reporting to comply with ASIC's requirements, process applications from new members and tend to correspondence.

"It turned out to be far more involved, in particular at a time of general reform which required some significant amendments to our constitution. With a reduced number of directors serving on the Federal Court, the secretary was given the responsibility to be the coordinator and keep the branches bonded as a federal unit. Thanks to the cooperation of each branch, the respective branch masters and secretaries, we managed to maintain a strong and healthy organisation.

By Capt Kalaveld's reckoning he has worked alongside two federal masters, three treasurers, two registrars, two editors and just the one webmaster - Mike Tyler, "who has on the quiet provided us with a great website."

"We have seen a number of reforms over the past nine years and participated in three congresses in Fremantle, Melbourne and Launceston. I am looking forward to our next congress next year in Fremantle.

"Thanks to Joanna, we have also been successful with the production of *The Master Mariner* three times per year. This is our flagship magazine, and hopefully we can continue with the production despite the fact that this will be Joanna's last publication.

"I would like to thank our Federal Master, Capt Ted van Bronswijk, and the Federal Court for their dedication and cooperation to keep the wheels of the company running. To Stuart Davey, congratulations and welcome in the new job. I hope you will enjoy the challenges and the communication with branch members as much as I did.

Capt Davey was a cadet with BHP Shipping in the 1990s, before packing his bag, complete with third mate's ticket, and heading to the UK. For the next eight years he worked with multiple companies out of the UK getting experience with bulk carriers and container vessels with P&O Nedlloyd and Maersk Line, LNG tankers with BP Tankers, LPG and chemical tankers with Maersk Tankers, VLCC tankers with Worldwide Shipping and ice experience with Fisheries Patrol work out of the Falkland Islands, with a company called Byron Marine.

In 2006 he came ashore with Maersk Line and undertook a two year Executive MBA program run by some distinguished business schools. During this time Maersk worked him in several shipping and operations and management positions in London, Felixstowe and Oman.

In 2008 he moved to the Philippines working as Deputy General Manager of Maersk Fleet Support. Over the coming years he changed positions several times, gaining experience in the oil and gas operations off North Western Australia, and also in teaching and interactive technology developments with IDESS in Subic Bay. He was a constant nuisance to his partner and family, moving them twice to the UK, having a stint back in Manila as general manager for Ferriby Marine Philippines and also GM with Global Certification doing flag, ISM and ISO auditing, including development and certification of the Philippine Coastguard in both ISO9001 and ISM.

Since returning to Australia in 2013, he has been a settled family man near Fremantle, with partner Sarah and three daughters. Close to his boys from a previ-

ous relationship, he is back in his home town, enjoying a family life around hectic work weeks at the port.

He has a strong love and desire to see the maritime industry flourish and become vibrant once again. He is committed to his belief that young officers today can still see the world and experience the lifestyle, even if it's more chaotic than in the past. Through Fremantle Port he works hard to match cadets with berths, including an initiative where the port exchanges a port berth for a cadet berth.

Capt Davey is keen to see CMMA get stuck into ensuring that Australian shipping does not die, and that officers from Australia continue to man ships all over the globe. He wants to see our company offer a relaxing place for those retired to keep in touch with the industry while socialising with colleagues, and at the same time develop a place where the active seafarers in Australia can ensure their voices are heard on important aspects and the problems faced at sea today, and can benefit from the experience of those who have worked through times of harder older conditions. ■



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Captain David Shennan, Principal

# BRM Icon Adds to Awards Collection

**F**or the second year in a row, Melbourne Branch's nomination for the CMMA Outstanding Achievement Award has won the day, with the award going to the guru of bridge resource management in Australia.

Capt Ravi Nijjer has been at the forefront of maritime education and training in Australia for almost 40 years. During this time he has trained close to 3000 students, both local and international, for their Mate's and Master's certificates of competency, and also in Bridge Resource Management (BRM). In fact, Capt Nijjer has single-handedly brought the Australian shipping and pilotage services into the current century with his integration of human factors awareness into resource management courses.

In 1989 Australian certificates of competency were in danger of being de-recognised by the IMO, as they did not comply with the latest syllabus. Capt Nijjer attended the World Maritime University in Sweden, then returned to Australia and, with permission from AMSA, completely rewrote the Master Class 1 syllabus, wrote the Tanker Safety Course and introduced Bridge Resource Management into the Master's syllabus, thereby bringing maritime education in Australia to amongst the highest standards in the Commonwealth.

The quality of the courses was recognised all over Asia and Oceania, attracting hundreds of applicants to Australian colleges.

BRM, then Advanced BRM, soon became a requirement for every certificate of competency - including pilots, and Capt Nijjer has been instrumental in training almost 2500 officers from about 60 different organisations in Australia and Asia-Oceania. His contribution to maritime training can also be gauged by his immense input into every shipping simulator built or upgraded in Australia. Training colleges first consult with him to ensure that their simulators will have the latest features and facilities required for up-to-date training.

Besides training, Capt Nijjer has made numerous presentations to private industry and regulatory authorities in many countries worldwide, including preparation of reports and presentation of papers to those entities.

If today Australia is at the forefront of maritime and simulator training, and BRM courses (still being run by Capt Nijjer) are comparable to the best in the world, it is all due to the dogmatic and single-handed effort of Ravi Nijjer, to provide the operators of ships within Australia and worldwide, with the best professional advantage in the region.

Capt Nijjer first went to sea from India



*Australia's leading BRM expert, Capt Ravi Nijjer*

in 1960, working for a number of Indian, Hong Kong and Australian companies until 1980, when he embarked on ten years as a lecturer with RMIT in Melbourne. He was subsequently Head of the Department of Marine Transport at RMIT before setting up his consultancy company, the Marine Consultancy Group, to provide customized training, organise seminars and conduct research projects for the shipping industry.

Along the way he has been involved in numerous publications and presentations, and also obtained a Bachelor of Education and Diploma in Technical Teaching.

In 2001 he was instrumental in developing and implementing a Competency Audit for marine pilots, based on the same principles as proficiency checks for airline pilots. This is the first time that such an approach has been used in the validation of the skills of marine pilots. This new approach was very well received and the Competency Audit is now well established as a regular part of marine pilot training in this part of the world.

He has been involved in conducting a significant proportion of higher-level training for Australia and New Zealand professional mariners over the last 22 years.

In the last two decades he has been employed by ASP Ship Management to review the safety systems on board the Queensland Aluminium (QAL) ships that

use the environmentally sensitive Great Barrier Reef Inner Route. As part of the review recommendations were made for improving safety of pilotage on the Inner Route. The recommendations have largely been implemented.

He was also engaged to conduct reviews of bridge operations on the high-tech ships of Star Cruises and Norwegian Cruise Line, as well as Princess Cruises' ships. While three international consultants were engaged on this project, it was Capt Nijjer's recommendations which were accepted and implemented.

His award collection began in 1970 when he won the Longmore Bequest for obtaining highest mark in the written examination Master Class 1 in Australia. This was followed by an RMIT Centenary Medal for Marine application of GPS, a Nautical Institute fellowship, Honorary Life Membership of the Australian Marine Pilots Association (AMPA), Honorary Life Membership of the New Zealand Maritime Pilots Association (NZMPA) and the Lloyds Australia Maritime Services Award, after being nominated by the AMSA in recognition of sustained efforts in the application of human factors knowledge to improve safety in shipping. ■

Capt Nijjer is a member of CMMA's Melbourne Branch.

The technology on the subsea construction vessel *Far Sleipner*

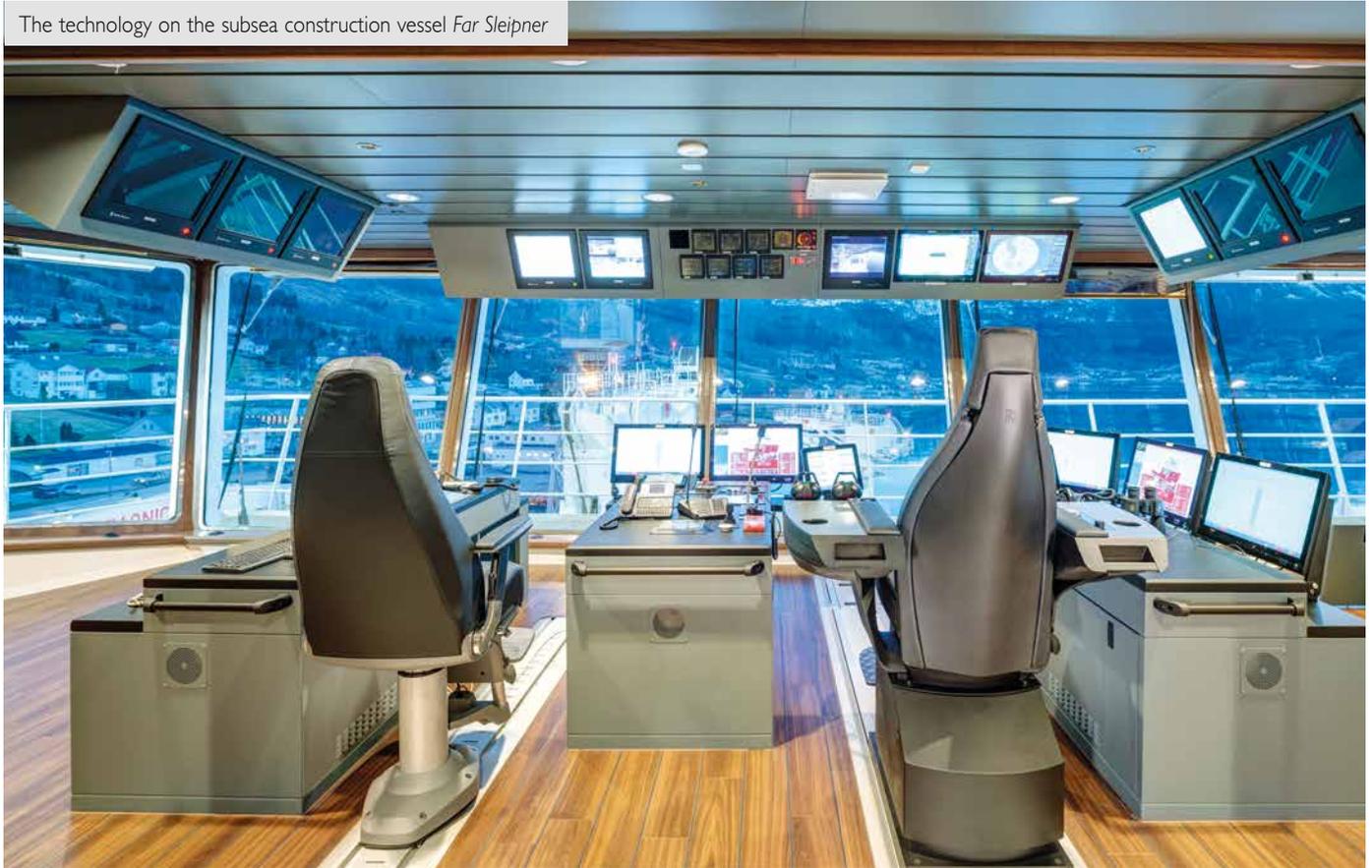


Photo: Rolis Royce

## The Accidental Cost of ECDIS

Recently in America, an autonomous car being used as an Uber taxi hit and killed a woman crossing a road. It opened a great debate about the safety of the technology, and whether it was ready to be unleashed on the general public.

What I never saw discussed during that time was whether this technology was necessary for humanity, let alone good.

At the supermarket, as I ring up my own groceries whilst wracking my brains trying to remember when I applied for a job on the checkout, I wonder where the staff who used to do this task for me work now. But I don't remember any debate on whether this technology was good for my community, or how its introduction would alter the distribution of wealth within it. One day it was just there, and we were expected to accept it.

While changes to social norms get fought to the bitter end, as evidenced in Australia's same-sex marriage debate and America's battle with gun rights, massive changes caused by technology seem to get a completely free run – the social impacts are rarely discussed, and when they are, they're accepted as the unavoidable collateral damage of progress, or sold to us as a universal boost in living standards with no losers.

...THE SOCIAL IMPACTS ARE RARELY DISCUSSED, AND WHEN THEY ARE, THEY'RE ACCEPTED AS THE UNAVOIDABLE COLLATERAL DAMAGE OF PROGRESS...

Same thing on a ship's bridge. ECDIS is just the latest technological jump in a process that started with paper charts and the concept of the earth being round, and progressed through sextants and slide rules to radar, electronic charts and satellite positioning.

As with autonomous cars, and the coming autonomous ships, the real reason it exists is because of man's unquenchable evolutionary urge to advance. Not for society's sake – that is really a pretence – but for the sake of advancement itself.

When the wonderful new 'thing' that was radar landed on the bridge, it solved problems and created opportunities, but it brought with it new problems. Had its

addition to that environment been entirely altruistic, then no doubt it would have been a clean, well-managed introduction. Instead we got the term 'radar assisted accidents'.

Now, we have a new term, which is raising its head in a growing number of accidents. Actually nothing more than the old term recycled, 'ECDIS assisted accidents' are starting to cause enough concern to warrant studies, because it appears that despite its potential for making navigation safer, the reality of its introduction has been far from optimal. It is riddled with traps for the unwary.

Concern about ECDIS has led investigation boards such as the UK's Maritime Accident Investigation Branch (MAIB) and a scholar at Sweden's Lund University to study ECDIS-related incidents in the search for a better understanding of them, with hopes the studies would result in improved future design.

In a paper published late in 2016, Mads Ragnvald Nielsen from Lund pointed out that when accident reports found ECDIS to be a contributor to a maritime accident, it was predominantly being lumped into the group of causes labelled human factors. He did not believe this told the full story, or certainly did not give enough detail to better inform future development and design

of ECDIS systems. The very fact a term such as 'ECDIS assisted accident' existed, was proof that the introduction of ECDIS had not been value neutral.

This was 'despite the hopes and dreams expressed for ECDIS navigation in the IMO performance standard regarding safety, reliability, simplicity and easing of the workload on the navigator', he said in his thesis.

In order to get the full story, Nielsen spent time on three different bridges (international cargo, international passenger and domestic ferry), and studied a number of accident reports which highlighted concerns about the ECDIS environment. He studied the use of ECDIS surrounding an accident, and in everyday use.

His argument was that there are flaws in simply branding the miss-use of ECDIS a case of human error.

'A different, but parallel, portrayal of issues related to ECDIS assisted accidents is found in a growing number of articles from the applied community of ship navigation and management. This testifies to a pattern in feedback on the usability of the ECDIS equipment, hinting at the presence of an alternative to the canonical human error explanation.

'A recent example is found in the following quote from a column in The Nautical Institute's journal *Seaways*, titled 'We Might be Ready for ECDIS, but is ECDIS Ready for Us?'

This year we come to the end of a planned global ECDIS implementation process, yet the number of ECDIS-related accidents continues to mount up.

As far back as 2011, the problem was laid out in a paper by maritime human factors experts Lutzhoft, Grech and Porathe, from Sweden's Chalmers University (Lutzhoft is now with AMC and Grech with AMSA).

The trio pointed out what we all know – that the maritime domain has been a bit slow to pick up on developments in human factors and ergonomics, but when the label 'human factor error' started being used frequently in accident reporting, it forced the industry's hand – it had to be addressed.

Lutzhoft, Grech and Porathe found that accident and incident statistics did show a positive overall trend in shipping over recent decades, but as the systems became more integrated and complex, the handling and understanding had to be adapted to the human element – the seafarers on board.

Historically, the main problem faced by navigators was sparse available information. Suddenly, and very rapidly, this has been replaced by information overload.

At the same time, the role of the navigator of active conning of the ship changed into one of monitoring automated technology.

The trick, it was recognised, was to provide intuitive information at the right



Maritime human factors experts Margareta Lutzhoft, who is now based at AMS

level of complexity at the right time.

For some years the academics have been trying to get a grip on why these rapid technological advances are introducing harm, as well as help, into the mariner's operating environment. They have been looking for what they call the 'second story' – the detailed context behind what has gone on

in the build-up to an accident that can so easily be put down to 'human factors.'

They believe only a deep understanding of the modern navigator's situation can result in positive changes, and that what designers really need is guidance on how to support the coordination between people and automation.

Margareta Lutzhoft has carried out a number of earlier studies, and concluded that navigators carried out much integration to make the interplay between equipment and operator work.

As far back as 2004 she wrote that 'many ostensibly technically-integrated maritime systems are neither well integrated from a human co-operative point of view, nor from a technical point of view... Mariners have to bridge those gaps of integration by performing integration work, by adaptation, tailoring and shedding.'

She said when technology was introduced, the integration workload was increased, as the navigator dealt with the shortcomings of the technology, as well as



Photo Martin Edmonds

#### RECENT ECDIS ASSISTED ACCIDENTS INVESTIGATED BY MAIB

**CMA CGM Vasco de Gama. Thorn Channel, Southampton. 22nd August 2016.**

In the early hours of the morning the 399m long ultra-large container vessel grounded on the western side of the Thorn Channel whilst approaching the Port of Southampton. The vessel was the largest UK-flagged vessel at the time and had two of the port's specialist container ship pilots onboard.

The ship ran aground on a rising tide and on a flat shingle/sand seabed. A combination of tugs and ship's engines enabled it to be re-floated soon after grounding.

- The vessel's bridge team and the port's pilots had the experience, knowledge and resources available to plan and execute the passage effectively. However, the standards of navigation, communication and effective use of the electronic charting aids onboard did not meet the expectations of the port or the company.
- A detailed plan had not been produced; the lead pilot had not briefed his plan for the turn round Bramble Bank; the bridge team's roles and responsibilities were unclear. There was an absence of a shared understanding of the pilot's intentions for passing other vessels, or for making the critical turns during the passage.
- Neither the ship's Electronic Chart Display and Information System (ECDIS) nor the pilot's Portable Pilot Unit (PPU) functionality were fully utilized and resulted in each system not providing adequate cross checks or alarms.
- The increasing size of vessels within restricted waterways is leading to reduced margins of operational safety, and therefore the importance of proper planning and monitoring of the passage cannot be overemphasised.

Photo P. Caneña



**RECENT ECDIS ASSISTED ACCIDENTS INVESTIGATED BY MAIB**  
**Muros. Haisborough Sand, North Sea. December 3rd 2016, 0248 hrs**

The bulk carrier ran aground on Haisborough Sand, 8 miles off the Norfolk coast and the master's attempts to manoeuvre the vessel clear were unsuccessful due to a falling tide. The vessel was re-floated 6 days later and was towed to Rotterdam for repair:

ECDIS chart scaling played a big part in the grounding. The second officer noticed that at the scale she was using, the track appeared very close to the shallow water south of the grounding position, but on zooming in, saw it was acceptably far away. Upon noticing a similar proximity further down the ship's track, at Haisborough Sand, she assumed the same situation applied, so did not zoom in to confirm she had a similar margin from the shallow water:

The crew had received generic and specific ECDIS training.

- The vessel was following a planned track across Haisborough Sand. The passage plan in the ECDIS had been revised by the second officer less than 3 hours before the grounding and it had not been seen or approved by the master.
- A visual check of the track in the ECDIS using a small-scale chart did not identify it to be unsafe, and warnings of the dangers over Haisborough Sand that were automatically generated by the system's 'check route' function were ignored.
- The second officer monitored the vessel's position using the ECDIS but did not take any action when the vessel crossed the 10m safety contour into shallow water.
- The effectiveness of the second officer's performance was impacted upon by the time of day and a very low level of arousal and she might have fallen asleep periodically.
- The disablement of the ECDIS alarms removed the system's barriers that could have alerted the second officer to the danger in time for successful avoiding action to be taken.

co-ordinating acts between themselves and their non-human shipmates.

Such coordination work was particularly difficult as machines could not communicate in ways mariners see as useful, she found.

Nielsen believed the second story to be read into accidents involving ECDIS would challenge the idea that human operators are the fundamental problem and technology the remedy, and that the more we restrict human nature the safer we become.

While such statements are commonly made by proponents of fully-automated vessels, and were found in some of the accident reports Nielsen studied (for example an MAIB comment 'such is human nature,' he pointed to a body of work that suggested this is a fallacy. There was a strong school of thought that (in the words of

Hollnagel in 2014), "humans more often provided the solution to poorly-designed and integrated technological systems through their extraordinary cognitive and adaptive capacities."

Nielsen pointed to a conclusion of Lutzhoft back in her 2004 work, that the designer of bridge equipment did not fully understand the way the operators worked and what they needed.

'The ways artefacts are used can only be observed and their significance discovered in actual use. It may seem, to an engineer, that there is no harm in changing the look of a display or changing the underlying metaphor for an instrument's display of information. However, if we do not know enough about how technology is used in practice, what added functionality end users may have discovered or adapted

the technology to afford, and what work-arounds they have devised, we may lose many direct and indirect emergent effects.'

Nielsen, himself a master mariner and accident investigator, studied three different incidents – all of which were investigated by the MAIB. These were an assisted grounding of the *Commodore Clipper* ro-ro ferry in Guernsey, the chemical tanker *Ovit*, which grounded in the English Channel, and *CSL Thames*, a bulk carrier that grounded after departing from Glansanda, Scotland.

In comparing the accidents, he discovered a number of issues, which he decided could be interpreted as indicators of how the phenomena of ECDIS-assisted accidents are treated in the accident investigations. He found that reliance was placed on the visual representation provided by ECDIS at the expense of other means of navigation, reducing in complacency and incorrect assumptions.

He also found specific passage planning actions, such as route checking, safety depths and contours and XTD settings were available but routinely not carried out, and some warning functionality was switched off.

Operator-defined settings applied to the ECDIS on board were unsuitable and a planned route that turned out to be unsafe was not properly checked.

There was also a case of safety alarm parameters not matching up to vessel configuration, while the use of inappropriately-scaled charts was also discovered.

Other issues included inability of crew (although trained) to effectively use the ECDIS equipment, crew having difficulties in its operation and crew expecting some automatic functions to operate differently than they did.

He found evidence of safety functions not being activated when they should have, and a lack of instructions and guidance on the use of the ECDIS equipment.

Basic ergonomic issues relating to the layout of the equipment were also found, with some not appearing to comply with international standards.

Other issues included crew not recognising and/or acknowledging information pre-



Michelle Grech, who now works for AMSA



**PREVIOUS ECDIS-RELATED ACCIDENT**  
**CSL Thames – Sound of Mull, Scotland,**  
**August 9<sup>th</sup> 2011.**

Maltese-registered self-discharging bulk carrier grounded after the OOW had made an alteration of course to avoid another vessel but did not realise that the new course took the ship into shallow water. He did not see the visual grounding alarm shown on the ECDIS, a Telko TECDIS 4.6.0, because he was not monitoring the display. In addition, the audible grounding alarm did not sound because the alarm had been disconnected from the ECDIS. It was also identified that the ECDIS safety contour was set to 10m, which was inappropriate with respect to the vessel's draught, and that the master's and other watchkeepers' knowledge of the ECDIS system was insufficient.

the navigator's role, from carrying out a manual task to becoming the supervisor of an automated task.

'With this changing of the role of the navigator there will, inevitably, occur an erosion of the manual skills that were necessary to the navigator during eras of

WITH THIS CHANGING OF THE ROLE OF THE NAVIGATOR THERE WILL, INEVITABLY, OCCUR AN EROSION OF THE MANUAL SKILLS...

sented by the ECDIS system (eg grounding warning alarms), and a lack of monitoring of the ECDIS track.

Other broader contextual problems revealed themselves as well. For example, the dilemma for a navigator to trust what they saw out of the window, or what was on the ECDIS screen. This was illustrated in a scenario where crew members had difficulty figuring out why navigation information such as particular navigation marks and depth contours were not represented at certain chart zoom-levels at certain positions.

Another respondent said "you tend to look less through the windows, the more information is put on the screen in front of you. What is gained from looking out the windows basically seems less pertinent."

This, Nielsen suggested, could reflect a shift from the windows being seen as a representation of the real world which charts are checked against, to the charts being seen as an automated representation of fact rather than a reference that verifies the observations made visually.

It is this point which fundamentally shifts



**PREVIOUS ECDIS-RELATED ACCIDENT**  
**Commodore Clipper - St Peter Port, Guernsey, July 14<sup>th</sup> 2014.**

Bahamas-registered ro-ro passenger ferry grounded on a charted, rocky shoal in the approaches to the port. The Transas Navi-sailor 4000 ECDIS was the ferry's primary means of navigation and the MAIB investigation identified that it had not been utilised effectively. The investigation report noted that in particular, the safety contour value was inappropriate, the cross-track error alarm was ignored and the audible alarm was disabled. After ECDIS was approved for use as the primary means of navigation, its alarms activated frequently during *Commodore Clipper's* passages. Along with the bridge teams from other vessels in the company's feet, the crew on the bridge of *Commodore Clipper* found the constant ECDIS audible alarms a significant distraction. As a result of concerns raised by the masters of its vessels, the company allowed the audible alarms to be disabled across its feet. Nevertheless, the visual alarms remained active and could still be observed on the ECDIS display. The company did not notify the Flag State of its decision to allow the ECDIS audible alarm to be disabled



#### PREVIOUS ECDIS-RELATED ACCIDENT

**Ovit – Varne Bank, Dover Strait, September 18<sup>th</sup> 2013.**

Maltese-registered chemical tanker ran aground. The vessel's primary means of navigation was the Maris ECDIS900. The investigation identified that the passage was planned by an inexperienced and unsupervised junior officer. The plan was not checked by the master before departure or by the officer of the watch at the start of his watch. The ship's position was monitored solely against the intended track shown on the ECDIS. Navigational marks on the Varne Bank were seen but not acted upon. The scale of the chart shown on the ECDIS was inappropriate. The operator-defined settings applied to the system were unsuitable and the system's audible alarm did not work. The officer of the watch's situational awareness was so poor that it took him 19 minutes to realise that *Ovit* had grounded. Although training in the use of the ECDIS fitted to the vessel had been provided, the master and deck officers were unable to use the system effectively.

navigation prior to ECDIS, confirmed by opinions expressed among informants to this study. However, it also suggests that while the future may look sinister with regards to preservation of more traditional disciplines of navigation, we may currently find ourselves in an implementation phase, not just with regards to the filling of ECDIS on board most ships, but, perhaps to an even larger degree, regarding how ECDIS is used on board,' he wrote.

Nielsen found a common method of the navigator carrying out his integration task was to integrate all the system's information (RADAR, ECDIS and AIS) on the screen in front of the navigator's chair. This was where the primary attention was directed, and the other screens were glanced at only occasionally.

He found that a mismatch between data from the bridge window and what was showing on screen could shatter the navigator's mental model of the ship's position-

ing. With the technology's inability to make decisions beyond the integrated algorithms, it must be assumed that the human navigator is still in control of navigation, but now with lessened situational awareness.

Nielsen discovered that crew members could feel less sceptical of their ECDIS system when familiar with the waters, compared to when they were not. This was likely because the ECDIS information could easily be confirmed by what was seen outside the window. However when no such familiarity existed, the ECDIS was observed being cross-checked with paper charts.

The paper considers the possibility that scepticism towards the technology might decline with the next generation of navigators, and the border between what can be seen out the window and what is obtained from technology dissolve.

'The question that must be asked, however, is how it affects safety of navigation

and/or the resilience of the navigation system, ie its ability to reconfigure to remain in control of safe navigation in the face of disruption?'

The paper outlined some common elements (plus the recommended action) that arose out of the study, which are believed to be critical to consider when designing tomorrow's ECDIS systems:

- Mistrusted technology – enhance ability to determine system reliability
- Hermeneutic mode of operation – enhance system communication and transparency
- Automation vs operator control – understand limitations in various contexts
- Alarm functions disturbing/not helpful – address operator goals and sense making
- Clumsy information representation and potential clutter – take holistic approach to need for information
- Complex user interface – address specific ship operations and individual operator needs to customise ECDIS functionality
- Prosthetic use of systems – maintenance of basic skills
- System as means to predict and plan future actions – develop further predictive functionality
- Skills difficult to transfer across systems – enhance functional transparency
- Operator/system preference mismatch – align 'work as imagined' with 'work as done'

THERE IS INCREASING EVIDENCE TO SUGGEST THAT FIRST GENERATION ECDIS SYSTEMS WERE DESIGNED PRIMARILY TO COMPLY WITH THE PERFORMANCE STANDARDS REQUIRED...



Whether all or any of this has been taken into serious consideration by system designers is impossible to tell, but two years on the accidents are still occurring and the investigation boards are increasingly concerned.

The investigation report on the grounding of the *Muros*, which was released last October, states that ‘The MAIB has recently investigated several grounding incidents in which the way the vessel’s ECDIS was configured and utilised was contributory. There is increasing evidence to suggest that first generation ECDIS systems were designed primarily to comply with the performance standards required by the IMO, as these systems became a mandatory requirement on ships, with insufficient attention being given to the needs of the end user.

‘As a consequence, ECDIS systems are often not intuitive to use, and lack the functionality needed to accommodate accurate passage planning in confined waters. This situation has led to seafarers using ECDIS in ways which are at variance with the instructions and guidance provided by the manufacturers and/or expected by regulators’.

**PREVIOUS ECDIS-RELATED ACCIDENT.**

*CFL Performer* - Haisborough Sand, May 12<sup>th</sup> 2008.

Netherlands-registered dry cargo ship, ran aground on (MAIB report 21/2008). The grounding occurred after the chief officer adjusted the passage plan in the vessel’s ECDIS, a Furuno FEA – 2107. The check of the adjusted route, which took the vessel directly over Haisborough Sand, was only cursory and was not cross-checked by the master. The grounding alarm did not activate because the guard zone (watch vector) had not been set. The MAIB investigation established that, despite ECDIS being used as a primary means of navigation, none of the ship’s officers had been trained in its use.

The MAIB is conducting a safety study, in collaboration with the Danish Maritime Accident Investigation Board, designed to more fully understand why operators are not using ECDIS as envisaged by regulators and the system manufacturers. The overarching objective is to provide comprehensive data that can be used to improve the functionality of future ECDIS

systems by encouraging the greater use of operator experience and human-centred design principles.

It is hoped by all mariners that this work will break the pattern of safety-related technology causing its own accidents. ■

By: Joanna Carson

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The moment *Mount Hood* explodes in Seeadler Harbour, 1944

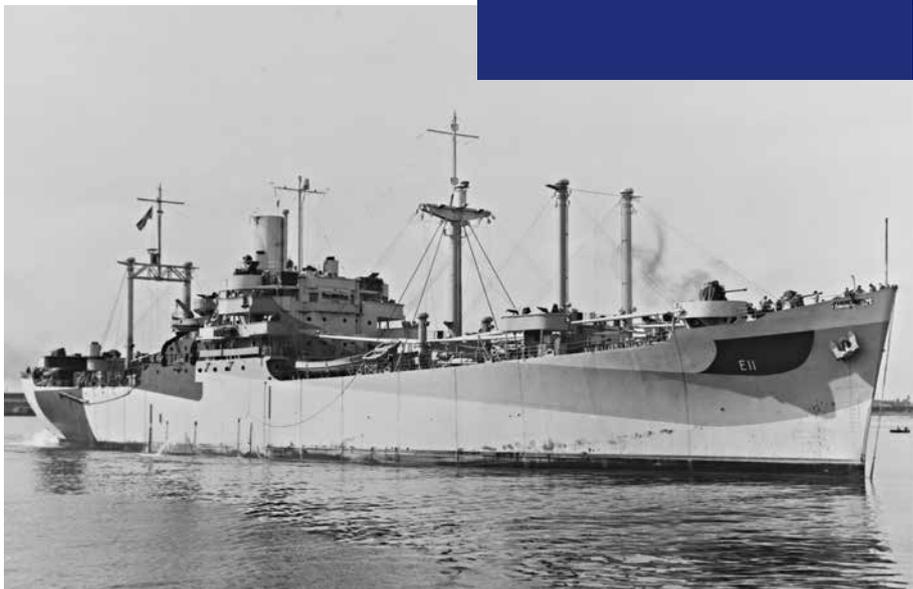


## Playing Battleships – Direct Hits and Near Misses for Aussie Mariners

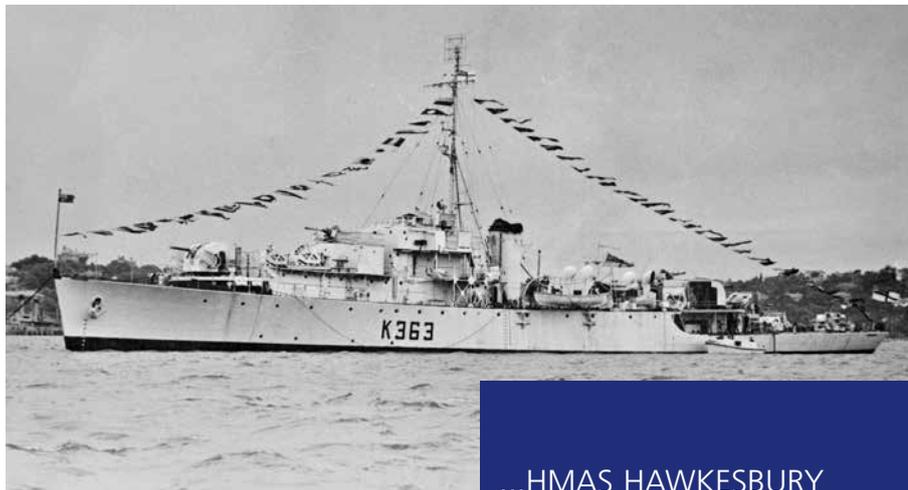
These days Manus Island, Papua New Guinea, is better known to the Australian public as an off-shore placement area for illegal immigrants seeking entry into Australia. Manus is the largest island situated in the Admiralty Group, and in wartime was part of Australia's Mandated Territory. Its main port, Lorengau, is situated on the western side of Seeadler Harbour. In 1944 Manus Island was transformed into a massive American logistic base, (Seeadler Harbour), complete with airfields, docks with ship repair shops and all modern maintenance and overhaul facilities - the latter named Los Negros Ship Repair Base. In 1945 Manus also became the forward base for the British Pacific Fleet, which was preparing to support the allied Forces in final attack on Japan. The USA pulled out in 1948 following the Australian Government rejection of the American offer to maintain and control the extensive base. Australia subsequently retained a small Navy base in the harbour at Lombrum, which was eventually passed onto the fledgling Papua New Guinea Navy. United States Navy ammunition Ship

*Mount Hood* exploded at Manus Island at 0855 on November 10, 1944. Loaded with 3,800 tons of ammunition, she was laying at anchor at Manus Fleet Base, See-

SEVENTEEN CREW FROM *MOUNT HOOD* HAD GONE ASHORE EARLY THAT MORNING IN ORDER TO STRETCH THEIR LEGS ON THE NEARBY BEACH AND BECAME THE ONLY SURVIVORS OF THEIR SHIP.



*USS Mount Hood* in better days



*HMAS Hawkesbury*, which bore witness to both the *Mount Hood* explosion and the Monte Bello nuclear test in 1952

adler Harbour, when she suffered two large explosions. Flame and smoke shot up midships to more than masthead height, then within a few seconds the bulk of the ammunition destined for warships involved in the Philippine invasion was set off, resulting in a devastating explosion. Smoke mushroomed over 2,100m into the air, obscuring the scene and the surrounding area for a radius of 500m on all sides. When the smoke lifted from the surface of the water a few minutes later, only small pieces of floating debris were to be seen. *USS Mount Hood* had a complement of 281, and all personnel then on board had disappeared. Officially the casualties between her and the *USS Mindanao* (ARG 3) were listed as 45 sailors dead, 327 declared missing and 371 seriously wounded. *USS Mindanao* was the worst ship to be affected. Built as a Liberty ship and converted by the United States Navy to a Fleet repair ship, she was anchored just 320m away. She suffered extensive damage, which took over a month to repair. Seventeen crew from *Mount Hood* had gone ashore early that morning in order to stretch their legs on the nearby beach and became the only survivors of their ship. Additionally, 38 other ships and 66 small craft were sunk or damaged as a result of concussion and flying debris. The largest remaining piece of the *Mount Hood's* hull, measuring 5m x 3m, was found in a nearby land trench. A trough was blasted below her in the harbour bottom measuring 100m in length, 15m wide and 12m deep. The main source of this article was from a monograph by the Navy Historical Review, the article headline reading 'The Day it Rained Metal at Manus'. It certainly was one of the most devastating self-inflicted shipping disasters in the Pacific war; possibly as a result of on board welding. *Mount Hood* (AE-11) had been laid down in January 1944, as the standard C2 merchant ship *Marco Polo* at

...HMAS HAWKESBURY WAS TO AGAIN BE WITNESS TO ANOTHER MASSIVE EXPLOSION, AS ONE OF THE RAN GUARD SHIPS AT THE FIRST BRITISH ATOMIC TEST, DESIGNATED OPERATION HURRICANE...

the North Carolina Ship Building Company, Wilmington, North Carolina, and was taken over by the USN as one of 15 C2-T specially-fitted ammunition ships, featuring AE pennants. She had been in USN service for just four months and was on her maiden voyage to the Pacific area. Her particulars were 459 ft loa, breadth 62 ft, 8,335 gross and 10,755 dwt, driven by two Nordberg diesels giving a service speed of 16 kts. Her seven sister ships built at the same yard prior to *Marco Polo*, were fitted out by the USN as Amphibious Force Flagships, rated as Combined Operations Communications-Headquarters ships, were equipped with elaborate communication equipment, and each lasted through to the 1960s. The ex *Marco Polo/USN Mount Hood*, as they say, just missed the boat. The 1944-built *USS Mindanao* lasted considerably longer, being eventually sunk as an artificial 2 fish reef off Florida in 1980. The Australian-built River Class frigate *HMAS Hawkesbury* was at anchor at the time in the harbour and was witness to the tragedy, sailing as a convoy escort next day.

THE 1943-BUILT *HMAS Hawkesbury* was to again be witness to another massive explosion, as one of the RAN Guard ships at the first British atomic test, designated Operation Hurricane, which was carried out at the Monte Bello islands off the Western Australian, Pilbara coast in October 1952. *HMAS Hawkesbury's* mission was to patrol on the lookout for inquisitive Russian submarines. The atomic

explosion took place aboard *HMS Plym*, a 1943 British-built River Class, which had transported the nuclear device from the UK in a specially-built cradle stowed in the hold. She arrived at the Monte Bellos on 8th August, where it was decommissioned, with the scientists left to prepare the ship as the 'sacrificial lamb' for the atomic test. At precisely at 0800 on 3rd October 1952, the explosion was activated from the command ship *HMS Campania*, which had been being built by Harland and Wolff in 1944, intended by Shaw Savill and Albion as a fast refrigerated cargo ship, but taken over by the Royal Navy and completed as an Escort Aircraft Carrier. Having been decommissioned to just plain *Plym* with the 25 kiloton bomb (Hiroshima's bomb was 15 kilotons) just sitting three metres below the waterline in the hold compartment, the explosion totally disintegrated and vaporised the frigate, leaving a crater 30m wide and 7m deep in the seabed under where the ship had been. The Australian ships were anchored a distance of three kilometres from the blast, with the crews hiding under black tarpaulins, many dressed in shorts and shoes. I remember thinking at the time from NZ how Australians would be proud of their efforts to help the British Empires cause. *HMS Campania's* Harland & Wolff commercial near sisters were Shaw Savill's *Wairangi* (1942), *Waiwera* (1944), *Port Hobart* (1946) and *Empire Star* (1946).

WHEN THE JAPANESE midget submarines attacked Sydney Harbour 31st May 1942, their main target was the cruiser *USS Chicago*, however close by was the RAN's minelayer *HMAS Bungaree* in the lee of Clark Island. Owned by the Adelaide Steam Ship Company, the almost new coal burning *Bungaree* had been taken up from trade and converted to an effective minelayer, which successfully mined amongst areas the entry channels into the Great Barrier Reef. *HMAS Bungaree* loaded her mines from the Ford factory in Geelong, however I have been unable to ascertain if she was in Sydney Harbour with her



*HMS Plym*, which was stripped of her military title before being completely obliterated as the Monte Bello nuclear test bed



Mine layer *HMAS Bungaree* dodged a bullet while in Sydney Harbour in 1942. Ironically, she was sunk in 1966 after hitting a mine on the Saigon River

full complement of 200 mines. Needless to say, if that had been the case and the midget submarine had homed in on this non-consequential looking ordinary merchant ship, the resultant blast would have devastated a large section of the Elizabeth Bay area of Sydney Harbour!

A SERIOUS NEAR miss occurred on one of a number of fires that occurred to ships in Wellington, New Zealand, which went unreported during WW2 due to wartime censorship. On 6<sup>th</sup> July 1943 the Wellington wharves were packed with American ships preparing for the US Marine advance into the South West Pacific to drive the Japanese forces back north, commencing from the Solomons (Guadacanal). The Liberty ship *John Davenport* was berthed at Queens Wharf, near what is the former Maritime Museum and 300m from the main street, Lambton Quay, undergoing urgent deck welding repairs. The ship had a load of over 3,000 tons of bombs which included 6,000lb blockbusters making up a big percentage of her cargo! It was the heaviest single cargo of bombs and munitions to pass through Wellington in WW2. A fire was discovered at 0530 that morning from deep in No 3 lower hold. The following story was related by Wellington's Chief Fire Officer Charles Woolley on his retirement: "The fire engine from Wellington Central met a number of the ships' crew moving extremely quickly out through wharf gates. The Captain of the ship said he didn't want the fire brigade, as he was planning to leave the berth as quickly as

possible and scuttle the ship." The Fire Brigade Chief asked for 10 minutes to investigate the fire's source, and from the report said they could extinguish the fire with the right equipment. *John Davenport* was loaded to the hatches with military equipment, and on top of the hatches were cased aircraft, which were too heavy to be shifted with ship's gear. The decision was made to move the ship to Aotea Quay where the port's heavy lift floating crane *Hikitea* (still retained as a museum piece under restoration) could operate in deeper water. The ship was shifted just over a mile to the new berth, with the pilot and remaining officers and crew. Meanwhile four brigades were on board to do what they could with the ship's equipment. The harbour trip was described as the longest sea journey in history. At Aotea Quay (the port's container berth before the recent earthquake), *Hikitea* removed the aircraft followed by the cargo in the way, to get at the base of the fire, which was eventually put out with all brigades able to return to stations safely. No ship fire in NZ ever had more appalling possibilities. Instead the *John Davenport's* shipload of bombs, munitions and aircraft, urgently needed at a critical stage of the Pacific War, was safely delivered into the war zone. Even more satisfying that morning was that the *John Davenport* was not scuttled, let alone disappear together with half of New Zealand's capital city. Wellington Port experienced serious ship board fires in 1942 (2), 1943 (1) 1944 (2) and a final one in 1945. *John Davenport* was built by the New England

...THE RESULTANT BLAST  
WOULD HAVE DEVASTATED  
A LARGE SECTION OF THE  
ELIZABETH BAY AREA OF  
SYDNEY HARBOUR!

Shipbuilding Corporation in June 1942, and was finally scrapped in Philadelphia in July 1960. Wartime censorship was such that the episode was not made known till post war.

ON A VERY hot West Australian summer's day, 17<sup>th</sup> January 1945, Fremantle port was a very busy military and commercial port. The port was crammed with allied warships, submarines, depot ships and merchant ships, it being the major submarine base for British and American operations in the Indian Ocean. Over 6000 vessels a year were using the port during the war, and in this incident once again censorship was invoked, but the black smoke billowing from the ship together with numerous harbour movements would have been hard to cover up. Due to the shortage of tonnage, an ancient large general cargo ship owned by Shanghai interests named *Panamanian* was berthed at No 8 berth North Wharf loading 12,000 tons of bagged flour. During the loading that day a winchman working a steam winch had placed a hessian flour sack for protection from the 117 degree heat. Going to smoko

the bag was left on the winch and started to smoulder. The bag was picked up, the smouldering fire stamped out and the bag was thrown over the wharf side. At the same time the Bullard and King cargo ship *Umgeni* was berthing (doubling off) on the off side, outside of *Panamanian*. The sack fell on the wharf, it again ignited and burst into flames, catching on one of the horizontal timbers on the wharf structure. Dropping fire into the water it ignited a film of furnace oil sludge floating on the water surface around the ship. A sudden burst of flame shot up igniting the mooring ropes and the ship's overside hull paint. This spread to the numerous hessian bags, then spread to the ship's bridge and the dry wooden wharf timbers. *Panamanian* was well ablaze, with the forward three holds, the saloon and promenade decks burning fiercely. The ammunition for the ship's defensive armament, a four inch stern gun, the eight 20mm Oerlikons and a 12 pounder together with rockets exploded, adding to the chaos. The double-banked *Umgeni* was quickly removed by the attending tugs. The fire spread rapidly along the wharf, and the Royal Naval submarine depot ship *HMS Maidstone*, berthed 350m away, caught fire. With flames licking its sides and up as far as the bridge, she was quickly towed into midstream and the fires extinguished. As she was loaded with torpedoes, ammunition and diesel for her submarines, *HMS Maidstone* was a floating bomb. Alongside North Wharf on that afternoon were six Royal Navy, 13 4 United States and one Dutch submarines alongside their mother ships. Two United States Navy submarine depot ships were at North Wharf, and these were also moved mid-stream. Firefighting equipment and personnel from the local fire brigades, supported by American Navy firefighting equipment fought the fire on *Panamanian* and the surrounding wharf area. *USS Chanticleer*, a submarine rescue ship fitted with a large pumping plant, steamed up and down pouring water onto the ship and wharf area. The Chief Officer of the Western Australian Fire Brigades Board personally supervised the firefighting operations. The first Metropolitan Fire



Aotea Quay, Wellington, in 1944, packed with ships and stores for the Guadalcanal campaign

Brigade vehicle to arrive on the scene took up position on the wharf, and was enveloped in the fierce wharf fire and was burnt out. Allied service personnel from various ships assisted in the firefighting efforts, with only one fatality - an RN Able Seaman who fell down the hold on *Panamanian*. Some ships were removed to Cockburn Sound and Gage Roads. By 1800 *Panamanian* was listing badly due to the amount of water pumped aboard, and having started to drift off the wharf with fire hoses still attached, she was pushed



*Panamanian*, the ship that caused pandemonium in Fremantle Port, 1945

back alongside the wharf by the very busy tugs. There was a fear her fuel tanks would explode, but by daylight the fire had been brought under control. The last of the firefighting equipment was finally withdrawn seven days later. The cause of the oil slick in the harbour was due to her age had many oil leaks in the engine room, and regularly pumped the bilges into the harbour during the 18 days she had been alongside! The cargo was a write off. In 1946 the owners Asia Navigation Company Ltd (Wallems & Co) lodged a writ claiming US\$1,034,000 for damages to ship and its cargo. *Panamanian* was an interesting ship with had an extraordinary career. She was a very big ship for the time, a twin screw, quadruple expansion oil-burning steamer of 600 feet loa x 565.3' x 31.1, GT 15,903 tons, net 9,990, classed 100A1 by Lloyds at the time of the Fremantle fire. Built in 1904 by New York Ship Building Co for Atlantic Transport Co Ltd as *Minnelora*, but launched for Pacific Mail S.S. Co New York as *Mongolia*. Sold in 1929 to Dollar Line, San Francisco, she was renamed *President Fillmore* and laid up in New York 1931-38 until taken over by American President Lines. In 1940,

having been sold to Arnold Bernstein Shipping Co, she caught fire and sank at Baltimore eventually raised and towed to Newport News for repair. Sold in March 1941 to Asia Navigation Company and renamed *Panamanian* with a Panama flag, she was chartered by the Ministry of War Transport (UK) in August 1941. Following the Fremantle incident, she resumed service in March 1946 following repairs. After a minor fire in Sydney in May 1946 she managed to make Hong Kong where she was eventually scrapped in January 1947.

...A SUDDEN BURST OF FLAME SHOT UP IGNITING THE MOORING ROPES AND THE SHIP'S OVERSIDE HULL PAINT.

AUSTRALIA'S ASSOCIATION with the *Fort Stikine* Bombay disaster, which took place on 14<sup>th</sup> April 1944 was that the Canadian standard coal-burning Fort ship was under Port Line management for the MOWT, and the Australian Hospital ship *Wanganella* was instrumental in saving lives and treating the injured. Under the command of Captain A.J. Naismith, the ship was discharging 9,000 bales of cotton, loaded in Karachi's Victoria Dock, close to the CBD. A nasty cocktail was also loaded at Karachi, including bagged fishmeal, thousands of drums of lubricating oil (many leaking), scrap iron, sulphur, timber, rice and resin. The lower holds held 1417 tons of explosives including shells, torpedoes, mines, signal rockets, crated Spitfires, gliders and incendiary bombs. In No 2 tween deck was stowed 124 bars of gold worth over a million pounds. The ship reached Bombay on 12<sup>th</sup> April and despite carrying three categories of

BY A STROKE OF GOOD LUCK THE AUSTRALIAN HOSPITAL SHIP *WANGANELLA* WAS ANCHORED IN THE HARBOUR TWO MILES DISTANT...



Hospital Ship *Wanganella*, instrumental in the rescue effort after the devastating 1944 Bombay explosion caused by *Fort Sitkine*. Images of Fort Sitkine and of this terrible event are hard to acquire, but can easily be found online.

explosive, and having been given a priority discharge certificate, she lay alongside for 24 hours before discharge commenced. Smoke had been observed coming out of the ventilators, from the cotton bales, and gained control despite smoke having been reported to authorities during the day. In the previous five years over 60 ship fires had occurred in the port with only one major casualty, although 15 of the ships had carried explosives. After no initial urgency, the depth of the problem was noted and 900 tons of water was pumped into No 2 hold, the seat of the fire being buried under raw cotton bales. Officials having finally looked at the stowage plan decided the ship should be removed from shallow dock and scuttled. Meanwhile everyone had evacuated the ship and were standing on the wharf. Suddenly the first explosion saw flames shoot into the air 12-15 metres, and five minutes later the ship was engulfed. Captain Naismith and Chief Officer WD Henderson had gone back aboard to ensure no one else was on board. They together with the second cook were never seen again. People were moved

quickly away from the area, heading out the gate for the Victoria Terminus railway station, which was packed to capacity by the fleeing populace. At 1604 a huge explosion rocked the port and the immediate port precincts, with the forepart of the ship exploding with a deafening roar. Flaming drums, blazing cotton and white hot metal cascaded across ships, sheds and the nearby city, carving a path of fire, death and destruction, leaving the after holds afloat and on fire. Thirty five minutes later the aft end, containing 784 tons of explosives, blew up. A giant tidal wave lifted the 4,000 ton *Jalapadma* up and dropped her astride No 2 godown. Twelve ships were sunk or became constructive total loss (CTL) and several more were damaged. The official death toll in the port area was 740, including 476 military personnel, with 1,800 injured. Civilian deaths outside the dock area were 500 dead and 2,480 badly injured. The cause of the first explosions were leaking oil drums placed next to large quantities of sensitive high explosives, with 770 tons of highly flammable raw cotton in each hold! This, together with

volatile fish meal, added to the mixture. The ship's debris was spread over 10 miles. Her boiler was found intact over half a mile way. Some two square miles of the western part of the city area was set ablaze. The cleanup took seven months. 8000 workers removed half a million tons of debris from the devastated dock system. In peacetime the job would have taken years to carry out, but was prioritised due to Bombay's strategic position in the war effort. The magnitude of the disaster was never published to the world at the time, though it was there for the spies to note. By a stroke of good luck the Australian Hospital Ship *Wanganella* was anchored in the harbour two miles distant, waiting to transport injured British Army and Air Force casualties from the Burma campaign, for transhipment at Suez and observed the whole incident. On passage from Fremantle to the Middle East her end mission was to transport injured New Zealand soldiers, many from the Battle of Monte Cassino. Due to the number of injured from the explosion the shore civilian hospitals could not cope, and *Wanganella* was called on to assist, with the operating theatres working continuously for 36 hours. One of the ships badly damaged and declared a CTL was the 1919 built steamer *Iran* - the former Union Steamship Company Trans Pacific trader *Waikawa*, owned by a Wallem & Co subsidiary Iran S.S. Co, Panama. ■

By: Capt Iain Stevenson

*References: Navy Historical Review, Maralinga by Frank Walker, Mr. Charles Woolley, Evening Post Wellington, Fremantle's Wartime Inferno by Vic Jeffrey, Shipping-Today and Yesterday March 2012 edition, Sold East by H.Dick. S Kentwell*

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# Who's Heading to the Slaughter?

One of the more contentious current affairs subjects covered in *The Master Mariner* over the last few years has been livestock exports.

Recently we touched on the unpleasant death of well over 2000 sheep during a summer trip to the Middle East on the elderly converted container vessel *Awassi Express* which, (as Port of Portland discovered after a fire in her food hopper tied up a berth for nearly a fortnight in 2015), was rather incident prone.

At the time we last reported on it, there was a war of words between the exporters - led by *Awassi Express* contractor Emanuel on one side, animal welfare activists on the other and farmers and politicians somewhat uncomfortably in the middle.

That has been the status quo for a long time now, with the exporters staunchly supporting the trade and quoting Australia's international gold standards for livestock shipments, and the activists pointing out that surely the likes of New Zealand had set the bar for best practice by banning the trade.

Politicians have hovered in between, hopping from one foot to the other depending on what smelly business the media had wind of at the time – be it a bad voyage, some reported deaths or a ship detention. Take this recent comment from the Member for Farrar, Susan Ley... “The opportunity for Australian meat in the Middle East continues to climb. Our quality and standards are trusted and admired.

“It is vital we do not risk 94.1 per cent of our lamb and mutton industry for a product with the potential to seriously damage our brand. Producing food and fibre in the 21st century requires ethics and sustainability. The live sheep trade to the Middle East has neither.”

So far the vets and seafarers actually on board during these journeys have not tended to be hauled before the court of opinion or atonement. Despite really knowing what happens on tour, they've been allowed to keep it on tour.

This is where it becomes interesting to jump to another newsworthy dirty-laundry-airing happening in Australia at the moment – that of the banking Royal Commission of Inquiry. This inquiry escalated quickly from the government's stance that it was not even needed to a very stinky affair indeed. It's been enough to make anybody with money in a bank recoil, and for the regulators to feel the sudden (and long ignored) need to hold their noses and point fingers.

The whole industry stank so much that for the first time, fingers were not just being pointed at institutions. Individuals who were just doing their job, and taking care



*Awassi Express*, the ship that made live exports a hot topic, on fire in Portland in 2015. The IMO has now added fuel to the live fire.

of business in the manner their employers expected to achieve the profits they wanted, were suddenly being not just hauled before the Commission of Inquiry. They were being hauled before the courts. Losing their comfortable jobs was just the start.

This is a new world of accountability, sans the old safety nets. If banks are the #metoo of the corporate world, then live exports are likely to become the #metoo of agriculture. They are simply too easy a target for that not to happen. And under the new rules, anybody involved could find themselves facing the tough questions. It's just worth saying that there are many seafarers on those ships.

But there is yet another fly in the ointment, as Fairfax agricultural writer Shan Goodwin pointed out in a number of the media stable's publications. If the political debate goes on much longer it might become irrelevant, because the trade risks becoming the victim of an entirely different threat being described as a 'back-door ban.'

This threat comes courtesy of the IMO requirement to use fuel lower than 0.5 per cent sulphur content from 2020, which could deliver a significant cull of live export ships.

The IMO rule aims to reduce the impacts of sulphur oxide emissions on the environment and human health.

Alternative fuels including methanol and liquefied natural gas are more expensive and the IMO approved methods to reduce sulphur oxide emissions, retrofitting an exhaust gas cleaning system or scrubbers, would come at a cost.

Goodwin writes that animal welfare veterinary group Sentient are hopeful that the fuel rules will vastly reduce the capacity and capability to move animals by sea, especially given the average age of the live export fleet. Sentient, she says, estimates that over half of live export ships will go as a result.

Meanwhile, Goodwin pointed out, the Australian Maritime Safety Authority's draft of Marine Order 43, currently on public consultation, proposes livestock only be carried on one tier, and proposes a phase-in period for sheep, pigs and goats until the end of next year.

There are three double tiered vessel services in the Australia fleet. One operator has a single tier due to arrive here next year but the other operator may opt to redeploy the vessels to other markets such as Europe and South America, where the new standards won't apply.

The recommendation drastically lowers the level of what is deemed an acceptable level of heat stress sheep can endure on their journey and the report's projections say ships could face stocking reductions by as much as 85 per cent. To continue to operate out of Australia, that exporter would need to purchase an existing livestock vessel, commission a conversion or charter from other operators.

All of which, along with a growing smell and waning appetite for the trade, could effectively close it down. ■

By Joanna Carson



*The Edge* approaching Japan with her euphoric crew aboard.

## Plenty of H<sub>2</sub>O for M2O Competitors

Going back to work piloting in all weathers and at all times of the day might not seem quite as onerous as it used to for one Western Australia CMMA member.

That's because Capt Dave Kenny's holiday activities would make anyone's job seem like a walk in the park. For reasons best known to a true adventurer, the Woodside pilot decided to use his time off to sail two-handed from Melbourne to Osaka in a 10m loa Sunfast 3200 fittingly named *The Edge*.

He and his crew Paul Schulz were on one of about 19 double-handed yachts contesting the M2O – Melbourne to Osaka unassisted yacht race. While nowhere near as well known as the Sydney to Hobart, the M2O is the equivalent to eight back-to-back Sydney-Hobarts.

The race, which is held about once every four years, came into being to celebrate the sister city relationship between Melbourne and Osaka, but its purpose is to provide a proving ground for true seamanship and to encourage the development of suitable seaworthy yachts and appropriate gear, supplies and techniques for short-handed ocean crossings under sail.

Capt Kenny's Sunfast 3200 was on the lower end of the vessel size range, with the entire field ranging from that to just over 16m loa.

The 5,500nm route takes the field up

the east coast of Australia, through the Solomons and onwards to Osaka. There are only a few overseas crew in the field this year, but the only Japanese entry *Bartolome* spent considerable time in a close and exciting tussle with *The Edge*.

The small yacht was provisionally 15<sup>th</sup> over the line, with Capt Kenny regretting missing a weather window near the Solomons by a few hours, which cost the pair a number of days overall. However in a post-race interview on the Melbourne to Osaka website, he describes the moment he saw Japan as overwhelming, and the feeling of finishing such a massive undertaking as something that had to be experienced to be understood.

Despite also admitting to some deep-seated relief at finishing, he rated the pre-planning as the toughest part of the mission, due to the huge number of decisions that needed to be made with no previous experience of the race.

Capt Kenny was also forthcoming when asked by officials about the rewards of such an immense and potentially dangerous enterprise. "The lessons and introspection take time to resonate and settle after strong life experiences, at first grab, the Melbourne Osaka Cup has reinforced my perseverance, strengthened a friendship and nurtured my sense of effort begets reward."

Overall 16 yachts completed the epic race, and it was heartening to see that not

only were there a number of women competing, but several of them were skippers.

For more information on this fascinating race, visit [www.melbourneosaka.com](http://www.melbourneosaka.com) ■

By Joanna Carson



An obviously delighted pair of sailors back on terra firma after 41:10:22:18 - and still friends. Paul Schulz is on the left and Dave Kenny on the right.

# Members Show Anzac Pride

Several branches turned out to parade this Anzac Day, with tangible proof being provided by Queensland and Sydney branches.

The Brisbane Anzac Day effort in general is always a grand, well-organised and very colourful affair, with our CMMA effort no less impressive itself. As always the effort was well co-ordinated by Capt William Burton, who managed to get on the other side of the lens for the shots of the marching group, but still managed to rattle off a good few of the many interesting display vehicles and other marchers representing the theme of this year's parade – women in the services. ■



Photo Capt John Crowsley



Above: Representing merchant mariners in Brisbane were, front from left, Bruce Maher and Jorgia Munro. Rear from left William Burton, Chris Mackey, Kasper Kuiper, Peter Marchbank, Michael Handfield and Arthur Diack.

Left: Sydney representatives were, from left, Ted van Bronswijk, Mike Bertram and George (surname not supplied).

## Membership Changes: November 2017 to April 2018

### DECEASED MEMBERS

#### WA

Capt. L. Feldman

### MEMBERS WHO HAVE CHANGED MEMBERSHIP

#### MELBOURNE

Capt. C Maddison (Ord to Retired)  
Capt. N Oxley (Ord to Retired)

#### WA

Capt. S Robinson (Associate to Ord)

### NEW MEMBERS

#### QUEENSLAND

Capt. A McClymont

#### WA

Capt. A Dunn  
Capt. S Kishore  
Capt. L Rego  
Mr R Sharpe

### MEMBERS WHO HAVE LEFT

#### MELBOURNE

Ms J Carson  
Capt. D Shennan

#### QUEENSLAND

Professor E Gold  
Capt. G White

#### SYDNEY

Capt. E Whittleton

#### WA

Capt. C Dooley  
Capt. A Heyne



# Brisbane's Colourful Anzac Parade

Queensland Branch honorary editor Capt William Burton found time during preparation for the Brisbane Anzac Day march to capture some other interesting preparations. On this page are some shots he took of military vehicles, as well as one important image of Navy servicewomen, given their efforts were being celebrated this year. It is also fitting to see a New Zealand banner immediately behind.

