NZMPA Conference
26 - 30 November 2018
Wellington, New Zealand
Venue - Te Papa Tongarewa
The Museum of New Zealand

Reflecting on Training and Practices for Piloting in Today's World

NZ MARITIME PILOTS ASSOCIATION

For more information on presentations, trade displays, seminars and social activities go to www.nzmpa.org
Registrations open 1 June 2018
Having recently observed a gold standard Human Factors course delivered by WrightWay (p.12), I was struck by the inescapable truth that the whole of Humanity would benefit from such insights into the Human Condition. The Delphic Oracle command to “Know Thyself” became Socrates’ “The unexamined life is not worth living.”

WWL’s HF course was delivered at Auckland Nautical College by Marsden Wharf, where Green Peace ship “Rainbow Warrior” was sunk by the French secret service in 1985. Like all such ‘intelligence’ agencies, they are not particularly bright, because who else had the motive to attack opponents of French nuclear testing at Mururoa? Post-WWII France sought a [non-US] nuclear deterrent: from 1966-1996, 193 bombs were tested; some of which 200 times more powerful than Hiroshima/Nagasaki. France denied sinking Rainbow Warrior and threatened to punish NZ via trade. A French inquiry even confirmed their innocence! (Quelle Surprise!). None of our supposed 5-Eyes allies came to NZ’s assistance. There is a half-life for all lies: France also claimed (until 2009) that there were no health risks from all these nuclear explosions – Yeah, right!

Michael Pembroke’s recent History of Korea is horrifying: every Human Error [that BRM training guards against] caused 3 years of Hellish war, the killing of 20% of the population and the destruction of all infrastructure. Presidents Truman, then Eisenhower considered nuking Korea, China and Russia out of frustration and in revenge for having been routed on the battlefield. The US had no qualms in deploying napalm, biological weapons, and famine. The Korean War, caused by anti-Communist groupthink, led directly to Vietnam. RNZAF is now “enforcing sanctions” against N. Korea, killing innocent civilians slowly. On this 17th anniversary of 9/11, wars in The Middle East continue unabated. The oleaginous hagiographies for John McCain III ignore and pervert history, proving once again that patriotism is the last refuge of scoundrels: McCain demanded revenge post 9/11 for the 3,000 deaths. The Blood & Treasure expended thus far has destroyed countries, killed and maimed millions of innocents, and cost $5.6 Trillions. Imagine that money spent on Peace rather than boosting the profits of arms dealers who owned McCain’s worthless soul.

The Mark of Cain? McCain Mk.II organised the cover-up of the attempted sinking of USS Liberty in 1967 - a failed False Flag (N.B. False Flag is a covert operation to cause an atrocity, then blame it on the patasy you wish to destroy). McCain II got a ship named after him (p.22). As the French say: “Plus ca change, plus la meme chose”. Instead of wars on Communism, Rainbows, Terror, Russia, why not declare sanctions on Stupidity & Lies?
Though it appears safe, this arrangement is non-compliant and should not be used.
SHARED MENTAL MODEL

As I write my column for this quarter, the first things that come to mind appear to be so similar to those 3 months ago. Last month TAIC released its report on the grounding of the cruise ship L’Austral in Milford Sound, and just last week the ATSB in Australia released their report on the near-grounding of the bulkier Aquadiva when departing Newcastle. The former occurred on 9 February and the latter on 12 February last year. What immediately comes to mind? Groundhog Day! Both were executing turns whilst in the hands of very experienced pilots, and in both cases a PPU was not used. Yet again accident investigators are identifying some of the same issues, even though in these cases one was a cruise ship and the other a bulkier.

Winding the clock back 18 years to when I was training, I remember understudying very experienced pilots who had piloted in a similar manner for all of their piloting career. Chart plotters didn’t exist and piloting was conducted using visual means, with local knowledge and intuition influencing their decisions. Occasional reference to the radar was as technical as it got. Now winding the clock forward 18 years, I see a totally different world. My challenge now is that I am hamstrung by all of those hands-on methods influenced by gut-feelings. This now makes a lot of sense when reading the reports on the Molly Manx, Azamara Quest, L’Austral, Maersk Garonne, Navios Northern Star, Aquadiva and CMA CGM Vasco De Gama. I am sure there will be many other incidents around the world with parallels to these. Having repeatedly studied many of these reports, I reflect on my own fallibility.

When I leave my office these days to conduct a pilotage task with the knowledge, skills and equipment I should need to complete the task, I am thinking about my peers who piloted the ships mentioned above. Have I received the latest relevant training to complete the task in Today’s World, and will I withstand the scrutiny following an incident in an Age of Big Data? All of the incidents mentioned have exposed inherent weaknesses in some experienced pilots, and also that we tend to favour visual navigation methods and can be less inclined to use the technology that is now available. Looking back just 10 years I think of how new technologies were treated with suspicion, with grassroots training being favoured to avoid the effects of possible erroneous data provided by modern technology. In some of the cases mentioned I have no difficulty seeing myself in the shoes of those pilots, and for that reason I feel it is not too late to embrace changes that will enhance my technical and non-technical skills and knowledge. This can only make my future pilotages as uneventful as possible, and that’s how I’d like them to be.

Another area of our operations that has occupied me since the last edition is the matter of pilots using non-compliant boarding arrangements. I admit to letting human nature get the better of me and board using deficient arrangements in the past. Some arrangements may be considered not unsafe, however that may not be enough following an incident in today’s climate where we operate under rigid H&S legislation. This has been highlighted in recent weeks when it was decided in my own port that we would not use non-compliant arrangements that we were aware of beforehand. This decision was supported by company management, and alternative arrangements were made to reduce the impact on the vessel, with pilots being sent ahead or over-carried. This has now also gained positive support from the regulator, who after initially suggesting it be left in the hands of the user, have now inspected vessels and issued non-compliance notices. As these vessels are likely to be regular visitors, they have been directed to modify the arrangement before they return on their next voyage.

In closing I must remind pilots that whether boarding a vessel or conning a vessel, the safety of both yourself and the vessel should remain paramount. Using an arrangement as shown in the photo opposite may have been considered the norm in the past; but under current legislation and when they are known to exist beforehand, they should not be used, and alternative options must be considered. The above topics will feature in this year’s biennial conference and I’m sure they will give rise to much discussion.

Steve Banks, NZMPA President
Pilots’ Boarding Arrangements & Safety

By Sharyn Forsyth, Deputy Director Engagement, Communication and Coordination, Maritime NZ

Pilotage is a critical part of the shipping supply chain, and the personal safety of pilots is critical to pilotage. Globally the maritime industry recognizes the importance of pilots’ personal safety. That is why there are International Maritime Organization (IMO), flag state, and New Zealand requirements for the safety of pilots. While these three sets of requirements are consistent they are not identical. This article explains how to manage a possible discrepancy about pilots’ boarding arrangements. That is, Pilots must apply New Zealand Maritime Rules Part 53: Pilot Transfer Arrangements and Ship – Helicopter Pilot Transfers.

Pilots provide expert local advice to the ships arriving on our shores and aid in connecting New Zealand to the wider world. This expert local advice is of great benefit to New Zealand and allows safer operation of ships in restricted and congested waters, thereby improving safety and environmental outcomes. This benefit does, however, come with risk and it is the role of the pilots, pilot authorities and Maritime NZ to address this.

The initial interaction between the pilot and the vessel is perhaps one of the most dangerous. As a regulator, Maritime NZ is tasked with ensuring all ships entering New Zealand ports comply with applicable Maritime Rules (both Domestic and International). This includes the requirements under the Safety of Life at Sea convention (SOLAS) V/23 and IMO Res. A 1045(27). In New Zealand, all vessels foreign and domestic that are required to engage a pilot must also comply with Maritime Rule 53. SOLAS V/23 requires ships with equipment installed on or after 1 July 2012 to fully comply with the present requirements under SOLAS. However, vessels built prior to that date need only comply with the older interpretation. Maritime Rule 53 does not make this distinction and requires that all vessels comply with the domestic requirements, which are comparable but not identical to the latest SOLAS V/23 revision. This means, vessels that are compliant with SOLAS and who do not experience issues in overseas ports may not be compliant with New Zealand’s domestic regulations.

In addition, IMO 1045(27) allows flag interpretation in pilot ladder/accommodation ladder combinations by stating “Arrangements which may be more suitable for special types of ships may be accepted, provided that they are equally safe.” Regardless of the SOLAS or flag interpretations, New Zealand’s Maritime Rule 53 must be applied and it is a relatively simple process for the pilot to assess the condition of the ladder prior to boarding.

If the pilot has clear grounds for believing that the ladder from the initial inspection is not compliant with Maritime Rule 53, the pilot must not attempt to board until the deficiency has been remedied. There is no process in the rule to permit the pilot to deem the ladder “safe enough”. There are commercial considerations attached with this course of action, but if applied equally across all ports as a standard, then no one port will gain an unfair advantage over another by not adhering to this requirement. It is accepted that some parts of the arrangement may not be visible prior to boarding and in this instance, the pilot must decide whether it is safer to continue to board or disembark once this has been discovered. Other obligations on the pilot are to advise the master and report the incident to Maritime NZ as soon as practicable.

Once Maritime NZ has been informed it can take action as necessary under:

1. Port state control to require a vessel to comply with SOLAS (as per flag state interpretation).
2. Domestic legislation to require the vessel comply with Maritime Rule 53.
A vessel calling to New Zealand may be unaware of the domestic Rule, and agents can ensure this Rule is passed along to the master to prevent undue delay.

Pilotage is an integral element of a vessel’s safety management system that provides for safe navigation of the vessel. If a pilot’s personal safety is not assured, then they cannot deliver safety outcomes for the master, the ship, its owner and the port.

On a national scale, safety of vessels and ports is crucial to New Zealand’s strong reputation as a safe and reliable trading partner – we are a country that transports 99 percent of its imports and exports by ship.

**FREE TO CHOOSE, FREE TO USE – ENCS FOR NEW ZEALAND**

In 2019 the New Zealand Hydrographic Authority (NZHA) will launch a free local online distribution service for New Zealand ENCs (Electronic Navigational Charts). The subscription-based NZ ENC Service will provide customers with access to the information they need to improve the safety and efficiency of marine navigation at any time. As the maritime world moves from paper to digital the new NZ ENC Service ensures that mariners have improved and cost-effective access to NZ’s ENCs in line with best international practice.

The NZ ENC Service provides coverage of New Zealand waters. Using the NZ ENC Service and by updating your navigation system with fortnightly Notices to Mariners updates, you are as up-to-date as possible for safety critical information.

By registering with the NZ ENC Service the customer will receive a notification of updates to any ENCs in the chart pack that they have selected. These notifications will be emailed every fortnight for the duration of the customer’s renewable 12-month subscription. The NZ ENC Service includes all temporary, preliminary and permanent notices aligned with NZHA’s fortnightly editions Notices to Mariners.

The NZ ENC Service will provide ‘Base’ and ‘Update’ data sets for download from the NZ ENC Service website. The Base data set includes all NZ ENCs up-to-date when the Base data set is created. The latest Base data will always be available for download from the NZ ENC Service website. The Update data set contains all ENC updates, new Editions and newly published Base ENCs that have been issued for the customer’s selected chart pack since the last Base data set was created. The Update data set will be refreshed on a fortnightly basis.

When customers subscribe to the NZ ENC Service they will be provided with the Cell Permit that allows an on-board Navigation System to open the Base and Update data sets.

Chart Certificates will also be available for download from the NZ ENC Service website. The certificate is specific to vessel and system and lists all the ENCs which can be presented to the appropriate authority for inspection upon request, to show that the mariner satisfies the ENC carriage requirements of SOLAS Chapter V. The NZ ENC Service will use the International Hydrographic Organisation standard (S-63) data encryption and protection scheme to ensure the data integrity of the ENC received by the user.

SOLAS Chapter V Regulation 19 requires certain vessels engaged in international voyages to be fitted with an Electronic Chart Display and Information System (ECDIS). The mandatory requirement for the carriage of ECDIS on vessels of specified type, size and age came into full force on 1 July 2018 (Regulation 19, paragraph 2.10). ECDIS systems must use ENCs which have been published by an authorised hydrographic office in order to meet the carriage requirements contained in the SOLAS convention. Therefore one of the primary focuses for the NZHA is on ENC production, distribution and maintenance. (Verena B-B)
Bridge Resource Management is founded on **sharing mental models**.

What does this mean when navigating and manoeuvring in confined waters?

Is the level of information exchanged on the bridge detailed enough to enable unambiguous and timely challenge and response?

Accidents in confined waters are often the result of intentions and actions not challenged in due time, despite all formal Bridge Resource Management tools being applied. So, what is missing?

The argument of this paper is that a new concept to **plan critical navigational elements** is required for navigation and manoeuvring in confined waters.

The idea is that defining **critical navigational elements** (i.e. cross track distance, speed, rate of turn, drift angle etc.) in terms of an **interval of values** – rather than single values – may remove the **ambiguity** to challenge who is conning the vessel.

Critical navigational elements need to be **controllable** and **observable through monitoring** by the bridge team, and are determined by:

- an interval of **planned** values that represent the normality of operations. If everything goes according to plan, none of the planned values would have been exceeded.
- **no go** area/values that cannot be exceeded (i.e. non-navigable waters, breakwaters, speeds beyond or below which it is impossible to control the vessel). If the no-go value is exceeded, then the ship is either aground, has had an allision or collision.
- the **reserve** that is the difference between planned values/areas and no go values/areas. It represents the **safety margin** available for a specific critical element. The reserve can be used intentionally, in order to reasonably adapt to unplanned situations (i.e. traffic, changes in environmental conditions etc.) or not intentionally because of conning errors.

In order to clarify this concept, let us consider the example in the figure 1, where the reserve is used intentionally. Indeed, the reserve can and should be used as soon as the person conning believes it is reasonable to do so. This could happen to avoid impeding the passage of a ship constrained by her draft. In figure 1 ship “A” is leaving the planned corridor as a result of an alteration of course to starboard. The person conning is making the bridge team aware of his/her intention to use the reserve by using the **thinking aloud** technique. Such technique is based on verbalising the intention (of the person conning), the motivation behind an action before its execution and its expected outcome. In this way the elements are given for either confirmation or for a challenge made by other team members.

With reference to ship A, an example of thinking aloud could be:

- **Plan:** “I intend to alter course to starboard”
- **Reason:** “to avoid impeding the passage of ship “B” which is constrained by her draft”
• Outcome: “I will navigate outside the planned corridor with a Cross Track Distance not more than 200m right of the track”

Another example of reasonable use of the reserve is the necessity to slow down the speed over ground when approaching another vessel at a difficult bend in a tidal river (figure 2). Vessel “1” with the tidal stream against her may need to slow down to 3 knots until vessel “2” has passed clear. If the reduction of speed over ground is outside the interval of planned values – say between 5 to 6 knots – such reduction would certainly be considered a reasonable use of the reserve.

This last example shows that reserves are not only of a spatial nature. Also the drift angle can be defined by an interval of planned (normal) values and by an extreme value, which – once exceeded – causes unacceptable swept path in a narrow channel. In other words, all drift angle values outside the normal interval and still within the extreme ones, make up a safety margin to use only under abnormal or emergency conditions.
Back to the main argument of this article, this planning methodology aims to remove the ambiguity to challenge the team member conning the vessel. At the same time it is allowing
the necessary flexibility any ship-handler needs to manoeuvre without being constrained by unrealistically strict parameters.
Let us consider an example of unintended use of the reserve a shown in figure 3.

![Figure 3]

When the ship is in position 1, the Cross Track Distance (measured from the conning position) is right of track and the entire ship is within the **Planned Corridor**, without using the reserve. When the ship in position 2, the Cross Track Distance is zero (conning position on track), but the stern is on the edge of the planned corridor. When the ship is in position 3, the Cross Track Distance is only slightly left of track but the ship’s port quarter is well within the reserve, with not so much space left before crossing the safety contour and entering the No Go Area with the stern.

In principle, critical elements planned according to this concept, can be used as baseline not only for thinking aloud, but also for **challenge and response**.

Before turning, the person conning would expressed his/her intentions as follows:

- **Plan:** “I intend to turn keeping the conning position right of track”
- **Reason:** “Because I want to keep the port quarter within the planned corridor”
- **Outcome:** “The Cross-Track Distance will be between 0 and 40m right of track”

Now let us assume that the ship is drifting into position 2 due to an unexpected current and the person conning is not promptly acting on it. As soon as it is apparent that the Cross Track Distance will move left of track, any other team member should intervene by **probing** – “What is your intention?” – and/or **alerting** – “The Cross Track Distance is now zero and the port quarter is going outside the corridor”. However, if probing and alerting does not satisfy the team member who has concerns, then the challenge needs to be expressed using words which raise attention such as “I suggest” or “I recommend”. The following expression would constitute an **outcome based challenge**:

“I recommend to bring the conning position right of track as initially planned”.

It is important to understand that the challenge needs to focus on the outcome rather than on the specific action to control the ship. This is in order to avoid that the person conning is psychologically anchored to specific instructions given by the person challenging, especially if he/she has more authority to do so within the team. In this case if the challenge included specific instructions it could lead to a situation where the person with the conn waits for the next one. This could mean a ‘de facto’ but not formal taking over of the conn.
Moreover, to avoid distractions and keep the level of communication essential on the bridge – especially during critical navigational phases, any challenge should be timely and triggered by the intended/potential use of the reserve. This is particularly useful during manoeuvres to berth/unberth the ship. For example, a critical element during an approach to a berth could be the ship’s heading. An interval between two headings – rather than a single heading value – would define the interval of reasonable angles of approach to the berth. An example of this situation is shown in figure 4.

![Figure 4](image)

If the heading is outside the interval of planned values, suggesting to adjust the ship’s heading may be more convenient than suggesting how to specifically achieve the end result. If the outcome based challenge is carried out in due time, it may be possible to let the ship-handler give orders as independently as possible.

In conclusion, the concept presented in this article aims to share detailed mental models and achieve essential, timely, and unambiguous challenges and responses between bridge team members. By no means is the concept meant to constrain ship-handling within fixed limits. On the contrary, the interval of planned values (rather than single values) as well as any reasonable use of the reserve allows the necessary flexibility and discretion to handle a vessel in confined waters.

For this concept to work effectively though, critical navigational elements should be planned, agreed and shared in due time before navigating in confined waters. The analysis of real world data from ships sensors, as well as high fidelity simulators are essential tools to define the critical elements of a challenging manoeuvre to such a level of detail. However, it is also important to keep the number of critical elements as low as possible. Applying the concept of the interval of values to all possible navigational elements in confined waters may defeat the overall aim of the concept itself, which is the prevention of accidents caused by intentions and/or actions not challenged in due time, or not challenged at all.

In conclusion, the concept addresses the concerns raised by safety investigators around the world. A recent accident report of the Canadian Transport Safety Board ("Cape Apricot") maintained that “the absence of a detailed, mutually agreed-upon passage plan deprives bridge team members of the means to effectively monitor a vessel’s progress, compromising the principles of Bridge Resource Management".
Report on WrightWay HF Training

(Auckland Nautical College & Simulator - 16th & 17th August 2018)

Introduction:
Ravi Nijjer has been the champion of BRM in Australasia for over twenty years and is easing into retirement. BRM is universally acknowledged by the marine industry as the prime defence to mitigate Human Error, the most significant factor in all accidents and incidents. Despite this awareness of the importance of Human Factors, there have been recent examples of ships going aground where failures in BRM have been identified by TAIC. BRM is part of the syllabus of the 5-yearly Advanced Pilot (AMPT) course, but can it be improved? To answer this question, NZMPA has been working with [UK-based] WrightWay who have delivered a series of 1 and 2-day courses to various elements of our port and marine industry. I was tasked with observing and reporting on the final 2-day course.

From WrightWay (2):
Bob Hubble & Jerry Ovens. Both Bob & Jerry are ex-Royal Navy Air Service (RNAS Helicopters); Bob had 17 years as helicopter pilot (before flying civil airplanes) and Jerry 33 years as Observer and had commanded ships. Both instructors clearly enjoyed their vocations and brought superb insights, professional integrity, and a relaxed good humour. They immediately established a good rapport with the mariners present and kept the discussions lively, focused and enjoyable.

From Industry (6):
Two pilots, 3 ferry masters and 1 Harbour Master – all experienced mariners before current roles. The two pilots were from the same port and the Harbour Master knew all the ferry men. Pilots and ferry men also had good mutual respect. Team building was readily achieved and there were no obstacles of hierarchy in any of the teams. Whoever was playing the role of captain was given due respect and acknowledged as the primary authority, but with other team members able to make suggestions and/or voice doubt.

Theory – Content & Delivery
Every classroom period (1-1.5 hours) was well-controlled: clear and logical delivery, but with plenty of room for open discussion and questions. Humour is all important in making theory interesting and memorable. The subjects were right up to date with the latest literature e.g. neuroscience, psychology, anthropology, physiology.

Practice – Simulator:
After theory came practical work in the simulator. Tasks became progressively more complex as the teams grew in HF skills (thinking & communicating). After each exercise, the de-brief was crucial with the video play-back to focus on any topics. The tools of DODAR (Diagnose, Options, Decide, Act, Review) & NITS (Nature; Intentions; Time: Special instructions) made perfect sense.

Conclusions:
1. WWL deliver gold standard HF Training. The combination of well-presented theory immediately followed by practice & debrief, cemented lessons.
2. Two presenters and 6 ‘trainees’ was ideal.
3. Presenter also ‘ran’ the simulators so those IT skills are important to approach the illusion of reality. (Only false note was 1 telephone and 1 VHF link to outside agencies, and 1 instructor playing several roles with small variety of ham accents ;-)
ISPO – Building Bridges and Delivering Aircraft Carriers

Extra paperwork. Interference from shore side people with no seafaring experience. Additional costs for no benefit at all. These are just a few of the things that actually DON’T happen when a pilotage service adopts the International Standard for Pilot Organizations. I can’t remember exactly what caught my attention about 10 years ago when I first heard about ISPO. Something must have caught my eye though – perhaps it was reading about a quality standard that had actually been developed by serving pilots, or maybe the involvement of Lloyds Register gave it greater credibility. Whatever it was, ten years on I remain more convinced than ever that adopting the ISPO standard leads to well run and continually improving pilotage services.

Pilotage legislation in UK remains very weak. Around half the UK pilots are directly employed by the ports, others are self-employed. Either way, the ports have the power to authorise anyone they choose. UK pilots look on with envy at New Zealand’s requirement that marine pilots have a Master’s Certificate of Competency or equivalent. UK ports are commercial operations and also statutory authorities, which can lead to conflict of interests when dealing with a safety based service such as pilotage.

Qualifications for pilots in UK remain vague and undefined. Good pilotage services can – and have been - replaced overnight by ports seeking to cut costs and gain a competitive edge. Although Forth Pilots have always had a very good working relationship with our port authority and very high mutually agreed entry standard (Master Mariner with command experience) that was no guarantee for the future. ISPO gave us the opportunity of demonstrating to all port stakeholders that we operated to a high standard.

Most of the operational procedures were already in place for Forth Pilots to reach the ISPO standard. The main challenge was producing them in a simple format with minimal paperwork that was easily auditable. Major ports such as Rotterdam and Antwerp had already been ISPO certificated for a number of years - but they have backroom staff and administrative back up that a self-employed co-operative of 26 pilots and zero admin staff cannot match. At Forth Pilots we reduced everything to its most simple terms. By 2010 we were ready for Lloyds to check our documentation and carry out the implementation audit. We gained certification – the first UK port to do so – although we were closely followed by Liverpool and Tyne.

Few Forth Pilots noticed any difference when we became an ISPO pilotage service. No increase in paperwork. The ISPO management system is run by two or three pilots who are committed to the concept. There is no doubt that it has led to a better run pilotage service in simple and practical ways. Pilot / Master Exchange cards are filed on time, lifejackets serviced when due and all training courses done when they should be. Procedures are regularly reviewed and updated. Lloyds have proved to be diligent auditors – the two days they come each year can be stressful.

Deepwater Horizon
ISPO certification has helped Forth Pilots in ways that were not originally envisaged. Almost coinciding with our ISPO certification BP chartered drilling rig “Deepwater Horizon” exploded in the Gulf of Mexico. This led BP – our biggest customer on the Forth – to review and audit all marine risks worldwide. They looked closely at the Forth operation, which involves exporting crude oil in vessels up to VLCC size with draughts of up to 21m. BP were delighted to find that the pilots handling their cargoes were all trained and operating to a transparent and auditable international standard, backed by Lloyds Register. We had no concerns raised by BP, but they did identify that having one pilot was a possible “single barrier failure” point and asked for all operations to their crude terminal to be two pilot operations. As self-employed pilots we were happy to assist with that.

**Building Bridges**

In 2011, the year following our ISPO certification, work construction began on the £1.4 billion Forth Replacement Crossing (now called the Queensferry Crossing) – a bridge to replace the rapidly corroding Forth Road Bridge. The 233 bridge deck sections measuring 40m x 12m were prefabricated in China and shipped to Rosyth on the Forth, close to the north side of the new bridge. These would then be loaded on barges, usually two at a time, and moved into position by tugs. After getting the barge into position and lying to four anchors the deck sections were hauled up to deck level by winches on the bridge above. The international consortium building the bridge considered various options for who should move the deck sections. Employing barge masters operating with pilot exemption certificates was the intended option at the outset, but having local pilots do it became the favoured option once the bridge constructors realised that no training period would be required. Dealing with a pilot organisation that had the ISPO safety management system in place was crucial to sealing the deal. All sub-contractors working on the bridge were required to have a safety management system and we were fortunate to already have ours in place. Forth Pilots slotted in easily to the bridge constructors’ workforce, as did our ISPO system. The bridge building proved to be a lot of work over a couple of years, with several hundred barge moves, each with two pilots. Barge work is never popular with pilots at the best of times and certainly not during the Scottish winter, but the project generated a good amount of pilotage income which help to make up for the cold nights working with anchors in strong tides.
Moving Aircraft Carriers

On 3rd July 2008 the contract to build two new aircraft carriers for the Royal Navy was signed. They would be assembled at Rosyth in the Firth of Forth. At 65,000 tonnes displacement and 285m LOA they are the largest warships ever built in the United Kingdom, and are named “Queen Elizabeth” and “Prince of Wales.” The vessels were built by the Aircraft Carrier Alliance (ACA), a joint venture with the Ministry of Defence, Babcocks, BAE and Thales. The vessels are built in modular form at six yards throughout the UK, with final assembly at Rosyth. There was no certainty that Forth Pilots would be involved in the project – The Royal Navy / Ministry of Defence can, and often do, claim “Crown Exemption” from having to take a commercial pilot under compulsory pilotage directions. Royal Navy personnel or Ministry of Defence pilots could have been utilised to move the carrier modules and completed vessels. As with the Queensferry Crossing project all sub-contractors to the aircraft carrier project had to have a safety management system in place. ISPO fitted that bill nicely and it was agreed that three pilots would be assigned to the carrier project. The carrier project presented some real piloting challenges – the size of the vessels in relation to the port and the shape of the hull being the most obvious. The main entrance lock at Rosyth had to be widened to accommodate the vessels but even with the widened entrance, clearance on either side would only be 30cm. Each vessel consists of three main hull sections, which were delivered on submersible barges and then floated off for entry into the building docks at Rosyth. The completed hull was then taken out of the building dock for outfitting alongside in the main basin before finally exiting the entrance lock for entry into the River Forth and final departure on sea trails. At the time of writing the first vessel, “Queen Elizabeth” has been completed and the second vessel “Prince of Wales” is expected to sail during 2019.

June 2017 - “Queen Elizabeth” departs Rosyth for sea trials
What did ISPO ever do for us?

There is no doubt that having a safety management system such as ISPO in place smoothed the way for Forth Pilots when working on the bridge and aircraft carrier projects. We are confident that the cost of ISPO (roughly £6000 / NZ$11600 initially then £3000 / NZ$5800 per year) has been more than repaid by all the new business gained for Forth Pilots. Not everything can be measured in simple monetary terms. It is impossible to quantify in purely financial terms how ISPO has helped Forth Pilots become a better and more efficient pilotage service. The annual management reviews required by the code have helped us look at ourselves with a view to continual improvement – setting simple targets each year and making sure they are achieved. Policies and procedures are reviewed at agreed intervals to make sure they are still up to date and fit for purpose.

Customer engagement was a new area for Forth Pilots with the introduction of ISPO. We now annually survey a group of customers – ship masters, agents, berth operators and so on – to gauge their views on the pilotage service we provide. Feedback can be useful and interesting, and of course we are still waiting to hear from a single ship’s agent who is happy with the pilotage tariff.

The ISPO code has been embraced worldwide – over 800 pilots now work in ISPO accredited ports mainly in Europe, the Middle East and Australia. We await the first New Zealand port to become ISPO accredited, but maybe that is in the not too distant future.

Keith McLean
keith.mclean@forthpilots.com

Brisbane Marine Pilots are hosting the annual international ISPO conference and meetings in Brisbane on Wednesday 17 & Thursday 18 October 2018. There will be over 100 international delegates from both ISPO certified ports and also those interested in or working towards certification. Full details of the conference are available on the ISPO website at www.ispo-standard.com

Keith McLean is a board member of the International Standard for Pilot Organizations (www.ispo-standard.com). He is a serving pilot with the Association of Forth Pilots www.forthpilots.com and a consultant working with Maritime Risk and Safety Ltd (http://www.maritimeriskandsafety.com and Integrated Human Factors (www.ihf.co.uk). This article is written in a personal capacity. Any views, opinions or other information expressed are personal and do not necessarily represent the views or opinions of those organizations.
Too many years ago, I was manoeuvring a small (3000 DWT/ 100m) ship alongside in Tees Dock in the Northeast of the UK, I was approaching the berth and could see the gap between the two ships that I had to get into. As I swung the ship off the berth, it became obvious that my judgment of the combined wind effect and the ships turning ability was a bit off. To avoid colliding with the ship astern of my berth I had to use hard-over and full ahead. Shortly thereafter to avoid colliding with the ship ahead of my berth I had to use full astern and a prayer to all on-duty gods. Due to a combination of wind, slip, transverse thrust and a rapid mass turn-out on overtime by all available on-duty gods, the ship came to rest mid-way along the berth and wouldn’t have cracked an egg.

Fast forward to a few months ago and whilst berthing a cruise ship in Port Chalmers with a tug fast centre-lead aft and a fully swept-up bridge team to hand, the ship swung through an arc that took the bow about 20 metres off the putty forward and the tug on a 25 metre towline swung through about 15 metres off the barge working on the extension of the multi-purpose berth aft. All the mariners involved were happy with the progress of a slow, controlled, routine berthing manoeuvre.

The linesman on the jetty in the Tees told me that it was the best bit of ship-handling he’d ever seen; I said nothing to disillusion him. The cruise ship manoeuvre was reported as a near-miss.

And that’s fair enough. Who’s to say what a near-miss is? Does its perception not lie in the eye of the beholder?

Heinrich (c.1930) defines an accident as “an unplanned and uncontrolled event in which the action or reaction of an object, substance, person or radiation results in personal injury or the probability thereof”, (authors underlining) and is often cited. However, “…numerous definitions of accidents, incidents at work exist” (OSHWIKI) and the definition of ‘near-miss’ varies with each.

So, where do us operatives at the sharp end of industry - not just shipping - stand?

Our Health & Safety at Work Act 2015 helpfully doesn’t mention near-misses at all. The closest it appears to get is in section 24 (1): (authors underlining)

S.24 Meaning of notifiable incident
(1) In this Act, unless the context otherwise requires, a notifiable incident means an unplanned or uncontrolled incident in relation to a workplace that exposes a worker or any other person to a serious risk to that person’s health or safety arising from an immediate or imminent exposure to— [inter alia]
(h) the collapse or partial collapse of a structure; or
(l) a collision between 2 vessels, a vessel capsise, or the inrush of water into a vessel.

Both Heinrich and New Zealand’s legal draught-persons allude to near-misses strongly with respectively, “personal injury or the probability thereof” and “imminent or immediate exposure to”, but it would seem that in yet another fine example of self-perpetuating employment, it will be for the lawyers to sort out a definition on a case by case basis.

The other, more interesting, aspect of both definitions is the phrase “unplanned or uncontrolled”. A recognised essential aspect of pilotage, more particularly ship-handling, has always been that of slow-speed control. If a ship is 50 metres off a solid structure and out of control it is surely more of a hazard than one 2 metres off but under close control? It’s all a matter of perspective, which is why neither the linesman on the Tees nor the worker on the multi-purpose berth with the phone-camera, pencil and incident form are wrong. From their subjective and layman’s perspective the happenings were as they saw them. From our professional perspective, we are slow-speed control, near-miss specialists and while we keep trying to squeeze big ships into small ports, we always will be. It’s sort of what we do for a living.
Our collective challenge is surely to take such subjectivity, expose it to objective examination including, but not limited to, peer professional examination and work toward a reasonable ‘mean acceptable standard’, then apply it procedurally until such time as we learn more from the next lesson arising.

When all is said and done though, given the two opening scenarios, I still prefer the one whereby those on the quayside to see my cock-ups as an example of elite ship-handling!

(Craig Holmes)

GISBORNE

July 1st we commenced recording ship motions in the approach channel using I-Heave equipment supplied by OMC. The end goal is to build a robust safety case around UKC requirements for channel transit - historically there has been a blanket 2m static application regardless of environmental conditions. Additionally we have installed a pressure sensor in way of the mid-channel area adjacent to the foul grounds in order to compare swell magnitude in the channel for comparison with data recorded at the wave-rider which is located about a mile away and in deeper water. As if on cue of course, the swells vanished as soon as we got the I-Heave gear and the best part of 2 months since it is still comparatively flat calm on the East Coast and we have recorded very little in the way of vessel motions whilst charging around the mill pond. Coincidentally we received 2 Shore-Tension mooring units later in July and have been using them ever since to great success with the safety case around the shore-based mooring process undergoing a seismic shift.

The mooring team has adapted to the new technology very well and we are hopeful that we may have said goodbye to wire strops, senhouse slips, multi-plait catenary, etc., but (and it’s a reasonable sized ‘but’) we are similarly afflicted by the scenario discussed in the preceding paragraph, to wit – we have had no surge conditions in which to test the system to anywhere near anticipated maximum loads, and critically, when rigging the equipment to ship’s feeling the effects of surge.

What the lack of swell and surge has provide however is a hitherto rarely seen opportunity for virtually uninterrupted dredging activities over several weeks in the middle of the winter months. Consequently we are hopeful that the impending August port soundings will show a fairly healthy approach channel in terms of available datum. We do however have the Albatross passing the front door early September and we may take the opportunity to lasso her into the Port for a couple days regardless of the state of the channel – there’s always something for a higher capacity piece of dredging plant to have a crack at and any opportunity to minimise re-location costs of dredging plant is a bonus.

Prior to the great calm settling over the Region we had the significant rainfall events of June which saw significant amounts of forestry slash impacting some valleys on the back of the rainfall with Tolaga Bay hit particularly hard including damage to roads, bridges and housing. A week later the settlement of Te Karaka was cut off after the Waipaoa River peaked at 12m (as against modelling of 8m). Naturally these incidents had a negative impact on many industries and the Port is no exception with access to log skids restricted or cut off altogether ultimately impacting on the cartage of logs to the Port. Additionally the wider forestry industry (Port included) marshalled plant and equipment to assist in the clean-up and repair operations.

That slowdown in log delivery was reflected in lower ship numbers and port log tonnage for a period of approximately 6 weeks but with things getting back towards normal the Port is once again groaning toward capacity constraints with record ship numbers and cargo tonnage once again the norm.

The inner harbour redevelopment continues apace with the new cruise ship tendering area starting to take shape and the pontoon structure coming together. This will be timely with 18 cruise ships currently booked for the impending season, 4 of which may come alongside (surge & weather permitting), with
the other 14 anchoring off and tendering passengers ashore.  (Chris Kaye).

**WELLINGTON**
Recently, the majority of the Marine team spent a pretty cool morning undergoing personal survival training at the Nae Nae pool in the Hutt. A selection of our flotation devices from Pilot jackets to linesmen’s vests were tested and everyone had the opportunity to jump in from the first diving board level. The training liferaft was inflated then boarded, capsized and righted numerous times. Of particular interest to me was the wearing of our PPU backpack over the Seasafe jacket. Our packs are indeed compact, being purpose built with space for little other than your toothbrush on the job you can’t get off. Replacing the PPU and antenna with wooden blocks obviously increased the pack’s buoyancy somewhat, even so there was no inhibition of full inflation, no tendency at all to turn the body onto the front and no impediment to removing the pack off the shoulders in the water.  
(Editor’s Note: Though possible, is it necessary? Wearing backpacks is still counter to advice of IMPA, UKMPA et alia.)  Two Pilots recently attended an AMPT course at AMC Launceston. Two phrases in the intro suggested something a little different: *BRM doesn’t work and the myth of the Bridge Team and the shared mental model.* Expanding on these statements the presenter highlighted the folly of attempts to replicate CRM in the environment of maritime pilotage while attempting to establish a “team” of strangers in five minutes. An alternative approach featured Integrated Ports; vessel and port teams, enhanced support for pilotage through VTS, standardised passage planning, PPUs etc. etc.  
The previous port report commented on the commemoration of the 50th anniversary of the Wahine disaster. I found it fascinating re-reading the numerous personal recollections of this incident. How the final hole in the Swiss cheese clicked into place and what had been a routine, albeit challenging, approach to the Heads crossed that knife edge of control to loss of control and deteriorated thereafter at gathering pace into the disaster that unfolded. The valiant efforts of the Marine staff and their aged floating plant are well documented; two new state-of-the-art tugs arriving at Centreport shortly thereafter. For the numerous survivors who returned to Wellington on another day of howling southerlies and driving rain it probably seemed like yesterday. For the rest of us the memory must be somewhat dimmer, for in little over a generation we again have two tugs that in similar conditions will struggle to pass Point Halswell let alone render any assistance at the Heads. Then again, I have heard it said that we will never have another Wahine, that we are all more rational now and, amongst other things, the high altar of the schedule is no longer worshipped as it once was. Really?  
(Ed: If we are more rational now, why wear a back-pack rather than use a heaving line?)

**TAURANGA**
Greetings from the Bay of Plenty. After a good deal of research on fatigue levels, it became apparent that the work hours on the tugs and Launch were getting excessive. The outcome being that they will be going on to shift-work resulting in another 6 new positions. On the pilot front, we should see another one here within 6 months. Given the projected pilot turnover we should be looking at more….The resulting effect of the tugmaster reshuffle is that Troy will be full time day-work pilot and Craig rostered relief pilot. Exciting times here recently with the 347 metre Carsten Maersk blowing off the wharf in 60 knot winds (forecast wind mid 30 knot range !). Lucky for us, Troy saved the day and getting the tugs on station quickly with the ships stern 100 metres off the berth and threatening a ship on the other side of the harbour.  
I have been out of action since mid-June: I started badminton, thinking it’d be easier than my squash days. How wrong could I be? I hit the deck, trying to play like someone 20 years my junior. The result being 1 broken kneecap and 4 months off work: BUGGER! Phil and Lars went to Almere (Amsterdam) having been invited by Carnival to use their simulator. After several days simulation of the Majestic Princess, they came to the conclusion the new ship handled like a household pet. So we all look forward to the challenge. There were a couple of the ships masters there and they verified what Phil and Lars experienced on the simulator.  
Recently there appears to have been a lot of correspondence regarding the combination pilot ladders comprising of a hatch through the gangway platform with the ladder secured
beneath. From our perspective, these are the most practical and safe combination ladders for us to embark and disembark in the conditions we experience outside our port. Whether or not they adhere exactly to the rules, in our opinion they are perfectly safe and in fact (in swell conditions) are safer than a fixed height ladder, as they can be easily adjusted to suit clearance from the pilot boat. We fail to see why this type of ladder should be penalised when they are a clearly superior system. I know this will bring on vigorous debate, but that’s our 2 cents worth.

(Tony Hepburn)

AUCKLAND
Not too much to report since the last time, just glad to kick Winter into touch and look forward to some decent weather again. We’ve had a few days of heavy fog lately, and there seems to be a worrying trend on the foggy weekends: to see quite a few pleasure boats heading out at speed into the thick fog, with some passing close enough to us that we can observe them with one hand on the wheel and the other clutching a cell phone with a Nav App which they stare intently into, reluctant to look up lest they become lost! They all know exactly where they are, they just don’t know where anybody else is, and don’t seem at all worried! I’ve previously theorised on the disappointing fact that through sheer weight of population, we must have more morons than any other City in NZ, and this just further proof (I guess we can always look at Sydney to make us feel better)

By the time this goes to print we can congratulate Sam Eves and Peter Williams for achieving their B grade and unrestricted licences respectively. Pete’s new licence will now mean that all of our full-time rostered Pilots are Unrestricted, which is the first time in ages, and will make a welcome difference as we head into another busy cruise season, which we anticipate to be 132 visits.

Matt Dundas and I recently attended the two day WrightWay “Advanced Human Performance Refresher” courses held at the Nautical School, which we both found to be worthwhile. I particularly appreciated the simulator exercises which had a different focus from our annual emergency and contingency training. By concentrating more on BRM and human element factors, each session backed up with insightful debriefs, I found particularly useful

Recently we had a bit of a problem with the MSC Martinas which arrived here for the first time after trading around other parts of the world for over twenty years with a poorly designed non-compliant combination ladder. Its set-up exposed four clear breaches of Rule 53, and after departing here after its maiden call, the decision was made that we would not use it any further on its return call. The ship readily agreed to make all the necessary modifications, but they would not be able to be carried out until the vessel reached Singapore, so that left us with the dilemma of what to do in the meantime. Fortunately Nigel Meek was able, at very short notice, to get on a plane to Wellington, then board her there, and come up the coast with a Wellington Pilot who remained on board for the same reasons. Whilst underway, Nigel was able to recommend and oversee modifications to minimise any risks with disembarkation. The whole exercise was carried out to a successful outcome, and I think it helps to send a strong message out there, that as a national association of Pilots, we all simply won’t accept non-compliant boarding arrangements. Enjoy Spring and good luck with the Equinoctials.

(Craig Colven)

NELSON

“Progress is impossible without change, and those who cannot change their minds cannot change anything…”

Progress in Nelson has been slow: when I began to see suggestions for improvement that we had suggested 5 years ago, being suggested again by newcomers, I realised just how slow that process has been.

Having said that, the past year has seen a number of first steps that will serve the operation well into the future. After much argument, we have implemented a trial fatigue management plan which if followed rigorously can significantly decrease risk scores during peak times for little cost.

The tug crews (with Guild representation) have negotiated an improved roster and collective agreement (7-on; 5-off) which can also significantly improve fatigue issues, not to mention morale!

We have a second Marine Officer/Pilot which will allow two pilots to work on either side of the roster during peak times once they are
qualified. Daniel Orchard has just achieved his B-class license and should be unlimited before the summer. Rob Hutchison is working towards his D-class license. We have produced a high density bathymetric ENC that we are using with our Navicom Harbour Pilot PPU, to give a far more accurate picture for pilot and master to work from. The chart was produced from our annual survey data. The plan is to extend the area of the annual survey beyond the channel limits so that we have reliable alternative approach/departure lines for peak periods where more than one vessel is manoeuvring. In conjunction with this, we are in the process of fine-tuning a tidal stream model with OMC of Melbourne, to produce a realistic tidal stream atlas than can be uploaded to marine simulation centres, the hope being that we can accurately simulate new and larger vessels and trial some alternative manoeuvres. 262 metres seems to be the burning question. This tidal model will also allow us to model future capital dredging plans and berth alterations before the big plant moves in. We have revamped our passage planning/MPX sheets which will be available on the Port Nelson website along with manoeuvring schematics, mooring arrangements, and annual survey data. (when our outsourced IT people get around to it). All good progress, I believe. I just wish we didn’t have to fight so hard for it. (Matt Conyers)

NAPIER

Not too sure where the “quiet” season went to as the Cruise Season is only just around the corner with the Majestic Princess only just over the horizon. Perhaps there wasn’t a ‘quiet season’ but just the odd day and weekend when we weren’t being stuffed around for whatever reason.

Colin Sellars is progressing really well in his role as Marine Officer, but as we predicted, he is now required more and more in the roster to relieve for Sickness, Leave and courses across the ditch at Port Ash and Smartship. Ruslan, Robbie and Colin are soon going to Port Ash and then Ruslan moves straight on to Smartship to link up with Trev and Sven. Trev and Ruslan for their bi-annual plus another look at the Majestic; Sven for his Unrestricted, plus 3 Tugmasters on the Tug Sim linking-up with our guys’ simulations.

Robbie and I are just back from our 5-yearly AMPT at Smartship. With a nice looking line-up building-up in Auckland these days, Smartship will have to look at the content of some of their courses to try and keep them relevant for Kiwi pilots.

Trev and I are back to Smartship in November with Colin for more new berth (6 Berth) simulations and Colin finishing off his ‘A’ Class. A lot more work is required on the positioning of the berth, new buoyage and new leading lights and also familiarisation of 3-tug operations. Talking of which, Damen were here the other day promoting once again their new RSD model, ATDs and the possible pitfalls of rendering winches.

The Board have approved the purchase of the third tug: it’s now just the simple matter of type and builder. I am sure a few more robust discussions will be had as we discuss the merits of each design: new kid on the block is the Voith Carousel model - a great concept, but maybe a step too far for us.

As we are talking about 6 Berth, the future ownership of the port is currently a hot topic in the public domain. Apparently some form of external funding is required to finance the building of berth. Various options are out there including some kind of a minority sale, a long-term operating lease (not popular) and do-nothing which, according to some, will see the Regional Council and Port struggle to raise the required finance.

The Pilots’ view: let’s just make sure we build the berth in the right place and have sufficient resources to handle the larger tonnage. More in-depth simulations and that important word ‘Consultation’ is still required. Will it affect me? Probably not, but we have to make sure we get it right for the future and keep Napier a great place for driving ships.

While the above has been going on, the Pilots have entered into so-serious restructuring negotiations with management with the busy season only just around the corner. The frequent introduction of new larger tonnage coupled with the looming record Cruise Season causing grave concern amongst our guys. Once again consultation is the name of the game: it appears the road ahead is still a little rocky, but we could be finally on the right track. Look out for those dodgy pilot ladders, guys. There are still plenty out there.

Safe Piloting from Team Napier.

(John Pagler)
The US Navy is usually acknowledged as the biggest and best navy in the world. It is by far the biggest, and the best in terms of the hardware of naval warfare - although that position is now being challenged by China in some dimensions, such as missile technology and a ship-mounted electromagnetic railgun. The status of the US Navy as the world’s best in terms of operational efficiency was also questioned last year in light of a series of serious aircraft and warship accidents in its Seventh Fleet. The most tragic of these were the collisions involving the destroyers *USS Fitzgerald* and *USS McCain* that resulted in the deaths of 17 American sailors.

Following these collisions, one has to ask: why do American warships keep having accidents? The recent trial of the officer of the deck (OOD) after *USS Fitzgerald* collided with *ACX Crystal* off Japan in June 2017 has shown the standards of navigation and seamanship on board *Fitzgerald* to be even worse than we thought.

The OOD admitted she had violated the CO’s standing orders several times during the overnight transit off the coast of Japan. She also admitted to violating Coast Guard Nav Rules; that she did not communicate effectively with the Combat Information Centre (CIC) or operate safely in a high-density traffic condition; and did not alert the crew ahead of the impending collision.

Prosecutors argued that complacency was the standard on *Fitzgerald*. In mitigation, defence lawyers pointed to equipment deficiencies, crew shortages, and a lack of training. A similar picture of confusion, equipment deficiencies, and lack of experience emerged in the fatal collision involving the destroyer *McCain* when approaching the Singapore Strait in August 2017. The subsequent investigation by Singaporean authorities found that the bridge team of *McCain* did not understand the ship’s steering system, and that many of the decisions leading to the accident were the result of poor judgement by the CO.

Several common factors showed up in the investigations into the *McCain* and *Fitzgerald* collisions. These included a lack of understanding and adherence to the COLREGs, not least the need to proceed at a safe speed. Inadequate standards of seamanship and navigation further compounded the situation, along with poor interactions between the commanding officer and key personnel on the bridge, and a lack of knowledge of vital bridge systems.

*McCain* and *Fitzgerald* were units of the US Seventh Fleet, the largest of the American fleets, with a huge geographical area of responsibility stretching from the Indian subcontinent to the mid-Pacific. The Seventh Fleet comprises roughly 60 to 70 ships, 300 aircraft, and 40,000 Navy and Marine Corps personnel. Its principal responsibilities are to provide joint command in military operations and operational command of all naval forces in the Indo-Pacific region, in particular in the defence of the Korean Peninsula or in providing a response to assertive actions by China. The Seventh Fleet’s surface warships are the most visible elements of American military power in the Indo-Pacific region.

The then commander of the Seventh Fleet was removed from his position days after the *McCain* collision. In a reproach to his superiors at the time, he claims to have warned his own commander of the impact of increased operational demands on training and maintenance well before the destroyers’ collisions. Coincidentally, in the book *Crashback: The Power Clash Between the US and China in the Pacific* (2017), author Michael Fabey suggested that the troubles of the Seventh Fleet were not new. “Crashback” is an American naval term for ordering a ship’s engines to go full astern to avoid a collision or other accident. The title of the book relates to an incident in the South China Sea in December 2013 when the guided-missile cruiser *USS Cowpens* was monitoring operations of the Chinese aircraft carrier *Liaoning*. *Cowpens* was forced to
“crashback” when one of the vessels escorting the carrier cut closely across the bow. Fabey paints this incident as symbolic of American weakness and a failure of Washington’s preparedness to confront China. However, he also describes the Cowpens as “a troubled ship, with a struggling crew” that lacked training and experience. The comprehensive review of the McCain and Fitzgerald incidents noted that as additional burdens were placed on the Seventh Fleet, a culture developed on its busiest ships of accepting increasing risk and cutting corners. A leading cause of the accidents was claimed to be overworked ships and overworked crews. Some deeper issues might also be addressed: these include the unrestricted line officer concept, whereby an officer can command a destroyer with relatively little prior bridge experience. Problems were also evident with a large number of personnel on a warship’s bridge, with the OOD relying instead on non-commissioned quartermasters to fix the ship’s position and advise course adjustments. A failure to learn from mistakes was compounded by an attitude of superiority and exceptionalism. The tendency for senior fleet command positions in the US Navy to be held by submariners and aviators rather than surface warfare officers meant that the surface fleet’s problems may not have been fully appreciated by senior commanders. The credibility of American power in the Indo-Pacific depends largely on the surface warships of the Seventh Fleet being seen to be operated safely and efficiently. The recent accidents have damaged that image. The US Navy, and the Seventh Fleet in particular, now faces challenges in living up to the image of being the best in the world.

“Thinking in Bets: Making Smarter Decisions When You Don’t Have All the Facts” by Annie Duke – Book Review by Josh Osborne

One of the newest in behavioural psychology titles is by former poker pro Annie Duke, who, while on sick leave from her Cognitive Psychology doctorate studies, found herself broke and pregnant. Attempting to improve her situation in the smoke-filled basements of shady poker rooms by matching wits with grizzled Montana ranchers, she eventually earned over $4 million in tournament money, and much more in open play. A hand of poker takes about two minutes, and requires between one and twenty decisions, so over her 20-year career she’s made millions of decisions, some with very high stakes, and most within a few seconds or less. The author doesn’t delve too deeply into the intricacies of poker, but focuses on the decision-making process, asserting that our lives are too short to accumulate a meaningful dataset, and therefore poker, with its fast pace and high stakes, represents a condensed version from which to extract insight into the psychological biases of the mind.

A valid metaphor for life, poker, unlike chess, requires decision-making based on unknown information, with outcomes subject to luck. And therein lies one of the main lessons, which is to avoid rating the quality of your decisions based on outcome, or what the author calls ‘resulting’. It takes a consciously disinterested mind-set to objectively review a previous decision, and measure its quality based on process rather than result.

We tend to attribute our good outcomes to decision quality, and our bad outcomes to luck, assigning the same factors—in reverse—to our peers! The danger is that by taking credit for good outcomes, we may be reinforcing bad decisions, and by blaming bad results on luck, we miss the chance to examine our process. This process must include an attempt to accurately understand our present state of knowledge, which is always some degree of “I’m not sure”. This allows us to think probabilistically, with degrees of certainty reflective of reality versus the ego-driven “right or wrong”. This is challenging, as we are descendant from those whose brains were subject to the “false positive” error, the tendency to interpret the rustling of a bush as a lion, which has clear survival benefits even if the majority of the time it was nothing more than the wind. In other words, we are har-wired to accept things as true,
subject to less internal vetting than we suspect - all the more so if the information conforms to previously accepted narratives.

Additional strategies for improving decision quality include “back-casting” and “pre-mortems”: working backwards from desired/undesired results; “disrupting”: creating interruptions between our impulses and our decisions; “organizational skepticism” and “universalism”, or applying uniform standards to claims and assertions, regardless of source.

Even a slight improvement in decision quality, compounded over time, should serve to reduce the influence of luck and result in better outcomes, from the poker table to the wheelhouse.

---

News from Port Ash September 2018

Winter on the east coast of Australia has been a dry one with some reasonable rain arriving in the coastal fringe early September, but much more needed especially in the drought ravaged areas inland. The Port Ash lake is currently full, with plenty of underground water in reserve if required during the summer months ahead.

Ongoing maintenance of the model fleet has seen updates to the azimuth drive models completed, with software updates improving the visual displays. Common displays and control systems have also seen an improvement in operational redundancy and alignment with other displays on the conventional shaft drive models. The result makes the systems easier for learners when changing models in terms of familiarity of the display and operating screens.

2019 will hopefully see our last major refit for our multipurpose model “Centurion” completed, with upgrades to steering gear, propulsion systems and ship control system bringing the vessel into line with the equipment recently fitted to the rest of the Port Ash fleet. “Centurion” was the third model constructed for the Port Ash fleet and with her versatility spends many operational hours configured as an “Anzac” class FFH for the RAN and the RNZN.

Our recent programme of ship-handling courses included Dylan Bennet from Wellington, with Olaf Wahlen and Adam Eager from Port Taranaki attending during July and early August. September will see the team from Napier attend for the week, along with a new recruit to the piloting fraternity from Port Nelson.

Looking forward to attending the NZMPA conference in Wellington during November. Always a great event and learning experience! See you all then!!

Andrew Beazley – General Manager Port Ash Australia
Port Ash Australia utilises manned ship models to provide real feel, real world training on its purpose built 2 Ha (5 acre) lake, and employs experienced Marine Pilots to provide world class training.

Providing specialised training for:

☑ Masters
☑ Officers
☑ Marine Pilots
☑ Naval Officers

+61 (0)2 4987 0029  TRAINING@PORTASH.COM.AU

PORTASH.COM.AU
5P’s to make you more PPU ready

Sam Ransara – Engineering and Production Lead at Navicom Dynamics.

Due to the increased complexity of modern day piloting which demands the ability to handle large ships safely and efficiently, it is becoming more common for pilots to bring their own portable navigation systems onboard with them.

In general, these pilot/port owned portable devices are referred as Portable Pilot Units (PPUs). These provide an additional source of navigation information which usually cannot be generated accurately by the ship’s systems hence facilitating decision making for a safe and efficient piloting. The accuracy of the PPU is deterministic and can be maintained and augmented to meet the demands of the port and piloting in contrast to the vessels’ fixed ECDIS system.

The following five points would warrant safety and efficiency of the piloting operations with PPUs.

1. Power –
   It is always a good idea to keep the PPU charged, which ensures it is ready to go anytime. This includes the main sensors (Navicom Dynamics HarbourPilot, ChannelPilot or GyroPilot), auxiliary augmented sensors if any (Navicom Dynamics GyroPilot Plus, GyroPilot Triteia), and the display that runs the ECS software. Since proper functionality and expected runtime of these components are crucial for successful and safe piloting, keeping everything charged is of primary significance.

   If the user intends to keep a PPU as a backup unit or store a PPU to use in an event of a failure of a unit on operation, he must ensure that all the components are charged at least up to 50% and store in a cool, dry place. Needless to say, that the stored unit need a full charge before commencing the operation.

   It is not advisable to fully charge the PPU and store it for a prolonged period as this practice will reduce the lifetime of the batteries. The user should always use the chargers provided for the respective PPUs as they are designed to provide accurate levels of charging demanded by the PPUs, which ensures guaranteed runtimes and prolonged battery life.

2. Plan
   Before commencing the piloting, the user needs to have an action plan. This includes ensuring the connectivity between PPU and display, setting up tidal information, tidal stations and ship data on ECS system. Ensure that the display and the ECS kept in up-to-date with their latest operating system updates and software updates which guarantees the reliability of the system. In addition, it is always a good idea to check whether the electronic charts (both vector and raster) has updated recently and whether they manifest the reality at the port, terminal and the channel. For example, an older vector/raster chart might not have the latest information about the channel and may not have the recently constructed features included within. Also, the user should plan his route before and in case using a saved route, ensure that the critical features of the route, such as waypoints and turning radius are appropriate for the piloting.

3. Pack-
   After ensuring that the sensors and augmented antennas can successfully communicate with each other and the display, the user should pack the PPU before the piloting. Many users prefer to leave the laptop in either sleep or standby mode that ensure minimal power consumption prior to commencing the piloting while guarantees a quick start-up. Making sure that there are no pending operating system updates is also recommended as such an update while performing a piloting may render the display unusable for a significant amount of time. Also, the user should check that he has all the necessities for the piloting including the paperwork and radio.

4. Position–
   HarbourPilot, ChannelPilot, GyroPilot Plus and GyroPilot Triteia require a clear view of sky for their operation. Always make sure that there are no metal structures overhanging or obstructing the sky view. Position the sensors and the antennas strictly as described in product manuals and training presentations, while noting the mounting coordinates. Enter or verify the pre-programmed coordinates of the PPU within the ECS settings. This step is vital for precise piloting as an inaccuracy in position of the ECS system would result in offsets of the ship on the electronic navigational charts. Also, the user must confirm that data is coming from the sensor and there are no erroneous offsets being set for the position and heading information.

5. Pilotage –
   The PPU is now ready to provide with the information that the user needs to ensure the safety of the ship, the port and the environment. All the above described techniques would ensure the safe and efficient piloting. Certain features in the ECS can record the voyage for future playback or training purposes.
World Leading Portable Pilot Units and Precision Navigation Systems

Whatever your outlook, conditions or position...

Night or Poor Visibility

Confined Berthing Solutions

Channel Navigation

Ship to Ship Transfers

...We have the solution for you.

Accurate & Reliable
Compact, Robust & Portable Design

Improvised Safety & Work Efficiency
Satisfied Customers in over 30 Countries

sales@navicomdynamics.com | www.navicomdynamics.com | Call: +64 99155330

Office Address: 2 Parkhead Place, Albany, Auckland, NZ 0632. Postal Address: PO Box 302 193, North Harbour, Auckland, NZ 0751.

Follow us on: 

Announce the code PILOT2018 when you contact us to receive a special promotion.
THE ORC PILOT BOAT

As used by:
Port Phillip Sea Pilots
Mid West Ports
Flinders Ports
Svitzer
Rio Tinto
Esperance Port Authority
The Port Authority of NSW - Port Kembla
Port of Townsville
Gladstone Ports Authority
Tasmanian Ports Corporation
Lyttelton Ports Corporation
PrimePort - NZ