

July 2018

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# Seaways

The International Journal of The Nautical Institute

**This is not a drill**

GPS outage in Port  
Said **p04**

• **Promoting  
professionalism**  
• Technical seminar  
• report **p08**

• **Bridging the gap**  
• Humans and  
• technology **p12**

• **MASS – the NI view**  
• Speaking out on Colregs  
• and more **p14**



## Watching out for whales

Advice and resources for marine mammal avoidance **p22**

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# Contents

July 2018

## ■ Comment & Opinion

- 03 **Focus**  
The Nautical Institute CEO John Lloyd FNI
- 04 **Captain's Column**  
Coping with a GPS outage

## ■ Features

- 06 **A change of watch**  
Outgoing President Duke Snider FNI looks back on two busy years – and incoming President Nick Nash FNI outlines his passage plan.
- 08 **Across the maritime spectrum**  
The AGM technical seminar looked at all aspects of shipping – from superyachts to refugee rescue
- 12 **Technology and people – bridging the gap**  
Frank Coles' thought-provoking keynote speech

- 14 **MASS and Colregs**  
Andy Norris explains the NI's involvement with the IMO scoping exercise
- 22 **Marine mammal avoidance in the Arctic**  
Why it matters – and where to find resources to help
- 26 **Book of the month**  
The Work of the Harbour Master

## ■ MARS

- 17 **MARS reports**  
Collision goes unnoticed; snap-back slip up revisited; keep your eye on the eye; unlisted bulk cargo explodes; grounding while overtaking; self-launching lifeboat

## ■ Reporting back

- 28 **Nautelex**  
News affecting the maritime professional
- 29 **Conferences**  
IMPA; Odessa Maritime Days; Transas

## ■ Members & Branches

- 31 **Branch activities**  
Reports on branch activity and events
- 33 **Letters**
- 34 **LinkedIn**
- 35 **The Nautical Institute Out and about**
- 36 **Obituary: Capt Nicholas Cooper MNM FNI**  
New members

Cover picture: Duke Snider FNI

**Seaways**  
The International Journal of The Nautical Institute

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# Diary

What's on?

## Ready for MASS?

26 July

NI Member Exclusive Webinar

1100 BST - worldwide

Register at [www.nautinst.org](http://www.nautinst.org)

Join Captain Ghulam Hussain FNI, Technical Manager & Head of Delegation for The Nautical Institute for this free event looking at questions including:

- What exactly is an autonomous ship
- Is compliance with Colregs a given?
- What role is the NI playing in moving the debate forward?

Participants have the opportunity to ask questions before and during the webinar. A recording will be emailed to all those who register.

To take advantage of the discounts available for events listed in the Diary section, please log in to [www.nautinst.org](http://www.nautinst.org) using your membership details and click on 'Event Discounts'

02 July

### Operational Challenges of Chemical Tankers

London Branch

1800, HQS Wellington, WC2R 2PN, London, UK

[www.nautinstlondon.co.uk](http://www.nautinstlondon.co.uk)

Contact: [Andrew.bell@shlegal.com](mailto:Andrew.bell@shlegal.com)

04 July

### AGM and SOSREP

Solent Branch

1630, Mayflower Park, Southampton (during Seawork), UK

<https://www.nautinst.org/uk-solent>

Contact: [nisolentbranch.secretary@gmail.com](mailto:nisolentbranch.secretary@gmail.com)

05 July

### Oil Spill India 2018

Manekshaw Centre, New Delhi, India

<http://www.oilspillindia.org/>

29-30 August

### Vessel Efficiency & Fuel Management

Singapore

<https://www.wplgroup.com/aci/event/>  
15% discount for NI members

5-6 September

### Maritime Salvage & Casualty Response

London, UK

<https://www.wplgroup.com/aci/event/>

Contact: [dpalyk@acieu.net](mailto:dpalyk@acieu.net), quoting MSSE9NI

15% discount for NI members

12-13 September

### Marine Surveying International Fest Online

Sign up for a whole day looking at aspects of marine surveying around the world. 24 presentations – one every hour, on the hour. Available live and after the event.

[www.iims.org.uk](http://www.iims.org.uk)

13 September

### Port Marine Safety Code

Solent Branch

East Park Terrace, Southampton Solent University, UK

<https://www.nautinst.org/uk-solent>  
[nisolentbranch.secretary@gmail.com](mailto:nisolentbranch.secretary@gmail.com)

17 September

### Navigation Assessors Course

New Zealand Maritime School, Auckland, NZ

Contact: [courses@nautinst.org](mailto:courses@nautinst.org)

Discount available for NI members

24-26 September

### Salvage & Wreck Asia

Novotel Clarke Quay, Singapore

<https://goo.gl/jxh7wL>

20% discount for NI members

25-27 September

### BWMTech North America

Bahia Mar Fort Lauderdale Beach, Florida, USA

<https://goo.gl/gsQ8Cp>

20% discount for NI members

## OUT NOW

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2018 Edition

This key standard on passage planning has been updated to reflect the latest practices with regard to ECDIS, and shows how the same work is involved when appraising and planning whether for paper charts or on ECDIS

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Captain John Lloyd FNI Chief Executive

# Focus

## Delivering on safe shipping



It was a pleasure to engage in the (sometimes challenging) debate at the AGM seminar. To have the discussions led by world leaders in their fields was truly a privilege.



The Annual General Meeting is always a special event in our calendar, and this year was no exception. There is important Institute business to address, and this time around there was a significant ‘changing of the guard’ as we come to the end of six years since major governance changes. These changes introduced the Executive Board as the key body for looking after our statutory activities, investments and operational priorities.

Throughout this period we have been ably led by James Robinson as Chair of the Executive Board, who is now replaced by Peter Hinchliffe. On the financial side we have benefited from the guidance and prudence of Robbie Middleton, who is succeeded by Duncan Telfer. To those leaving the board I express on behalf of all our members deep and grateful thanks for a job brilliantly done. Your commitment and leadership has left us well placed for the future and I am sure your reliefs are looking forward to building on the solid foundations you have created.

At the same time we came to the end of the two-year Presidency of Duke Snider. Duke has been tireless in his role of leading the membership, representing The Nautical Institute globally and providing a constant source of guidance, wisdom and experience – especially as we developed our Ice Navigator Scheme. He is succeeded by Nick Nash, who has already demonstrated his enthusiasm for the role as a seagoing Master with a special interest in encouraging younger membership.

The AGM also gives us a chance to showcase our professional position through the Technical Seminar. Speakers from around the globe contributed their expertise to the debate on three key themes:

- Automation and autonomy;
- Refugees and migrants;
- Superyachts.

It was a pleasure to engage in the (sometimes challenging) debate. To have the discussions led by world leaders in their fields was truly a privilege. To the sponsors, speakers and the team organising the event in Malta and in HQ I extend my thanks.

During the AGM I was also able to recognise the special contribution that has been made by John Noble and was delighted to present him with the coveted Dedicated Service Award. Thank you John for all you have done to support me and fellow members of the NI.

### NI and IALA

Over the same period we developed further our links with IALA, supporting their 19th IALA Conference in Incheon, Korea. Our high-level representation included Director of Projects, David Patraiko and

Senior Vice-President Jillian Carson-Jackson.

I am sure that with increased levels of automation and increasing technical capabilities linking ship to shore the importance of communications and interaction between key personnel will grow. For many of our members there is already a strong interface between the bridge team and VTS operators. Their shared understanding of priorities and information is very important and we will continue our work in this area to support safer navigation in ports and their approaches.

### Chartership initiative

We have had some interesting discussions raised in respect to the Chartership initiative and our work with the Honourable Company of Master Mariners. I have made a contribution to the discussion in the letters section. This was also a subject highlighted by Captain Nash in his first Presidential address. You will see this reported on further inside this issue of .

### Governance

As we progress through the second half of 2018 we will be completing minor, but important changes to our governance arrangements and continuing with the developments of a Foundation to support the work of the Institute. I do try and keep members up-to-date with these developments through the minutes of our meetings and through articles in *Seaways*. Nevertheless if you have points for me to consider or questions to ask then drop me a line at [sec@nautinst.org](mailto:sec@nautinst.org)

### Delivering on safe shipping

By now many of you will have had the chance to read and consider the major casualty report following the collision between the MVs *Sanchi* and *CF Crystal*.

There is much for us to learn – or perhaps relearn. The recommendations include renewed energy to be given to Bridge Team Management training, the more effective use of technology in decision making and the importance of not relying on a single source of data when assessing navigational safety. All of these aspects are important to us as a professional body. I invite every one of you at sea to learn from the report so that your navigation can be as safe as possible. And I invite every one of you ashore to consider how your input can support our mariners in delivering the key objective of safer shipping.

With very best wishes  
John



# Captain's column

## What happens when you lose GPS?

Three ships operated by Maersk Line Ltd reported loss of GPS signal in the vicinity of Port Said and the Suez Canal in late March and early April. Captain John C. Finney, Master of *Maersk Columbus*, described the incident aboard his vessel:

"At approximately 1300 UTC, in vicinity of KM 31, we lost signal on both GPS units. The first indication was an alarm on the VHF radios, followed soon after by loss of indication alarms on both radars and ECDIS. Signal was intermittent for the next 90 minutes.

More disturbing was that in addition to loss of GPS signal, the radars would blank out, then after a couple of seconds the picture would reappear. And the gyro compass alarm went off. And the ship's clock commenced running backwards.

GPS speed indication would fluctuate from zero to over 50 knots, and this would cause the ECDIS charts to jump all over. At one point, we were east of the canal by three cables, then the chart would shift and we'd be west half a mile. At one point the ECDIS showed us clear of the canal and north in the departure fairway. Then GPS signal would stabilise, and the image would return to our actual position.

Our event was much more than just loss of GPS signal.

Through all this, thanks to the fact we still have our paper charts on board (for education and reference purposes) we were able to accurately plot our track and felt secure in continuing, using some 'old school' technology.

At about 1500 UTC we were finally clear of the canal, and GPS signal now appears stable. There have been no further instances of signal loss since departing the canal, no further disruptions of radar, Gyros, etc. We have verified position accuracy using both radar ranges and visual bearings, and the ship is safe and secure.

The ECDIS does not automatically switch to DR mode when signal is lost. That has to be done manually every time. And it takes a few moments to find the screen, establish your true course and speed that you want to use, and then input that into the Master ECDIS. During this time the chart image is jumping all over the place. The paper chart was a nice fall back to have handy."

Aboard the *Alliance Fairfax*, Captain Larry Aasheim reported similar issues, with intermittent GPS interference approaching the Port Said area, with severe jamming just before anchoring. Second Mate Erik Stark summarised the event in his incident report:

### "GPS Outages at Port Said, Egypt – 06-07 April 2018

(All Times Local – ZD-2)

On April 06, 2018, at 1615, in Lat 32-18.1N, Long 030-25.9E, while en route to Port Said, Egypt, the C/M reported a loss of GPS signal and position data. This caused an alarm in one of the two Furuno GPS receivers. The signal interruptions and alarms were sporadic, and lasted for approximately one half hour.

At 2300, @ Lat 31-27N, Long 032-18E, while approaching the Port Said South Anchorages, the GPS signal was jammed, lost, or was otherwise altered. This caused audible and visual alarms in the following equipment, all of which receive GPS position input:

- Both GPS receivers;
- The 10cm and 3cm radars;

- The AIS transceiver;
- Both ECDIS display units;
- Both Sat C transceivers;
- The GMDSS MF/HF transceiver;
- Both VHF DSC radios;
- The VDR.

Because the GPS signal interruptions 'pulsed' rapidly (lost, regained and lost again within seconds), every alarm that was silenced would soon sound again. Having over a dozen alarms sounding at the same time was very distracting. The radar and ECDIS displays were distorted as the ship's position jumped around. Our own ship's speed vector increased up to 80 kts. Other vessels' AIS positions were also affected, so their AIS positions and vectors jumped all over the radar and ECDIS displays.

Captain Aasheim anchored the *Fairfax* in the Southern Anchorage (Anchorage C-5; Lat 31-22.2N, Long 032-19.4E) at 2336, by visual means only, with the alarms sounding non-stop in the background.

“Our event was much more than just loss of GPS signal.”

Separate from the GPS problem, but compounding it in Port Said, was the VHF radio chatter. Added to the sound of alarms were calls from the agent and port control while anchoring.

What is also new is the strength of Navy VHF broadcasts and calls on channel 16. These calls were heard from over 300 miles WNW of Port Said, and continuously while at anchor in Port Said. The following call was repeated every 30 seconds to 1 minute on VHF 16:

"Navy calling any ship, any boat, any yacht, in position #####N, #####E, please come in, over..." Repeated...

When nobody answered (which was the norm), the broadcast call would be repeated, non-stop. This was worse than the normal white-noise chatter experienced in the area. This enhanced the distraction of the GPS alarms.

I took over the bridge watch at 2345, while at anchor. The non-stop alarms continued for 45 minutes until 0030 LT, when the GPS signal was restored, and the alarms could be silenced.

However, I watched as several other vessels' GPS signals were sporadically altered during the remainder of my watch. The AIS display overlay would show anchored vessels as moving all over the place with incredible vectors, while they physically remained in their anchored positions.

The GPS signals were interrupted once more, for about 20 seconds, while the *Fairfax* was underway and approaching the Suez Canal entrance, during the early morning of 07 April. That outage coincided with a brief period of reduced visibility, in a place where many of the buoys were off-station, and the low banks did not show well on the radar display."

His report went on to make several recommendations for vessels in a similar situation:

When the GPS receivers begin to lose signal reception, place the ECDIS's position sensors in dead reckoning (DR) mode, both Primary and Secondary. DR mode is better than GPS mode, when the ENC chart jumps all over the screen. Also, change the speed over ground sensor from GPS to DLOG (log speed). If this is not done, the DR position will degrade quickly from faulty speed input, such as the 80 knot own-ship GPS speed that we experienced.

If in DR mode, frequent position updates are necessary. From experience, especially at night, the Port Said breakwater tip is the most easily located amongst all of the other radar clutter. Also, a radar range and bearing can be inserted quickly on the ECDIS, compared to entering multiple LOP's.

Put the radars in DR mode, and make sure that the speed is water sourced (log speed). Be sure to disable AIS radar overlay. The other vessels' AIS data is also compromised, so the faulty AIS information only adds to the confusion.

Consider shutting off the AIS completely. If own-ship data is compromised, broadcasting it is not helping other vessels. Shutting down the AIS while manoeuvring towards the anchorage also eliminates a source of alarm noise. It can be powered back on after anchoring.

Consider shutting off other sources of alarm noise, such as the GMDSS console. When manoeuvring in traffic off Port Said, the GMDSS

contributes nothing but alarms when the GPS signal is down. The console can be powered up after anchoring.

Consider having an extra mate on the bridge, with a deck cadet if available, just for the purpose of silencing alarms, updating the ECDIS position manually and handling radio communications.

If the schedule permits, anchor early at Port Said, during daylight hours. In daylight, it is easier to manoeuvre by visual means, especially if dealing with the distraction of GPS alarms. It is easier to see which vessels are moving, or not moving, during daylight hours. 🌐

This article was based on reports which appeared in *Wheelhouse*, the newsletter of the International Organization of Masters, Mates & Pilots. They can be accessed at [www.bridgedeck.org](http://www.bridgedeck.org)

# READY FOR MASS?

MEMBER-ONLY FREE WEBINAR  
THURSDAY, 26 JULY 2018 @ 1100 (BST)

The era of Maritime Autonomous Surface Ships (MASS) is upon us. But what does it mean for seafarers and seafaring?



Join Captain Ghulam Hussain FNI, Technical Manager & Head of IMO Delegation for The Nautical Institute to get answers to these and other questions...

- What exactly is an autonomous ship?
- Is compliance with COLREGS a given?
- What role is the NI playing in moving the debate forward?
- How will the interaction between autonomous technology and seafarers be managed?

**Register now:** log in at [www.nautinst.org](http://www.nautinst.org) and click on the registration link. All those who register will be emailed a recording of the webinar.



# On track for the future

The new President of The Nautical Institute sets out his agenda for the next two years



**Capt Nick Nash** FRIN FNI  
President, The Nautical Institute

Convention has it that I should say I am honoured to accept the Presidency of The Nautical Institute – and that I never expected when I joined that I would get to be President of The Nautical Institute.

I am of course extremely honoured; but I must admit that I also had a secret ambition to try for the top job. I wanted to show that a merchant navy Captain who is currently in command could get to the top maritime position, while holding down a professional job at sea and an Institute affiliation/commitment at the same time. I hope that this shows the next generation of senior marine officers – the second and third officers and cadets of today – that it is possible!

I joined as a humble AMNI in 1984 (and I must admit that I joined the Royal Institute of Navigation too). I was never a Branch man, but kept in touch by reading *Seaways*, RIN's Navigation Journal, attending seminars and writing sometimes controversial articles for *Seaways* (a recent article on Bridge Team Cohesiveness springs to mind as one of my better ones). I became a full Member in 1988 and a Fellow in 2009. Philip Wake then instigated my quest for the presidency by asking me to join the Council in 2010 – whether this was to push a sailing member forward or to put a rein on my 'Bridge Team/Pilot' papers I'm not sure!

After being appointed vice president in 2014 and senior vice president 2016, I'm now the driver of The Nautical Institute's high speed train, crossing all international borders, and taking over from the excellent and careful driving of Duke Snider and a succession of highly regarded past presidents.

Now, what direction is this train going to take?

We have a track laid out in front of us in the form of the five year strategic plan (2016-2020), which coincidentally takes us as far as my tenure as the driver. On our fast track we have certain stations to pass through, gaining members on the way I hope:

- Providing professional and practical input to the work of the International Maritime Organization (IMO), ensuring members' concerns are effectively addressed within the industry.
- Promoting a sustainable maritime profession.
- Encouraging human-centred design in technology at sea and in training.
- Promoting continuing professional development (CPD) and mentoring.
- Expanding and serving the Institute's membership as a well-managed organisation.

My own particular main stations in this plan will be Continued Professional Development, Bridge Team Management, including the vital role Pilots play, and shiphandling/mentoring.

I've been very pleased to see recent articles in *Seaways* and that

excellent companion magazine *The Navigator* – which recently included Nigel Allen's informative shiphandling article.

## Shiphandling

The Nautical Institute's new Shiphandling Log Book is a fantastic way for Institute seagoing members – and non members – to record their own manoeuvres and their own mentoring input. The transformation of ship handling in to a precise science along with the introduction of increasingly autonomous systems is yet another major change we will have to deal with.

This is where the NI beacon shines bright in the maritime world. The extensive knowledge base among members, all contributing in their own speciality, keeps this great train moving at high speed. We are also able to use this knowledge to keep the IMO and others on roughly the same route – although in some cases perhaps it's more of a stopper train.

## Bridge team management

When I look at how far Bridge Team Management has evolved over the last 10 years alone, I am reminded of that great quote: 'Human error is inevitable and must be expected at any time, and for that reason we must build a system that can detect and manage human error before it causes negative consequences.' But we should build this system with care.

A cautionary tale from the bridge of a large modern cruise ship. The staff captain asked the OOW why he always seemed to agree with the Captain. After all, the 'functional bridge team' courses the OOW had attended meant he should now be prepared to question the command, particularly when he looked uncomfortable with a decision. The OOW's reply "If in doubt – agree" shows we still have some way to go on the BRM track.

## CPD

CPD is another of my key stations, along with mentoring. I wouldn't want to go and see a doctor that had not kept up to date with the latest medical science and techniques, or fly in a plane with an out of date pilot. We as an industry must do the same, and ensure that we keep fully professionally updated. CPD is the way to achieve this.

As to mentoring, I encourage members to read Andre Le Goubin's excellent book and take up his 10 minute mentoring challenge. Andre emphasises that mentoring need not be difficult, time consuming or stressful – and it is rewarding for both ourselves and our industry's future.

## Challenges facing the industry

We will inevitably come to some crossing points on our journey where we will have to decide which track to take. The direction in which we move forward with CPD will be one of these. The potential establishment of the NI Foundation will be another, and the 'drivers' will have to make a decision based upon views of the Members and Council.

A big challenge facing us all in today's world is possible interference



with single source navigational systems, whether deliberate or accidental. We were always told at navigation schools to use at least two methods to check our position – but do we still do that? I'm afraid we now need to do so more than ever since the introduction of the perceived non failing 'GNSS'.

Professor Kevin Jones, Executive Dean of Science and Engineering at the University of Plymouth, said:

"Maritime cyber threats are a growing concern as on-ship technology develops and becomes more intricately connected. As shipping infrastructure is essential to modern society, transporting 90 per cent of the world's essential goods, the level of awareness for these types of risks must be increased. To achieve that, the collaboration of academia, industry and government is pivotal for creating far-reaching and long-lasting solutions."

That's us!

As an Institute, we need to reinforce radar navigation techniques, including parallel indexing and turn monitoring. In recognising modern vulnerabilities we may need to revisit celestial navigation skills, as the US Navy training academy has recently done.

Another track changer will be fully automated or autonomous ships. Like it or not, these self thinking ships will be underway on an ocean near you before you can say logarithms! We need to move down this branch line before it becomes the 'Wild West', and game changers such as Amazon and UPS develop their own 'off the maritime rails' transports and systems.

Of course, all of this work will continue on into the future. Long before BRM was invented, I used to sail with a Captain who kept a little red book listing all his courses. He would come up to the bridge

and draw the course line for the next six hours onto the chart. We never knew our final destination, and had only to follow his pencilled line. Ultimately he got caught out when we reached the end of the course line, and the Chief Officer stopped the ship in mid ocean. The irate Captain ran up to ask why we had stopped. 'We've arrived at end of the line!' was the response. I hope that we can start laying the tracks for our next five years long before we reach the buffers on the present one in 2020.

### Recognising achievements

On a lighter note, it's great to see some recognition of Master Mariners, with the Chartered Master Mariner scheme recently introduced by Honourable Company of Master Mariners, which should go international soon. The introduction of the UK Merchant Navy Medal for Meritorious Service (with HM Queen as patron) in 2015 is further visible recognition of our industry.

I'm delighted to be your President for the next two years, although as a seafaring Master, I will have to rely quite heavily on my senior Vice President Jillian Carson Jackson, and the other Vice Presidents George Livingstone, Duncan Telfer, Walter Vervloesem, Trevor Bailey (who is also Chair of the Technical Committee) and Andre Le Goubin, and of course on the HQ team.

I look forward to working with Peter Hinchliffe who takes the Chair of the Executive Board and Duncan Telfer the Treasurer, who will help secure our passage.

I trust that with your help, advice and assistance I can keep the great high speed train that is The Nautical Institute on Track and moving forward – to quote my favourite character in the classic film *Toy Story* – 'To infinity and beyond!' 🚢

### Handing over the reins

#### Capt Duke Snider FNI

#### Immediate Past President

There have been many highlights over my two years as President of The Nautical Institute. This year started with a major shift with the change in Chief Executives, with John Lloyd hitting the deck running, and rationalising and reorganising HQ. Combined with the extraordinary performance of *Guidelines for Collecting Maritime Evidence* this has put the Institute on a better than envisaged financial footing.

I was particularly proud of the roll out of The Nautical Institute Ice Navigator Training and Certification scheme. This is the first truly global standard in Ice Navigation Competency, and before even its first year in operation, we already have more certified level 2 ice navigators than the hugely successful DP scheme had DPOs in its first three years!

The high points of my tenure have included being able to attend all five Command Seminars around the world last year, and the chance to meet mariners, members and most of all young men and women just starting their careers at sea. I loved meeting the new seafarers most of all.

Over the course of those two years, no matter where I went, I found that regardless of region, nationality and trade we all face the same issues – fatigue, criminalisation, and lack of inclusion in technological advancement. These make a depressing roll call – but the NI is making a difference in all of those areas, and will continue to do so.

Most of all, though, I think back to the excellent work and dedication of our professional team at NIHQ. Without the support of our headquarters team we would not be as visible and effective an organisation as we are.



# Across the maritime spectrum

AGM  
conference report

Lucy Budd  
Editor, *Seaways*

Three themes dominated the AGM conference this year:

- The changing maritime environment;
- Global issues and refugees;
- Technology and regulation.

These are matters that are near and dear to the hearts of NI members, said Immediate Past President Duke Snider FNI, opening the conference in Malta. While some of these issues remain the same over the years, and we put our hearts and souls into ensuring best practice and maintaining core competency, some are relatively new. ‘Who would have thought 20 years ago that one of our biggest concerns would be dealing with refugees at sea?’ Duke asked.

Another hot topic covered by the conference was the developing question of autonomous vessels. Duke emphasised that we must not confuse autonomy and automation. “We’re seeing automation creep in for all the right reasons, but we have to do it intelligently, and integrate it with maritime input,” he said. “It has to be integrated with the humans that operate it.”

## Technology and automation

Ensuring that the human element is not forgotten in the rush to technology was a key theme in Frank Coles energetic and sometimes controversial keynote address on ‘Technology and people – bridging the gap’, which appears in full on page 11. While many of the solutions for ship efficiency, smart navigation and energy management are already here, we need to prove the case for why the customer should use them – and ensure that they are properly integrated, including providing proper training, he said. This may mean a major overhaul of the existing system.

Inevitably, this provoked a lively Q&A session, with one member asking directly “How is automation a good thing for me as a seafarer?”

Frank explained that he personally does not believe fully autonomous ships make financial sense. Instead ‘You would have operators, navigators, competent people who were able to monitor ships’ systems while automation does the dreary work. Even in 1977 we flicked it into autopilot when we dropped the pilots. Right now the thing that makes sense is to increase the safety and reduce the risk, using technology to do that.’

Dr Ian Borg, the Maltese Minister for Transport, underlined the need for cooperation and dialogue between all sections of the industry, including flags and regulators, when dealing with the challenges which face us. It is important to ensure that the shipping industry remains competitive and sustainable, he said.

Dr Carl Hunter from Coltraco looked further at some of those challenges, emphasising the importance of integrity in facing them, both metaphorically and in terms of ensuring hull integrity – an area where technology should certainly be seen as an ally not a threat.

Ann Fenech took an in-depth look at the legal issues surrounding automation, outlining what she called the ‘major headaches’ with the system. These include how existing conventions are going to deal with autonomous ships. It is likely that everything from UNCLOS to legal notices affecting pilots working in and out of individual harbours will need to be amended. In all of this, the absolute priority must be safety – and maintaining the current level of safety must be the lowest benchmark. As Mike Barrett pointed out in the later Q&A, ‘If the benchmark for introduction of autonomous ships is that they should





achieve the same standards of safety we have today, that's appallingly low'.

Like Duke, Ann emphasised that automation does not necessarily mean autonomy, and that the seafarer's role is likely to remain crucial. "We hear a lot about human error, but humans are responsible for avoiding and mitigating huge numbers of casualties," she said.

### Training and technology

Muhammad Shafique, senior lecturer at Warsash Maritime Academy, made a point that resonated with many in the room when he said that emphasis on human error has often led to companies investing more in technology than in humans. Maritime education and training is changing much faster than anticipated, and augmented reality and virtual reality offer real opportunities to train future professionals.

The next two speakers, Dleep Fotedar, from City of Glasgow College and Steven Gosling from Videotel looked at some of those opportunities. Dleep showed how even simple TSS situations can be made immersive by use of technology. Virtual reality allows students to make – and learn from – errors in a way that is neither possible nor desirable at sea. 'Machines can learn faster and faster – but we need to emphasise importance of being human,' he said.

Steven Gosling explained how e-learning is moving training away from the 'chalk and talk' model to allowing people to learn at their own pace. In the past, cost has been a barrier, but immersive training is now becoming more and more readily available, he said. 'For the price of a smartphone and a pair of goggles, we can put you in a hazardous environment and test your levels of response – while keeping you in a safe environment physically. Effective learning is experiential.'

A presentation from CSmart's Antonio Di Lieto gave a real insight in how modern technology can be used to improve ship handling and bridge team interaction (see *Seaways*, June 2018). Andre le Goubin looked at how modern and traditional navigational techniques can be combined to best effect, sharing his own experience as a mooring Master using a combination of Radar, AIS and visual techniques.

'I don't want to go back to paper charts, but it's so important that we make sure practices include traditional techniques to make sure we have all the information we need – and that we can fall back on them if other systems fail. I want to see every navigator from beginning of their careers indoctrinated with the dangers of using just one system, and that it is essential that the information any system gives is verified, not once, but twice,' Andre said. It is every navigator's task to pass this on to the next generation. 'Will you make a difference? Who's to say? Most of us will never know – but you could do.'

Following up on Andre's theme on the importance of experiential learning, Antonio said that we need to look not only at what doesn't work, but also at what goes right – a good way of summing up the morning's session.



John Lloyd opens the event



Frank Coles



Peter Hinchliffe



Muhammad Shafique



Antonio di Lieto



Andre Le Goubin

### Refugees and migrants

The next session took a very different turn, as we moved from looking at technologies that are changing the way shipping operates to the effects of global disturbances that are changing the world in very different ways. It was very appropriate to be having this conversation in Malta, which has a strategic location and is in the centre of a major migratory crisis, said session chairman Chris Adams, Head of Loss Prevention at Steamship P&I Club. He shared a number of pictures taken by Club members showing rescues in which they have been involved. While figures show the number of migrant arrivals in Europe by sea is falling in most regions, Masters face an ongoing risk of encounters with migrants. So – what are the obligations on the Master? The legal framework is derived from UNCLOS Art 98(1), and the general tenet is well known, Chris said. We expect that if persons are in distress, the Master will go to their aid if at all possible, without reference to commercial aims or expecting remuneration. There are, however, very many practical implications, not least the significant bureaucratic task of trying to document everybody who is taken on board, to say nothing of food, shelter, sanitary and security arrangements. Crew themselves may feel threatened, and the focus must be on making sure that responsibilities are passed on to those better equipped to deal with them as soon as possible.

Peter Hinchliffe, Chairman of the International Chamber of Shipping (ICS), reiterated the need for support in this area. 'There is no need to change SOLAS in this area because it isn't broken. It's not addressing what it was intended to, but to change it would be a backward thing' he said. However, it is important that a rescuing ship must never be regarded as a place of safety in its own right, and that shipmasters must never be asked to categorise people on board. 'Shipmasters rescue people. That is all.'

As NGO presence has grown, the pressure on merchant shipping to carry out rescues has lessened but not vanished – and the need to escape war and famine is not going away.





One of the lessons ICS learned when dealing with the Somali piracy problem was the need for closer links with military. Likewise, it is now finding the need to work closely with NGOs. This led neatly into the next two presentations. Admiral Credendino, Commander of the EU naval operation Sophia, coordinating the rescue of migrants in the Mediterranean, described the steps which are being taken to combat people smuggling, including destroying vessels after rescues are complete so that they cannot be reused, and training the Libyan coastguard to take a more active role. The situation is improving, but slowly, he said. Information exchange is one of the most important parts of the operation.

Regina Catrambone, director of the migrant search and rescue organisation MOAS, described how the organisation had been set up, and the code of conduct which had been established. MOAS now operates two vessels, *Phoenix* and *Responder*, although the focus of operations is now shifting away from the Mediterranean as the situation stabilises, towards South East Asia, in response to the Rohingya crisis. The organisation is also providing more and more support on land. 'Ideally you help people in their own country – but how can you do that when the country they were born in does not recognise them?' she asked.

In the following question and answer session, members shared their own experiences with humanitarian rescues going back as much as forty years, showing that while the situation may have changed, the underlying issues remain the same.

### Potential of technology

Following an opening presentation from Carmelo Abela, Malta's Minister for Foreign Affairs and Trade Promotion Minister, Mitul Dave gave a comprehensive presentation on the opportunities offered by blockchain. This technology could reduce many of the hurdles currently standing in the way of global trade, he said. 'Blockchain is an electronic contract that is operated without any intervention from humans. It is one of those breakthroughs that can change the shape of the industry. Imagine a surveyor or inspector in a remote place who needs to transfer money to the UK. How can blockchain solve this problem? Money is placed in escrow as smart contract, the smart contract asks whether all the parameters of the service have been met, and the payment is automatically made. You can generate services even where the payment infrastructure does not exist.' This means players at all levels are able to participate in the global industry, and owners are able to access new suppliers and even automate quality assurance measures, bringing down costs by almost 60-70%. More radically, it even opens up the possibility for crew to own shares in the ships they operate. 'You want to connect seafarers to safety culture so that they see a concrete benefit of good performance? Blockchain means we could give them ownership – literally.'

### Superyachts and regulation

Introducing the session on superyachts – a fast growing sector, but one which often seems a long



Regina Catrambone



Nick Nash (l) presents a Dedicated Service Award to John Noble (r)



Nick Nash thanks the Retiring Treasurer Robbie Middleton and Chairman of the Executive Board James Robinson



A specially commissioned painting by Colin Baxter is presented to Harry Gale to mark his retirement



Adrian Croft



Attentive listeners

way from the world of cargo shipping – Chris Balls outlined the new Red Ensign Group Yacht Code. This is intended to bring a more professional approach to a field where regulation can be sporadic, and there are generally more requirements for environmental compliance than safety compliance. The aim is to develop equivalence with underlying IMO Convention requirements. A particular concern is the question of crewing, as people often don't come into the sector via conventional STCW routes, so another route to full certification is needed.

Sarah Fraser, from the UK registry's Large Yachts Unit, gave an overview of the development of the yacht sector, which saw something of a boom in the 1990s, and has grown exponentially since 2000 – as has the demand for crew.

Adam Jackson, head of the UK's yacht surveying unit, said that today, commercial yachts are significant internationally trading ships subject to same regulatory pressures as everyone else. However, traditional conventions don't always fit well with the yachting sector, hence the need for the development of the large yacht code, which gives more freedom to accept equivalencies. Complying with hours of rest in particular is an almost universal issue on smaller yachts which may have 4 or 5 crew. In terms of ISM, the yacht industry as a whole has not yet caught up with the merchant world, and the sector needs to move towards a wide acceptance and use of safety management. Mandatory surveys must be introduced, and the change needs to be driven by the owners.

Dr John Gauci-Maistre gave a comprehensive overview of the factors affecting flag choice for yacht owners, including increased transparency, governance, long term estate planning, and double tax treaties. Zarir Irani of the Antigua and Barbuda Registry added another aspect to be considered, which is that membership of a white list flag is an important consideration for access. 'Yachting has been seen as the unregulated section of the shipping industry, and we have to address that as a flag state,' he said. Ironically, the biggest threat to safety is often the owner himself. With all the parties on board, there is usually some compromise of safety of life, and skippers have to constantly – and tactfully – remind owners of this.

Adrian Croft rounded up the session by looking at the training which is required, and that which is available. While owners are mostly able to retain existing crew without difficulty, seetime can be quite limited on a yearly basis, so it is very easy for errors to creep in. This often manifests itself in a poor understanding of stability, or even simple things like understanding of the Colregs, where crew have often lost some of their operational knowledge. He emphasised that yachts operate to a different set of market forces to the main shipping industry – yet safety and operational issues remain the same. Whether military, merchant or yachting sector, we should all be striving towards the highest level of professionalism. 🇬🇧



Thanks to the generous support of our sponsors, The Nautical Institute was able to enjoy a drinks reception at Fenech and Fenech law firm and a reception and dinner at the spectacular Malta Maritime Museum. Our thanks to everyone who worked so hard to make the event such a success.



# Technology and people – bridging the gap

## The Nautical Institute AGM Keynote



**Frank J Coles** LLM FNI  
Wäertsila Voyage Solutions

In this keynote speech, I want to talk about the future of technologies, people and how we can find a practical maritime solution to ensuring safe, efficient operations.

We have a vision where the industry uses multiple technological solutions to create a smart maritime ecosystem. The vision considers ship efficiency, ship energy solutions, safe and smart navigation and even goes into smart ports.

Many of these technologies or solutions are already here; many are just around the corner. However, in large part, they are fragmented and not connected in such a way that stakeholders see the value in them. Our challenge as an industry is to realise this value. This is also the challenge for the suppliers, who need to help the industry see the opportunities their products offer.

### Are we holding back change?

Technology companies are partly to blame for this lack of understanding, because they do not explain the value well enough. We are all so busy trying to outdo one another in the market that the customers and their needs are overlooked. There is also a tendency to overlap the value of the solutions and technologies across stakeholders in the industry. This confuses the customer, who struggles to see who is benefiting from the fragmented offerings and solutions being proposed.

However, the negative press of the naysayers is also to blame. The value of the new world is over the heads of many of the 'experts' in the industry. Not because they don't understand the change, but because they only see it in the context of the world of today.

Also at fault is the fundamental way in which the maritime transportation industry approaches technology and change. As a professional transportation infrastructure, it is flawed and outdated. The current infrastructure, with its emphasis on enforcing rules and regulations, makes it very difficult to develop a true professional safety culture. The circle of compromise between the various regulatory bodies and other interested parties means we end up in an unsatisfactory place where the technology we use is a poor fit with the humans who use it.

### Technology – we're using it wrong

When we talk about the technology available and how to use it in our industry we need to be thinking about three key things:

- First, we need to understand the problem it is solving or value it is bringing;

- Then we need to understand the correct way to implement this technology so that it does what it is designed to do;

- Finally, what are the implications for the human in the chain? Let me use an old favourite, ECDIS, to prove the point.

ECDIS is supposed to reduce workload. It is also supposed to be used along with all other means of safe navigation. ECDIS is supposed to be operated by qualified and skilled users.

When it is used in the framework of old operational behaviours, ECDIS adds to the workload. As a standalone unit for navigation, it increases risk of an incident. Without proper competence and skills training (not merely certification), it increases risk of an incident. All of these situations are commonplace in our industry. ECDIS is a classic example of the errors of the industry regulatory environment. It is poorly regulated, poorly trained and poorly used.

We encourage single task focus and behaviours. Why have certification for ECDIS, without including radar and other associated tools and other distractions? You don't learn to use the navigation system in your car without knowing how to drive at the same time.

On top of this, many operators put the equipment on board but do not factor in or require a change of behaviour, attitude or operational process. The problem is not how the ECDIS operates, or even how the crew perform. We are quite simply flawed in our approach to the human in technology.

### Developing a safe navigational mentality

A safe navigational mentality starts from having a complete picture of the skills and competence required on the bridge, and the training required to achieve and maintain them.

By contrast, our approach to regulation, training and operational requirements starts from the culture of the industry, the regulators and the attitude to safety – which is not of the highest quality.

There is so much more that could be done to enhance the proper use of technology to improve training and safety of navigation and indeed all operations on a ship. There are actions that would improve safety and efficiency and in an environmentally friendly way. For example, effective and frequent use of simulation could greatly improve the competence of our seafarers. Simulation is the perfect answer to providing increased competence, in an environmentally friendly manner, and with efficient repetitive training.

But like so much in the maritime industry, we only do the bare minimum and do not believe in a modern structured approach.

### A change in approach

Technology is changing everything in the world, from the way we communicate ashore to the use of our cell phones as extensions of our lives and the growing use of technology in cars. Humans adapt to these



changes by changing how they behave. Yet when it comes to on board operations and in the maritime sector generally, we tend to introduce the new technology while still requiring the same old processes.

In the shipping industry, we see huge changes in logistics ashore and the efficiency of ports. We watch as companies like Amazon and Google introduce huge advances in efficiency and use technology to bring scale and change to the movement of goods. Yet maritime transportation as an industry remains resistant to this change. It is the equivalent of a wooden sailing ship in the transport chain, using cheap labour to run the ships and finding new ways to denigrate the seafarer.

Today, we have a situation where maritime technology companies are way out in front of the operational rationale, because they have not made the case for the changes they enable. But change is coming, and it is coming for reasons that make sense:

- We live in a new world. Our world demands green solutions; we are more environmentally aware. No matter how slowly the IMO works, being green is going to be a requirement.
- The new generation of workers have a different attitude to their habitat and their work experience. They are probably more aware and less likely to just accept the entrenched attitudes.
- The logistics and retail world demands more efficient supply of goods and delivery. The difference between the efficiency of ship operations as they stand today, compared with the efficiency which could be achieved with the use of technological support systems is like night and day. If we consider the use of available fuels, combination of propulsion types and tools for effective voyage management, the opportunities for improvement are almost endless. In the case of navigation, the scale of improvement in safety, efficiency and reduction of environmental risk is substantial.

### Increasing efficiency

There is every reason to believe that the use of big data and analytics is going to be necessary to remain competitive and attractive to charterers, especially with the changing dynamics of world trade.

Technology provides the ability to make the industry green, efficient and safer. It also makes the industry more attractive and more appealing for the next generation to work in.

In order to bridge the gap between technology and people, we need to stop talking about the technology itself and focus on the solutions that it can offer. We also need to change the infrastructure and attitude that surrounds the maritime industry. We need an environment that is conducive to change. The question should not be, ‘Why should I change?’ but, ‘Why have you not changed?’

We have to show the benefits of the technological solutions and the return on the investment that they offer. But we also have to implement them properly – which means ensuring proper interaction between the human and the technology.

This means we have to deal with the broken structure of our industry, because the current structure and attitudes will hinder the adoption and realisation of the situation. We cannot keep compromising on the design of the maritime product as a transportation model. We cannot keep accepting the minimalist approach to safety, efficiency and the environment.

We have to have a new more modern professional approach to the whole model. One that befits the stature of being the industry that carries 90% of world trade. One that is responsible.

### Learning from other industries

Consider the aviation model. While it is not a perfect mirror of the needs and desires of the maritime industry, it does use several key elements of the professional technology to human interface.

- Dispatch to pilot is no different from the office and the ship communicating on a safe voyage. Why do we insist on the ship being in sole control?

- Pilot to air traffic control (ATC) is a sensible and smart method of navigation management in dense traffic situations. One wonders how many traffic monitoring systems have watched ship collisions unable to manage, intervene or help avoid the situation?
- Ship to Traffic Control (STC and STM) systems have begun to be put in place, but this is not happening fast enough, and there is a confusion between the safe navigation and the logistics operations.
- Engines data monitoring to ground life cycle management. ‘Power by the hour’ is a fairly well-known concept in aviation. While it may not yet be practicable in maritime, proper asset management and ship operations linked to the fleet operations centre could bring significant value.
- Airport operations to Dispatch/Pilot. Communications between the airport and the airline are essential to logistics and cargo operations. Communications from the port to ship’s office could, and should, replace much of what currently goes from the port to the ship – reducing the workload on the ship, and thus improving safety.
- Pilot and crew training. At present, we train our seafarers not to the highest standard, but to the minimum qualifications. We have not really adapted to new technology by changing scope or roles as it is added. We do not train officers in use of the bridge as a complete package. So much more could be done in this regard. Maybe this is the largest advancement that we could make in bridging the gap between humans and technology?

However, none of this is much use unless we apply a different attitude to how humans interact with technology. This means we have to provide a sensible solution for the use of technology in maritime. New technology needs to replace old processes, which means a new approach, not just running it in parallel with the old ways of doing things. Finally, the technology and the human must interact with proper training that is continuous, repetitive and fit for purpose.

### Autonomy is not the answer

Making better use of technology is not about introducing autonomous ships or unmanned ships. It is about a new business model, and a new attitude to how technology works with humans. We should not be thinking of this in the current business model, but in terms of how the model is going to look tomorrow. We are likely to see specialist ships that are environmentally clean. We will probably see automated ships, but with humans overseeing operations. And we will move towards an efficient and clean mode of delivering cargo, which satisfies cargo interests, the general public and future crews.

How do we achieve this change? Should we wait for current industry processes to come up with answers? That will simply take too long. It is perfectly possible for the new world to exist in the current regulatory environment. After all, we currently operate at a least cost, minimal level of safety – so there should be no bar to improvement. Making the change is simple if the efficiency and safety can be proven and demonstrated.

It is incumbent on those who value maritime as a core transport mechanism to provide a better solution – an environmentally friendly ship that is also efficient and fit for purpose. Many stakeholders have a role in this, and maybe the shippers and cargo owners could play the largest role, by choosing to charter only the highest quality and best operated ships.

The Nautical Institute must continue to maintain a position of highest professionalism in seeking a quality solution to the safe navigation of ships. Ship operations should be run in a high-performance environment and not a high-risk environment. Without a change in attitude, in many cases, technology will likely continue to be at odds with the human using it – and that is not a solution to anything. 🌐

# Establishing rules for the MASS

How The Nautical Institute is making sure seafarers have a say in IMO's discussions on autonomous ships



**Andy Norris**  
FRIN FNI

The May 2018 meeting of IMO's Maritime Safety Committee began establishing how autonomous ships should be incorporated into international maritime regulations to ensure they can safely interact with the conventional maritime world. This is initially being undertaken as a Regulatory Scoping Exercise over the next two years, establishing what changes need to be made.

Detailed work on any modification to the relevant IMO instruments will commence after the scoping exercise has been completed. Depending on the outcome of the scoping exercise, this may include creating new IMO instruments.

## Role of the NI

Many member countries and non-governmental organisations, including The Nautical Institute, have been instrumental in getting this matter onto IMO's agenda as a matter of urgency, to ensure that regulations address the developing capability of technology.

The NI has been contributing to the requirements for autonomous vessels since 2014, when it took an active role in developing the UK's first-ever national guidance for autonomous vessel design. The NI played an important role in ensuring that this guidance took into account all the needs for ensuring their safe interaction with conventional vessels. This guidance was issued in November 2017 by Maritime UK as an Industry Code of Practice. The NI recognised that an increasing number of its members would have responsibilities for such vessels because of their experience with the safe conduct of conventional vessels.

## Defining MASS

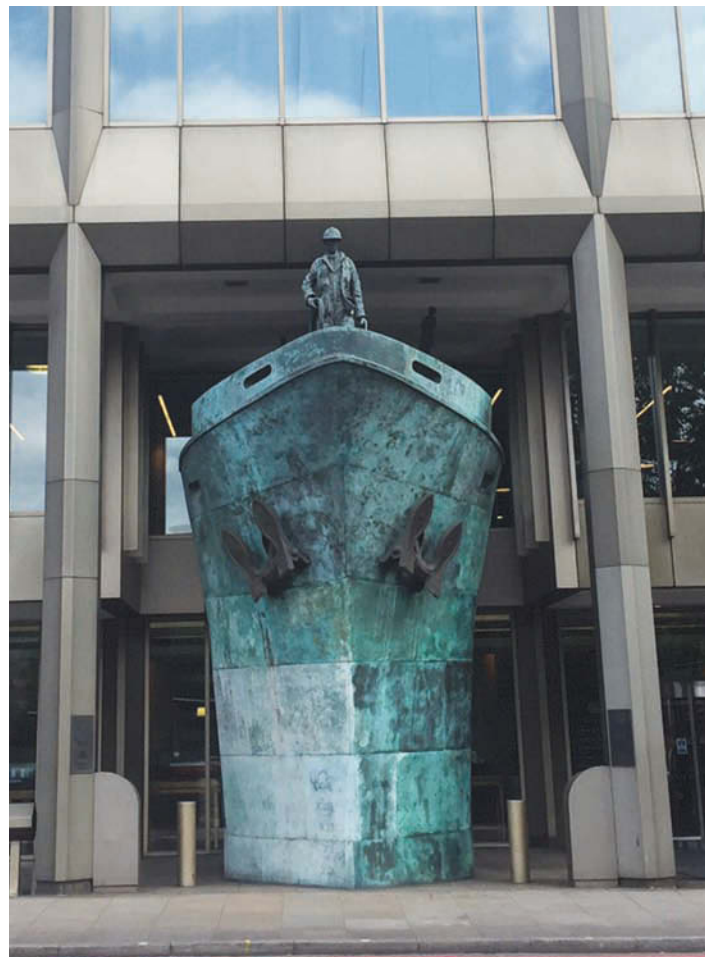
The accepted term for such vessels has become Maritime Autonomous Surface Ships, generally abbreviated to MASS. This term is now being used at IMO. The preliminary definition of a MASS is a ship which, to a varying degree, can operate independent of human interaction.

IMO has provisionally agreed four levels of autonomy:

1. **Ship with automated processes and decision support.** Seafarers are on board to operate and control shipboard systems and functions. Some operations may be automated.
2. **Remotely controlled ship with seafarers onboard.** The ship is controlled and operated from another location but seafarers are on board.

3. **Remotely controlled ship without seafarers on board.** The ship is controlled and operated from another location. There are no seafarers on board.
4. **Fully autonomous ship.** The operating system of the ship is able to make decisions and determine actions by itself.

A MASS could operate at one or more of these levels of autonomy during a single voyage. The levels of autonomy are different from the various categories that have been evolving at national levels around the world but are seen to be particularly useful at this stage in aiding IMO's Regulatory Scoping Exercise. The definitions are likely to evolve in the future.



Over the next two years IMO's Maritime Safety Committee will oversee a detailed examination of how the concept of MASS relates to IMO instruments related to maritime safety and security, and whether they will need to be amended. Fourteen such instruments were identified, including the Colregs, SOLAS, STCW and SAR (Search and rescue). MSC will first identify whether the provisions contained within the existing instruments apply to MASS or not. Where they are applicable, MSC will then determine whether the instruments currently preclude MASS.

With this knowledge in place, the second part of the two year exercise will consist of an analysis to ascertain how IMO should appropriately address MASS operations. It will identify whether any new instruments are required, which instruments need amending and if any agreed interpretations are required to ensure compliance with instruments that do not need modification.

### Why start now?

Although it has been a surprise to many that IMO started its work on MASS so 'early', it is really just reflecting the obvious need to ensure that all autonomous ships are safely designed and navigated. For larger vessels, full autonomy remains a relatively distant dream, but the recognised concept of MASS encompasses vessels that are remotely controlled by humans. Such vessels have actually been around for many years, but the technology is now at a stage where it could enable its safe use on SOLAS-sized commercial ships. Interestingly, the recent work at IMO has also highlighted the need for MASS regulations to cover the increasing levels of automated processes on fully manned vessels – stage 1 in the levels of autonomy listed above.

### Keeping Colregs

There is little or no support for navigators of conventional manned vessels having to learn new rules for dealing with unmanned vessels. A few years ago some proponents of MASS wanted them to be considered as vessels restricted in their ability to manoeuvre, effectively placing the responsibility for their safety mainly on the actions of other vessels. This is no longer the case. On the contrary, MASS will almost certainly need to fully observe the present Colregs, even if some issues will need to be formally clarified, such as the equivalent meanings of 'sight' and 'hearing'. It is also very likely that all MASS, whatever their level of automation, will need to be able to respond knowledgeably to VHF voice communications.

It is likely that certain areas within international waters will be reserved solely for the testing and/or certification of autonomous vessels in the relatively near future. These areas will need to be suitably marked on charts, and presumably also by physical means. In fact, most testing of such vessels is likely to take place in national waters, and we are already seeing such areas being designated for trials by national maritime authorities. Large autonomous ships are expected to start appearing in service in national waters from about 2020. It will be interesting to see how the authorities actually deal with their safe interaction with other vessels, as it is unlikely that there will be IMO guidance on the matter by then.

The maritime community is inevitably going to experience a move towards more and more autonomy over the years. This will lead to a slow reduction in the number of bridge personnel needed at sea but in the foreseeable future, it will give many new opportunities for interesting shore-based roles for staff with conventional bridge experience, such as assisting or managing the remote control of vessels. The Nautical Institute will be helping to ensure that this slow transition is managed in a considered and measured manner. The requirements for safe operation will always be paramount in our contributions at IMO. 🌐

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**MALAYSIA: 3-4 SEPTEMBER 2018**

**MALAYSIA: 6-7 SEPTEMBER 2018**

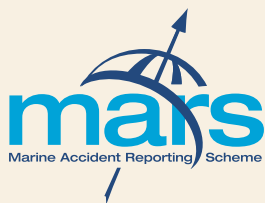
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# Mariners' Alerting and Reporting Scheme

MARS Report No. 309 July 2018

## MARS 201841

### Collision goes unnoticed

As edited from official Japan Transport Safety Board report MA2017-3

→ A small coastal container ship was en route at night in good visibility with an OOW and lookout on the bridge. The vessel was on autopilot at a speed of approximately 15.5 kts when the OOW observed another ship ahead on the radar. The target was plotted, showing that it would cross from the starboard side to the port side.

About 2 hours and 25 minutes later the relief OOW came to the bridge. He was given information about the approaching vessel before taking over the watch. At the radar, he extended the true speed vectors, which were set to a three-minute display, and found that the tip of the target's vector reached a point behind the tip of his vessel's vector. He therefore assumed that the target vessel would pass astern of his ship. Meanwhile, as was the practice, the relieved OOW was at the chart table completing the logbook entries with the curtain open and chart table light on.

A few minutes later the lookout reported sighting the target vessel. He also asked permission to leave the bridge to attend the head, which was granted. The OOW looked at the target vessel's true vector on the radar screen. It appeared to him that the direction and length of the vector had not changed. He then glanced out of the window and saw the vessel's lights at close range to starboard and realised there was a danger of collision. Using the daylight signalling lamp on the starboard side of the bridge, the OOW flashed the vessel about ten times. With no observable response, he then went to the helm and switched to hand steering, setting the rudder hard to port.

The OOW did not feel any impact, and assumed that a collision had been avoided. From the bridge wing he was unable to observe the other ship's lights astern. He then set the autopilot to the previous course and, when the lookout returned to the bridge, asked him if he had felt an impact. The lookout had not. The OOW telephoned the engine room and asked about an impact. The engineer of the watch said he had felt something like being hit by a wave.

Unsure of what to do, the OOW again went out onto the wing and searched astern together with the lookout. Nothing was sighted so, about 30 minutes later, he informed the Master. The Master decided to investigate further, and went to the bow to see if there were signs of a collision. He did not see any, so was inclined to believe that no collision had occurred.

At the next port the crew again searched for signs of a collision from the wharf but did not find any. The vessel left port but was intercepted by a patrol boat once underway and directed to another port for a detailed inspection.

The investigation later determined that the target ship was a fishing vessel manned by a sole person, the skipper. He had not returned at the usual time and his family had informed the authorities that he was missing. A search was instigated and the fishing vessel was found capsized and damaged on the port side. The skipper was recovered from inside the vessel and was later declared deceased. A search was initiated for the other vessel implicated in the collision. After some investigation the small coastal container ship was identified.



### Lessons learned

- If you have the slightest doubt you may have collided with a small boat, stop immediately and investigate fully.
- At night, keep the bridge in 'blackout mode'. This is important for good night vision. Use red lights for the chart table and shield the light with curtains.
- Use your electronic navigation equipment to its utmost, but also your human power. The eyes of a dedicated lookout and the OOW are fine assets.
- When using the radar for collision avoidance, use relative mode instead of true to give a better visual representation of collision risks.

## MARS 201842

### Snap-back slip up 2

As edited from official UK MAIB report number 13-2017

First published as MARS 201614 'Snap-back slip up'

■ **Editor's note:** MARS first published this accident in 2016, based on an OCIMF bulletin. The MAIB has since issued its official report on the accident, which includes some additional findings that are of interest.

→ A large LNG carrier was being warped into position by tensioning the forward back springs. The deck officer in charge of the forward mooring party was standing aft of the fairlead through which the spring lines passed. He was directing operations by signalling to a seaman who was located forward. From this position the seaman was able to relay the signals to the winch operator, who could not see the deck officer.

The mooring line parted inboard from a pedestal fairlead while under tension. The section of the line between the break and the port shoulder roller fairlead struck the deck officer on the head as it whipped back before going overboard through the fairlead. The deck officer was found lying unconscious forward of the roller fairlead. He had sustained multiple skull fractures.

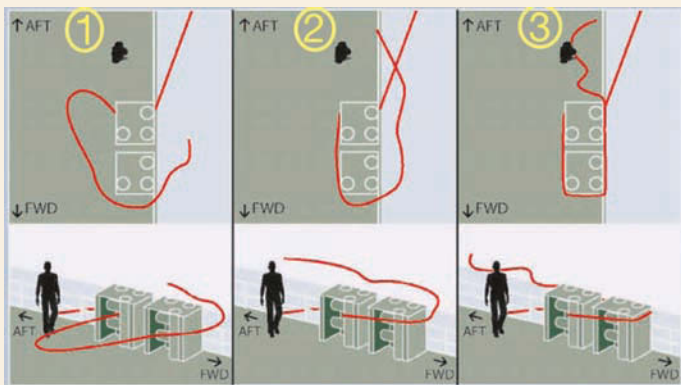
The mooring line that failed was a 44 millimetre diameter sheathed ultra-high-modulus polyethylene (HMPE) line. The line was fitted with a 22 metre polyester/polyethylene tail. The section of line in use between the winch and the connection with the tail was approximately 68 metres long.

The MAIB report found, among other things, that:

- The residual strength of the mooring line was substantially reduced from original specifications. The tensile load on the mooring line when it parted was less than a quarter of its specified minimum breaking load and below its accepted working load limit.

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- The predominant factor for the loss of residual strength was axial compression fatigue. However, axial compression fatigue had not previously been considered as a likely failure mode or significant cause of strength loss in HMPE rope by the manufacturer.
- The decision to attempt to reposition the vessel using the spring lines rather than recalling the tugs placed the mooring parties in an unnecessarily hazardous position, particularly given the strength and direction of the winds.

### Lessons learned

- Mooring line maintenance management and condition monitoring regimes must include clear and practical criteria for discarding compromised ropes.
- The condition of the load bearing core of jacketed ropes cannot be adequately assessed on board ship. Several of the rope discard criteria listed in the company's safety management manual, such as broken strands, abraded yarns and fused fibres, cannot be identified without destroying sections of the rope.
- The tensile strength of high modulus rope will diminish steadily over time regardless of how well it is maintained. For this reason, appropriate safety factors and anticipated life expectancies need to be applied, and parameters such as time, tension and temperature need to be closely monitored. Without these, the ropes will likely fail before being discarded.

### MARS 201843

## Keep your eye on the eye

➔ A vessel was leaving berth and deck crew were retrieving the lines. An officer and two ABs were on duty at the aft mooring station. After letting go the mooring ropes the ropes were taken on board using the winch.

One of the lines already on board was being attended to by an AB who was trying to remove the chafing guard. The officer came towards the AB with the intention of helping him, but he unintentionally crossed one of the mooring lines that was being heaved in. His foot got caught in the eye of the rope and before the winch could be stopped he had sustained an injury. An examination found his ankle was badly sprained.

### Lessons learned

- A supervisor must maintain an overview of the work area to ensure a team's safety, conserving his/her situational awareness.
- There is no need for an officer to get involved in the work process unless there is an emergency.
- Never step into a bight or the eye of a mooring line

### MARS 201844

## Unlisted bulk cargo exploded

As edited from official MAIB report 26/2017

➔ The Master of a small coastal trader received instructions from the charterers to load a full cargo of unprocessed incinerator bottom ash (U-IBA). The instructions specified that the cargo was not dangerous, and stated '...cargo also includes some foreign materials which is no problem. Cargo can be loaded/discharged in rain.'

The Master and Chief Officer referred to the International Maritime Solid Bulk Cargoes (IMSBC Code), but did not find an entry for U-IBA. The Master decided to load as instructed, and did not receive any further information about the cargo.

Loading into the single hold took about eight hours, with heavy and persistent rain throughout. When loading was completed, the vessel departed, but anchored 30 minutes later to await better weather conditions for the voyage. The next day, while still at anchor, the chief engineer went to the forecabin store to investigate a problem with the emergency fire pump. He started the pump and from the sound of its operation suspected that it was running dry. After confirming this was the case, he pushed the stop button on the main panel. At the very same moment there were two loud explosions in quick succession and the chief engineer was thrown violently to the deck.

The victim was quickly evacuated by helicopter to a shore hospital. He had suffered first degree burns to his face and second degree burns to his body, hands and lower extremities. The vessel had suffered some minor damage. Five of the nine hatch covers had to be replaced, along with all of the hatch cleats and the cargo hold coaming bar among others.



There had been 34 shipments of U-IBA from the same port on 26 vessels without incident. However, U-IBA was not listed in the IMSBC Code and no steps had been taken to seek approval from the competent authorities for its carriage, as required by the Code. The charterparty stated that U-IBA was non-dangerous and non-IMO classed (implying that it was not a recognised dangerous cargo under the IMDG Code). Therefore, it is not surprising that the Master, along with the Masters of the vessels carrying the previous 34 shipments, followed the loading instructions from the charterer.



The investigation found, among other things, that U-IBA, when exposed to water, generates a low rate of H<sub>2</sub>, with a risk of explosive atmosphere formation. In this case, H<sub>2</sub> gas had probably migrated from the vessel's hold to the forecabin store and into the pump's start/stop panel, initiating the first explosion.

### Lessons learned

- If the bulk cargo is not listed in the IMSBC Code, do not load until approval for carriage is received from the competent authorities.
- Had the IMSBC Code requirements been followed it is likely this accident would not have happened, as the dangers would probably have been identified and procedures for safe carriage developed and implemented prior to loading.
- For purposes of transportation in bulk by sea, the release of any quantity of flammable gas should be considered dangerous.

## MARS 201845

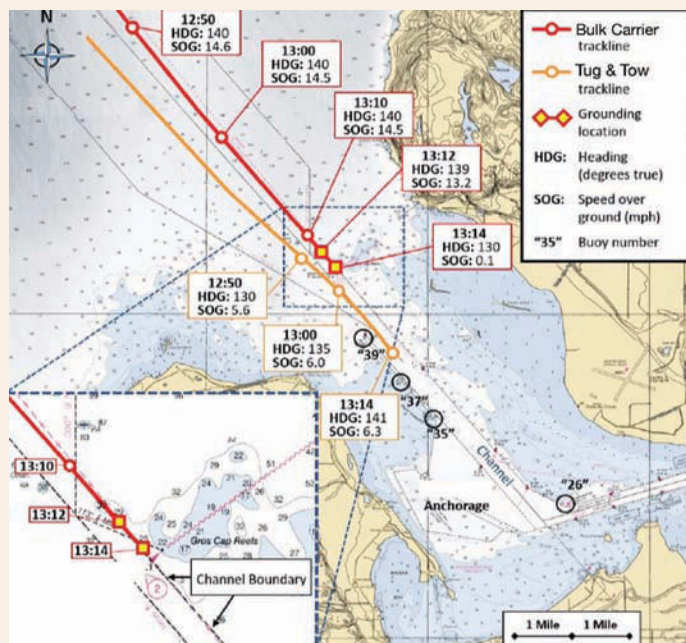
### Grounding while overtaking

As edited from official US NTSB marine accident brief 17/25

➔ A loaded inland bulk carrier was making way and preparing to pass a tug and tow. The bridge teams on the two vessels agreed that the tug and tow would keep to the starboard side of the channel and the bulk carrier would overtake on its port side.

As the overtaking manoeuvre was taking shape, in daylight and good visibility, the bulk carrier's port side came outside the channel and very close to a charted reef. The OOW was looking out of the windows to navigate, and had not glanced at the electronic chart nor positioned the vessel on the paper chart. Without having moderated the engine, the vessel began to slow down. Its heading then quickly shifted about eight degrees to port. The vessel continued to move forward, dragging the hull an additional ship's length over the rocky bottom until it came to rest.

Immediately following the accident, the crew sounded the tanks. Multiple punctures and large fractures to the hull had been sustained. There was significant deflection of the steel deck in the forward end of the port side cargo belt tunnel and the cargo belt pulley system was misaligned. Damage cost in the order of USD 4.5 million and took over two months to repair.



### Lessons learned

- Use all available means at your disposal to navigate the vessel. In this case the electronic chart would have clearly shown the vessel was in danger of grounding.
- The bulk carrier's OOW must have felt some pressure to complete the overtaking manoeuvre as previously agreed, and therefore did not moderate the vessel's speed; a sharp port course alteration was coming up very near to where the overtaking would have been completed. Don't be afraid to change your plans, and when in doubt, slow down.

## MARS 201846

### Lifeboat self-launches

➔ The port life boat was to be lowered to deck level as a test, with the vessel underway at about five knots. As soon as the lashings were removed, the lifeboat started to lower itself to the sea of its own accord. Crew attempted to stop the descent by pulling down the brake arm to stop the lifeboat, but without effect. The lifeboat continued its course downward to the sea.

The bridge was informed and the vessel was stopped and turned to make a lee on the port side to protect the lifeboat. The company investigation found that the lowering arm, which had been dismantled for maintenance and then reassembled, had been improperly installed.



### Lessons learned

- Lifeboat launching apparatus is essential equipment. Maintenance should be undertaken or supervised only by competent personnel.
- Always slow the vessel to a near stop or wait until at anchor to test lifeboat lowering. If berthed, test the outboard lifeboat only.

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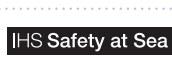
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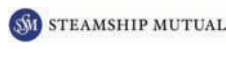
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# Marine mammal avoidance in polar waters

Voyage planning is a key tool for protecting marine life in the arctic

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The IMO's International Code for Ships Operating in Polar Waters (Polar Code) has been in force since January 1 2017. As of 2018, it applies to existing ships as well as newbuilds. The Polar Code sets a mandatory baseline for the design, operation, and environmental measures for vessels traversing this often challenging environment. The timing of the Polar Code is excellent, as it seems every year a new polar voyage sets records, leading to excited headlines about new routes, longer shipping seasons, or earlier transits. The cruise ship *Crystal Serenity* carried almost 1,800 crew and passengers through the Northwest Passage during the summer of 2016. In the winter of the same year, *HHL Valparaiso* became the first vessel to sail open hatch through the Northern Sea Route.

It seems likely that many more vessels will follow suit. Potential scenarios developed by the US Committee on the Maritime Transportation System (CMTS) estimate that traffic through the Bering Strait may experience increases in traffic ranging from 100 to 500 percent by 2025, relative to 2013 levels. Yet in its guidelines to protect marine mammals from ship traffic, the Polar Code is not as clear or as strong as it could be.

## Risk of ship strikes

The polar regions are home to a remarkable number of marine mammals. In the Arctic bowhead whales, belugas, narwhals, walrus and seals have all adapted to life under and on sea ice. Many other species, such as gray whales, humpback whales and killer whales may migrate in and out of the region during the same open ice seasons in which mariners are most likely to operate. This increases the risk of a negative interaction between these endemic species and visiting ships.

Bowhead whales, like their cousins the right whale, tend to be slow swimmers who do not react quickly to approaching ships. Ship strikes on these large animals poses a danger not only to the whale, but to vessels as well. In the past ship strikes have cracked hulls, damaged propellers, propeller shafts and rudders, damaged aft strut actuators, broken steering arms and ruptured seawater piping.

Vessel damage notwithstanding, the whale will likely come off the worse for wear in the exchange. Vessels can seriously impact the health of individual animals, or even entire populations, if care is not taken. Some bowhead whales in Alaska already exhibit scarring consistent with propellers or other ship strike damage. As with many threats, an ounce of prevention is worth a pounded hull. Voyage planning is a vital tool in minimising these interactions.

Striking sea ice habitat can often be just as devastating for seals or other mammals that haul onto the ice. When icebreakers carve a path through sea ice, seals will often mistake it for a natural polynya, or break in the ice, and will attempt to build their dens along the edges. These mothers and seal pups are then vulnerable to any ships following the path cut by the icebreaker. Strikes on these dens can cause pups to fall into icy water before their bodies can handle the shock. Whales that mistake these artificial polynya can become trapped when these channels refreeze. This risk could increase further as more shipping occurs in the fall.

## Underwater noise impacts

The natural underwater soundscape experienced by marine mammals in the Arctic Ocean is different from that of temperate oceans, with seasonal variability of ice cover making it especially complex. Marine mammals use sound to navigate this environment. Bowheads sing to find mates, while belugas use clicks and whistles to hunt for prey. Ship noise may drown out or mask these calls. Especially for animals that have never heard vessels before, the sound may cause a change in behaviour. Belugas have fled from icebreakers from distances up to 50 kilometres away, and walrus may flee if a vessel gets within a kilometre of their haul out site.

The Polar Code addresses these concerns in Chapter 11, where it calls for Masters planning a route through polar waters to consider 'current information and measures to be taken when marine mammals are encountered relating to known areas with densities of marine mammals, including seasonal migration areas'.



© Mikhail Cherkasov / WWF-Russia

### Risk to communities

In remote Arctic communities, quality of life and standard of living depend on shipping. It is an essential service. But through its impact on Arctic marine mammals, increasing vessel traffic also poses a risk to indigenous people. Communities in the northern Bering Sea and Bering Strait rely heavily on subsistence hunting and fishing. Marine mammals, seabirds, and fish and shellfish are among these communities' main sources of food. In the western Arctic, indigenous people have harvested subsistence resources from polar waters for millennia, and today have the opportunity to fish and crab commercially.

Arctic communities are increasingly concerned about the impact of shipping in polar waters (see [www.kawerak.org](http://www.kawerak.org) for more information, among others). The Polar Code goes some way towards addressing this, establishing an international framework for protecting polar regions and the ancestral home and waters of Alaska Native people.

It is not only the frequency, but the size, of ships traversing these waters that is causing concern. Oil spills regularly happen, and activities that increase the likelihood of a major oil spill are too great a risk. In 2003, there was a fuel oil spill of 49 tonnes in the Russian White Sea near Onega Bay, near core habitat for the local population of beluga whales. In March 2018, the Bering Strait region saw its biggest oil spill to date – a 22,000 gallon fuel spill in the village of Savoonga. The Bering Strait, like many other Arctic regions, is not well prepared to address a major oil spill. Fuel oil spills can have a persistent and long-lasting impact, especially in polar environments. Were larger spills like the one near Savoonga to become more common, they could permanently damage key areas for many species.

### Voyage planning resources

Including marine mammals in voyage planning is important if we are to reduce the impacts on wildlife, the environment and indigenous communities. The challenge has been developing best practices for mariners to use in order to protect all three.

Often the first challenge is simply learning where marine mammals are. Maps of habitat are slowly improving. There are also plenty of lessons to be learned from other areas where maritime traffic and marine mammals overlap. Nations like the United States and Canada often include marine mammal information in official Notices to Mariners, such as the timing of right whale migrations along the eastern coast of North America. Some dedicated risk assessment tools like Sea Sketch or Canadian Arctic Shipping Risk Assessment System (CASRAS) could offer a way for mariners to see layers of marine mammal habitat when carrying out initial voyage planning, then download these maps for offline use in the region.

Many conservation organisations have also produced materials that can assist mariners travelling through known critical areas. For example, in 2017 WWF-Canada produced the *Mariners' Guide for the Hudson Strait*, outlining guidelines for travelling through the Hudson Strait, a major corridor connecting the Hudson Bay with the Atlantic Ocean. The guide is made up of two large posters for a ship's bridge. The first is a chart that helps mariners identify whales, seals, polar bears and walrus, and provides operational guidance when encountering marine mammals up close or at a distance. The second is a set of maps showing marine mammal habitat in both summer and winter, along with an extensive list of contacts so mariners can report sightings and incidents at both the national and community level. A similar guide to Eastern waters, the *Eastern Arctic Mariner's Guide*, was released in May 2018.

### Routing measures

Should voluntary tools fail there are also official regulations through the IMO. Most recently, the United States and the Russian Federation proposed a routing measure, along with three American areas to be avoided for the Bering Sea. Domestically these routes incorporated

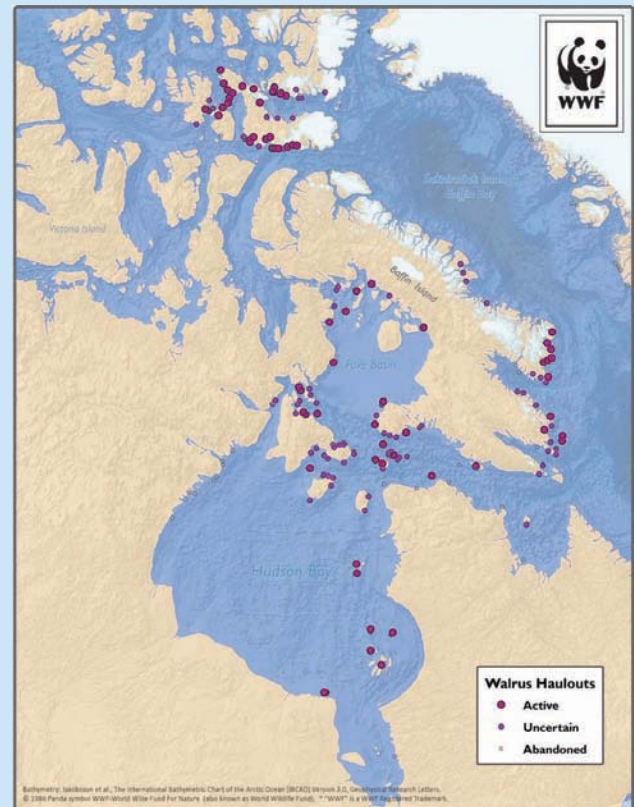
feedback on marine mammal areas. While this is not a perfect solution, it offers an example of safer, more predictable shipping. In the future, as critical areas are identified, potential speed reductions or other routes could be implemented to reduce noise or the risk of a fatal ship strike. While the Polar Code is a 'one stop shop' for mariners looking for new information, the Arctic Council's new Best Practices Information Forum includes summaries and material for each chapter. In the long term marine mammal information could be nested here for voyage planning purposes.

The Polar Code remains a solid step forward towards safer and more environmentally friendly operations in polar waters, but it is vital that provisions like the principal of marine mammal avoidance are followed. The magic ingredient may be the mariners themselves, and we hope the readers of *Seaways* have their own ideas on how this provision can best be implemented, and what information they would find helpful as they plan their route. 🌐

### Route planning in practice – watch out for walrus

Atlantic walrus play a major role in the Arctic marine ecosystem and are an important part of the traditional subsistence economy for the Inuit of Nunavut. Repeat disturbance of walrus haulout sites can lead to the abandonment of these critically important habitat areas, which is why caution should be exercised when traveling near a known haulout location, in accordance with the requirements of the Polar Code.

Shipping routes should be checked against known walrus haulout locations and any proposed shipping route should maintain a setback of five (5) km seaward of a walrus haulout throughout the year.



Walrus haulouts in the eastern Canadian Arctic: a database to assist in land use planning. Higdon, J. 2016.



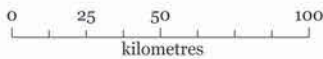


# Eastern Arctic Mariner's Guide

## Seals, Walrus and Fish

### Legend

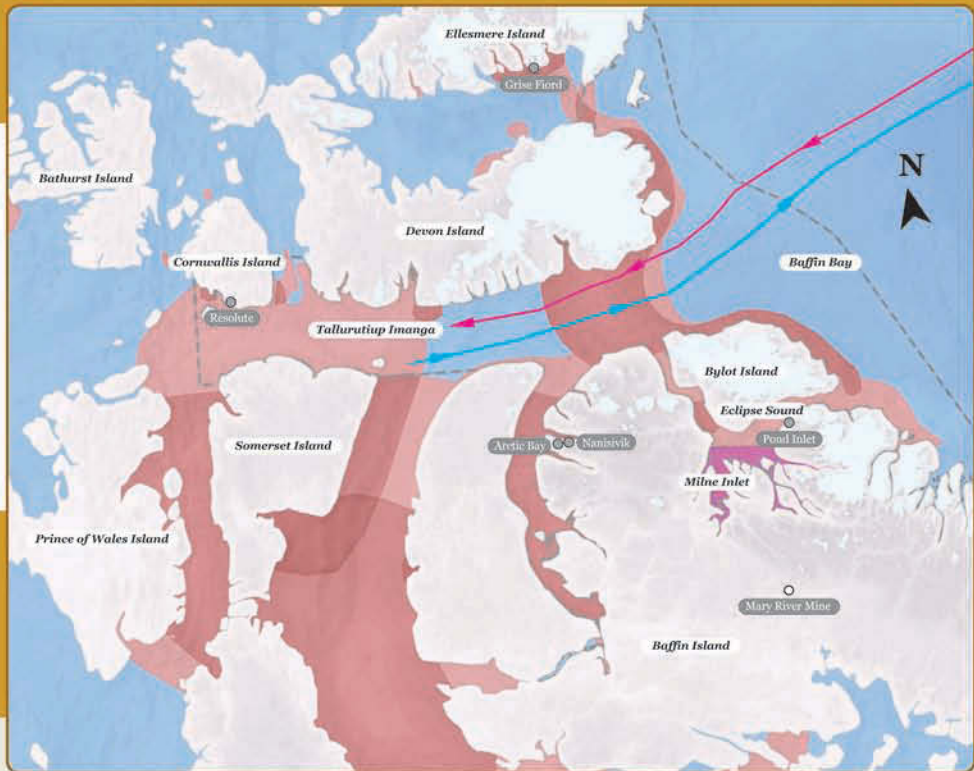
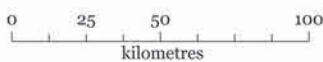
- Communities<sup>1</sup>
- Walrus haulouts<sup>2</sup>
- Walrus high concentration<sup>3,7</sup>
- Arctic char high concentration<sup>4,6</sup>
- Seal high concentration<sup>5,17</sup>



## Whales

### Legend

- Communities<sup>1</sup>
- Narwhal, bowhead and beluga foraging, calving and areas of high concentration<sup>2,5,17</sup> (overlap between species are darker shades)
- Recommended tourism exclusion zone
- Beluga fall migration<sup>3</sup>
- Beluga spring migration<sup>3</sup>
- National Marine Conservation Area



NOTE:  
For navigation purposes, please use charts provided by the Canadian Hydrographic Service.

## WWF RECOMMENDATIONS

Based on community input and Traditional Knowledge, Science, Draft Nunavut Land Use Plan, Baffinland Shipping and Marine Wildlife Management Plan, North Baffin Regional Land Use Plan, and WWF engagement. Masters remain responsible for safe navigations.

### Walrus haulout

Maintain a setback of five (5) km seaward of a walrus haulout, any time during the year<sup>9</sup>

### Whale sensitive habitats

- Be cautious in whale calving, foraging and migration areas from mid-July to mid-September and follow mitigation procedures in the vicinity of marine mammals:
- Wildlife will be given right-of-way;
  - Maintain a straight course and constant speed, avoiding erratic behaviour;
  - When marine mammals appear to be trapped or disturbed by vessel movements, implement appropriate measures to mitigate disturbance, including stoppage of movement until wildlife have moved away from the immediate area; and
  - Adhere to setback distances (see chart) when in the presence of marine mammals<sup>9</sup>

### Caribou sea ice crossing

Avoid shipping in caribou sea ice crossing areas from mid-January to mid-July<sup>9</sup>

### Polynyas (open water in ice cover)

Avoid shipping in polynyas (approximately November to June)<sup>9</sup>

### Floe edges

Avoid shipping through and around floe edges in April, May and June<sup>9</sup>

### Ice breaking

Avoid shipping during ice formation, coverage and breakup<sup>9</sup>

### Speeds

Maintain a straight course and constant speed of 7-10 knots in Eclipse Sound and Milne Inlet<sup>13,15</sup>

### Birds

When birds are present, year-round:

- 500 m setback for ships from seabird colonies
- 100 m setback from seabird colonies for zodiacs, kayaks and other small launch vessels
- 2 km setback distance from Ivory gull breeding sites
- 500 m setback distance from seaduck colonies, moulting aggregations of seaducks and waterfowl<sup>9</sup>

### Inuit travel routes

Avoid crossing on-ice community transportation corridors when the sea is frozen, unless accompanied by ice-bridging<sup>9</sup>

### Seal pupping

Avoid seal areas during pupping from late-February to June<sup>12</sup>

### Community use

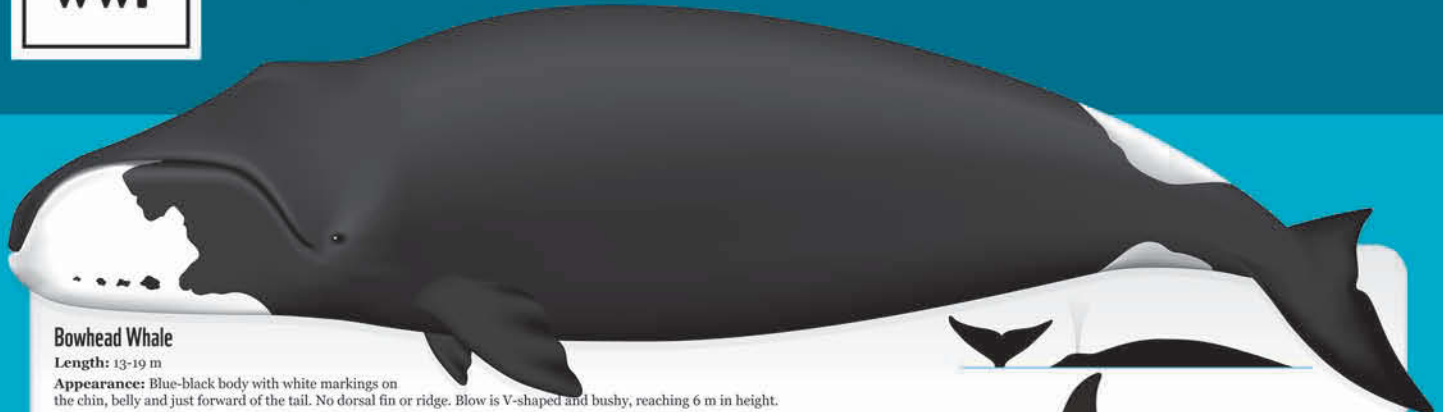
Give right-of-way, do not approach, or take photographs of hunting activities. Respect the "tourism exclusion zone" during the summer months





# Eastern Arctic Mariner's Guide

The following marine mammals are common in the eastern Arctic, however, other species may also be seen. It's possible for marine mammals to venture outside of their common habitats and be seen elsewhere.



## Bowhead Whale

Length: 13-19 m

**Appearance:** Blue-black body with white markings on the chin, belly and just forward of the tail. No dorsal fin or ridge. Blow is V-shaped and bushy, reaching 6 m in height.

**Behaviour:** Often alone but sometimes in groups of 2-10.

**Sensitive months (calving and foraging activities and risk of ice entrapment):** J F M A M J J A S O N D

**Status:** Special concern

## Beluga Whale

Length: 4-5 m

**Appearance:** Adults are white and young are grey. No dorsal fin, only a small portion of the body is visible out of the water. Blow is low and hardly visible.

**Behaviour:** Found in small groups, but sometimes hundreds to thousands during annual migrations.

**Sensitive months (calving and foraging activities and risk of ice entrapment):** J F M A M J J A S O N D

**Status:** Special concern

## Narwhal

Length: 4-5 m

**Appearance:** Adults are speckled grey and white while young are dark grey/black. Males have a spiraled tusk up to 3 m long. No dorsal fin. Blow is puffy. Not much of the body is visible out of the water.

**Behaviour:** Often in groups of 15-20 but can be hundreds.

**Sensitive months (calving and foraging activities and risk of ice entrapment):** J F M A M J J A S O N D

**Status:** Special concern

## Greenland Shark

Length: 2.5-4.5 m

**Appearance:** Coloration can be black, brown, grey or a spotted mix of all three. Two small dorsal fins.

**Behaviour:** Slow swimming. Usually observed near the surface during the winter and retreats to deeper waters (180 to 550 m) during the summer.

**Status:** Not assessed

## Hooded Seal

Length: 2-3 m

**Appearance:** Silver-grey with irregular dark blotches. Males have a black "hood" on forehead and inflatable balloon-like nose membrane.

**Behaviour:** Solitary, except during pupping, mating and moulting.

**Sensitive months (pupping activities):** J F M A M J J A S O N D

**Status:** Not at risk

## Bearded Seal

Length: Up to 2.5 m

**Appearance:** Grey with brown tinge on the head and lighter coloring on the underside. Long, white whiskers and square shaped front flippers.

**Behaviour:** Solitary, but form small groups during mating and moulting.

**Sensitive months (pupping activities):** J F M A M J J A S O N D

**Status:** Data deficient

## Harp Seal

Length: Up to 2 m

**Appearance:** Light grey body with black or brown head and long, black "harp-shaped" saddle on the back.

**Behaviour:** When migrating, the seals leap out of the water like dolphins.

**Sensitive months (risk of disturbance):** J F M A M J J A S O N D

**Status:** Not assessed

## Ringed Seal

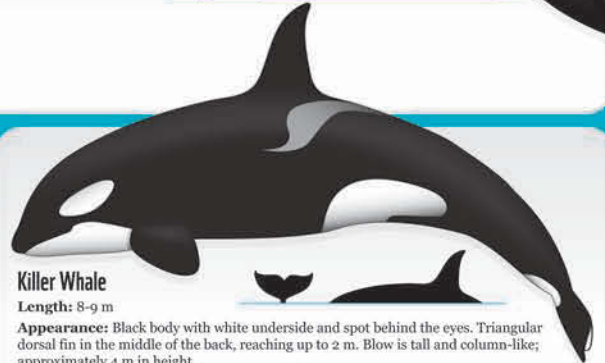
Length: Up to 1.5 m

**Appearance:** Dark grey body with light rings on the back and silver colouring on the front.

**Behaviour:** Associated with ice floes and pack ice. Maintain breathing holes throughout winter.

**Sensitive months (pupping activities):** J F M A M J J A S O N D

**Status:** Not at risk



## Killer Whale

Length: 8-9 m

**Appearance:** Black body with white underside and spot behind the eyes. Triangular dorsal fin in the middle of the back, reaching up to 2 m. Blow is tall and column-like; approximately 4 m in height.

**Behaviour:** Typically form groups of 2-25.

**Sensitive months (risk of disturbance):** J F M A M J J A S O N D

**Status:** Special concern

## Minke Whale

Length: 6-9 m

**Appearance:** Dark grey, black or brown back with a white spot on each pectoral fin. Large hook-shaped dorsal fin.

**Behaviour:** Mainly solitary. Snout appears first when they surface to breathe. Occasionally breach out of the water.

**Status:** No status

## Polar Bear

Length: Up to 3 m

**Appearance:** White, but can appear yellow, or light brown.

**Behaviour:** Solitary, except during breeding and cub rearing. Majority of time is spent on sea ice.

**Status:** Special concern

## Walrus

Length: 2-3.5 m

**Appearance:** Brown skin. Broad flat muzzle, white whiskers and two distinctive tusks.

**Behaviour:** Occur in tight groups on ice floes or on land.

**Sensitive months (risk of disturbance):** J F M A M J J A S O N D

**Status:** Special concern

**Distance Recommendations When Around Marine Mammals**  
(Changes in navigation should not be assumed if they compromise safe operations)

Slow down and avoid abrupt course changes



Do not approach or position vessel toward any marine mammal

200 m

400 m

2 km

5 km

Maneuver around marine mammals



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# The Work of the Harbour Master

The work of the Harbour Master is not widely understood; indeed it could be said that it is often misunderstood. This is hardly surprising as it can vary so widely from country to country and even from port to port within countries. In addition, the role of the Harbour Master continues to evolve, with modern Harbour Masters finding themselves working in new areas and shouldering responsibilities outside what might have been regarded as the traditional role.

Responsibilities vary between ports; therefore no one book can explain everything Harbour Masters everywhere may be expected to undertake as part of their jobs. However, it can show, from the experience of others, some examples of what they may encounter.

## Steep learning curve

Traditionally Harbour Masters have been ex-seafarers. Increasingly, however, non mariners will be taking up some of these posts. This is an inevitable result of the shortage of candidates who have sufficient sea-time to gain the experience and qualifications necessary to come ashore to take up such important posts. Even experienced mariners will find that the learning curve is steep as they take the step from Shipmaster to Harbour Master.

Anyone assuming the Harbour Master role, whatever their background, will need support. This book will help to provide that. In addition The Nautical Institute has devised a qualification which is recognised worldwide and offers aspirants the opportunity to complete the Harbour Master Certificate Scheme. This book will be a support to that scheme, which is regularly reviewed and updated. The importance of the Scheme will only grow in the future as more non mariners become Harbour Masters.

In all these cases The Nautical Institute and the International Harbour Masters' Association have worked together to try to find some answers or some explanations. The aim of the volume is to provide a bridge to the Harbour Master role for anyone new to it or new to aspects of the job.

As in many of The Nautical Institute's books, each chapter was written by an expert in the field, and peer reviewed by others, ensuring both depth and accuracy. The book's great strength lies in the collaboration between the Institute and the International Harbour Masters' Association (IHMA), which has brought together authors who have contributed their experiences to the book and peer reviewers to scrutinise each chapter to ensure as many aspects of HM activities as possible are covered.

These chapters include:

- Harbour Master – a profession defined
- The Harbour Master and the port approach area
- Maritime port and terminal information
- Vessel traffic services
- Pilot relationships
- Tug operations
- The mooring process

- Terminal and cargo operations
- Port security
- Landside security
- Waterside security
- The environment
- Port safety
- Incidents
- The local community
- The media
- Rules and regulations
- Management, finances, training and education
- Professional membership.

The work of members of both organisations shows the worth of professional membership bodies. Their members work to improve knowledge and implement best practice. Through the exchange of ideas, of which this book is a sophisticated version, they offer help to those new to the industry and those progressing through to more senior positions or undertaking continuing professional development.

As Alan Coghlan, then President of the International Harbour Master's Association, writes in the introduction: "The book describes many aspects of the job and it will appeal to those who provide safe ports, who organise safe passage for vessels and who are in charge of port marine operations. All will gain something from some sections, if not all of them. The chapter sequence takes you through the passage of a ship as it enters the port to the berth and explains the role of the Harbour Master through the sections of this voyage.

"The book is a practical one and many experienced Harbour Masters share their experiences. It gives a realistic impression of what may be faced by prospective Harbour Masters, or those who find their duties or responsibilities changing. Many people from IHMA and The Nautical Institute have been involved with this book. Their breadth of experience and geographical spread illustrates clearly the universal nature of the Harbour Master post."

## Extent of the role

In the first chapter, Ingrid Röhmers explains that the Harbour Master's role is likely to break down into two distinct areas: the statutory role and the ship/shore interface role. These two aspects, the regulatory role and exercise of jurisdiction and the wider role as the ship-shore interface, form the building blocks of the profession. Both are explored in some detail over the course of the book.

"The tasks and duties that go with these building blocks cover the whole spectrum of mastering a port," Ingrid explains. "Harbour Masters may be active in all of them, or they may be assigned for some, or just one of them. They are no less Harbour Masters but have a different emphasis to their roles and functions. Harbour Masters may be charged with their statutory task as part of the port authority. They may also have their own, sometimes quite autonomous, responsibilities.

As the ship-shore interface, the Harbour Master is the person ashore who forms a bridge to the ship. They have a role in planning

marine port operations, in the operation of bridges and locks and in the provision of technical services for ships; pilotage, mooring and tug operations. Finally, Harbour Masters may sit on the management boards of the port authorities or otherwise make a contribution to management of their ports by offering specialist advice.

Nautical safety and care for the environment is governed by numerous laws and regulations. Harbour Masters have to not only obey them but also enforce them. They may also be authorised to draft byelaws for their own ports. These port byelaws and admission policies set the conditions under which vessels may enter and leave the port and berth at or in specific areas within the port.

### Nautical safety and the port environment

The work of the Harbour Master is all about managing risks. With good risk management they will provide a safe port. This includes safety of navigation and port operations and the protection of the marine environment. In recent years, port security has also been added to the list of tasks.

The responsibility for aids to navigation in port approaches and coastal areas usually rests with a national maritime authority, but in port areas it may rest with port authorities or Harbour Masters.

Harbour Masters have a leading role not only in accident prevention, but also in port related crises which may include collisions, explosions or the discharge of pollutants. They often have specific legal powers to act in such emergencies. Harbour Masters are often involved in accident investigation and may have a legal obligation to provide a port of refuge to vessels in distress as well as organising their passage to a safe harbour.

Often Harbour Masters are given a leading role in providing a sound port environment, taking care of pollution prevention and control. They may have an oil spill response organisation in place. Harbour Masters, at least in Europe, may be a point of notification for the EU Directive on port reception facilities for ship-generated waste and cargo residues. They may be the body, designated by the national government, to collate all information that is to be provided before port entry on the issue of waste management.

In order to ensure port security, they may be the designated authority as defined by the ISPS Code. Under this Code a body, appointed by the national authority or by the competent authority for maritime security, must execute the tasks specified in EC regulations on enhancing ship and port facility security.

Harbour Masters are also involved in many other port marine operations and services. These include port operations planning or port maintenance, the provision of technical services in the port, and even providing support in port development and management.

It takes a lot to describe all the elements that could make up the Harbour Master's job. Harbour Masters develop their skills over many years and often have to make tough decisions taking into consideration the needs of everyone from governments to boards, shipowners, residents and their own employees. It is a responsibility that cannot be taken lightly.

A Harbour Master has to be everything to everybody. This book will serve to explain some of the more common activities that Harbour Masters can be expected to face. 🌐



## BOOK OF THE MONTH: The Work of the Harbour Master

“The aim of the volume is to provide a bridge to the Harbour Master role for anyone new to it or new to aspects of the job.”

*Capt James Robinson DSM FNI Irish Navy (Retired)  
Past-President, The Nautical Institute*



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David Patraiko FNI rounds up the latest news, releases and events affecting the maritime professional throughout the world

## DNV-GL PSC Roundup

➔ DNV-GL has published a summary of upcoming Port State Control (PSC) concentrated inspection campaigns (CICs). These include:

- Open lifeboats – USCG, US-flagged ships only, May 2018-19. Evaluates the general condition of open lifeboats, and whether required inspections and drills are carried out. Familiarisation of the

crew may be evaluated during a drill at the time of PSC inspection;

- MARPOL VI – Black Sea MoU, Indian Ocean MoU, Paris MoU, Tokyo MoU, 1 September – 30 November.

An additional questionnaire is expected to be published at the beginning of August to raise awareness for compliance with requirements on the prevention

of air pollution from ships.

- Auxiliary machinery - Viña del Mar MoU, from 1 June 2018.

Aims to ensure the safety of auxiliary machinery, especially the working condition and maintenance of the auxiliary engines, auxiliary equipment and the crew's familiarity.

Read more on the DNV-GL website: [www.dnvgl.com](http://www.dnvgl.com)

## UK P&I Club launches safety competition

➔ The UK P&I Club has launched a major maritime safety competition with a prize fund of \$50,000 to coincide with its 150th anniversary. The 'Investing in a Safer Tomorrow' competition, challenges students and those embarking on a maritime career both at sea and on shore to develop innovative, industry changing ideas with a focus on improving safety at sea.

Teams of up to four or individuals are invited to propose an improvement to any element of sea safety – from developments in seafarer wellbeing through to a tangible invention to improve physical safety or navigation.

In the first stage of the competition, entrants will outline basic information regarding their concept and how it could improve

safety in the industry, submitting written and visual documentation by 30 November 2018. After assessment by UK P&I Club, based on criteria such as originality, relevancy and simplicity, shortlisted entrants will be invited to meet with UK P&I Club's Loss Prevention team, master mariners and business leaders to help to develop their ideas.

The shortlisted competitors will then have four months to complete their proposals and produce a video, whitepaper or presentation for the final judging and prize award. The winning team or individual will receive a prize fund of \$30,000 with second place being awards of \$15,000 and third place \$5,000.

Hugo-Wynn Williams, Chairman

of Thomas Miller P&I, said: "We are extremely proud of our 150-year heritage, but it is also vital to look forward to ensure that shipping remains ready for the challenges of the future. The 'Investing in a Safer Tomorrow' competition reaffirms our commitment to improving safety at sea and fostering innovation in the industry. Shipping has a rich history of creativity and invention, and attracting new talent to the industry will help create the thought leaders of tomorrow."

For further information on the UK P&I 'Investing in a Safer Tomorrow' competition and how to enter please visit: <http://150competition.ukpandi.com>

## ICS speaks out on migrant issues

➔ The International Chamber of Shipping (ICS) is deeply concerned about the apparent changes in policy by the Italian government to close its ports to migrants rescued by vessels operated by humanitarian NGOs.

'To its great credit, the government of Italy has consistently permitted prompt and predictable disembarkation of people rescued by merchant ships as well as by vessels operated by humanitarian NGOs,' ICS said in a press release. 'But following the election of the new Italian Government, the crisis now seems to be taking an ever more political direction.

'If NGO vessels are prevented from disembarking rescued

persons in Italy, this would also have significant implications for merchant ships and the movement of trade throughout the Mediterranean, as merchant ships would again have to become involved in a greater number of rescues.'

The global shipping industry, as represented by the International Chamber of Shipping (ICS), is committed to meeting its obligations under the UN International Maritime Organization (IMO) Safety of Life at Sea Convention (SOLAS) to come to the rescue of any person in distress at sea. Since the migrant crisis in the Mediterranean escalated three years ago, over

50,000 people have already been rescued by merchant ships, with many more rescued by military vessels and NGOs.

ICS Secretary General Peter Hinchliffe said:

"The primary concern of shipowners is humanitarian. In the interest of protecting safety of life at sea, ICS is therefore calling on all EU Member States to urgently address the legitimate concerns raised by the Italian government about the large number of rescued persons arriving in Italy, in order that the policy of prompt and predictable disembarkation – consistent with UNHCR principles – can be fully maintained, not just in Italy but in other EU Member States too."

## Updated

### Questionnaire 88

➔ Intertanko has issued a new version of its Questionnaire 88, which has become an established industry standard for information on ships for commercial screening purposes. The questionnaire was last revised in 2015.

The latest revision takes into account new questions and brings in changes to address new regulations specifically for the LNG/LPG/Chemical sectors. In order to support all the required information for each specific tanker sector, the Questionnaire 88 is now available in five different variants: oil, chemical, oil/chemical, LPG and LNG.

According to Capt. Ashley Cooper, head of Intertanko's Vetting Committee: 'This latest revision ensures that the Questionnaire 88 remains dynamic as it now actively maps the variants of OCIMF's Vessel Particular Questionnaire as they currently exist. The compilation of selected information in each Questionnaire 88 variant now affords the assessor the possibility of utilising relevant data in screening specific vessels by type.'

The questionnaire will continue to be transferable between various parties' internal systems through the publishing of an XML version. All existing Questionnaire 88 data will automatically be migrated to the new version specific to each vessel. Owners/operators are urged to check their ships' data to ensure that it is correct and up to date.

# Conferences

➔ Reporting back from conferences, seminars and discussions across the maritime world. Join the discussion at LinkedIn, or email [editor@nautinst.org](mailto:editor@nautinst.org)

## UK MARITIME PILOTS' ASSOCIATION ANNUAL CONFERENCE

➔ The UK Maritime Pilots' Association (UKMPA) this year returned to the Port of Bristol, where the Association was founded by Commander George Cawley in 1884. With the generous support of the Bristol Port Company, Svitzer towage and 11 exhibitors from the UK and abroad, 70 members and guests enjoyed and learned from an eclectic selection of technical presentations.

The diverse subjects covered throughout the day included the work of the UK Maritime Accident and Investigation Board (MAIB) in the *City of Rotterdam / Primula Seaways* collision, how CHIRP operates and the often

unappreciated dangers of pilot transfers involving low freeboard vessels. The important but little understood (within the ports industry) subject of whole body vibration brought home to delegates the importance of correct posture, properly maintained pilot boat seats and deck materials. The increasingly ubiquitous subject of autonomous vessels was touched on by updating delegates on the Shared Water Autonomous Navigation by Satellite (SWANS) project, funded by the UK Innovate agency, in which the UKMPA is involved. As ever, there was much interest in the financial section, which addressed the implications of recent changes to

pensions legislation.

As in earlier events, the conference delegates supported a local charity, in this case the Bristol Seafarers' Centre. A significant sum was raised through the usual raffle and the auctioning of a high value prize donated by Trelleborg, one of the exhibitors.

The day's work was rounded off with an evening cruise through the old docks while enjoying a few cold beers and a fish supper on a balmy spring evening.

**Don Cockrill MBE CMMar FNI**

## ODESSA MARITIME DAYS

➔ The largest Ukrainian conference for experts in transport, shipping and international trade, Odessa Maritime & Grain Days was organised by APK-Inform Agency and Interlegal, and supported by the Ukraine branch of The Nautical Institute.

On the first day, a panel discussion on key trends in the grain trade in 2018 attracted particular interest. Experts from the Ukrainian Grain Association, ceREALIA, COFCO Agri Resources Ukraine, RisOil Ukraine and Marcopolo Commodities SA discussed trends in the Ukrainian and global export of agricultural commodities.

Following a short lunch break, participants had the choice of two parallel streams. The session on international carriage of grain by sea, moderated by Interlegal partner Arthur Nitsevych FNI, included discussion from a panel featuring Despina Panayiotou Theodosiou, WISTA President; Peter Sand, BIMCO Chief Shipping Analyst; Soren Larsen, BIMCO Deputy

Secretary General and Daniella Horton, LMAA Honorary Secretary. The high level speakers facilitated the discussion of the global future of sea carriage and the role of Ukraine.

A parallel session was devoted to pricing mechanisms and price risk management in the Black Sea region. A panel discussion about maritime business development in Ukraine closed the business part of the day, and was followed by a gala dinner in the Maristella Marine Residence restaurant.

As was the case last year, the conference included several round table discussions. Interlegal lawyers shared the latest trends in ship arrest and release in the Mediterranean and Black Sea regions. Marine Insurance Services and Inter Hannover representatives looked at the issues of cargo insurance and liability of terminals. Delegates also had the chance to take part in round tables on non-resident companies, yacht purchase and taxation, London arbitrations and container shipping

risks in modern trading.

Interlegal partner Nikolay Melnykov MNI, Chairman of the NI Ukraine branch, moderated a session in which shipping experts discussed the current panamax market in the Black Sea region, giving recommendations on vessel chartering and sea and river carriage logistics. Interlegal senior lawyer Andrey Perepelitsa gave advice on reaching amicable settlement in commercial disputes

Over 500 experts in transport, shipping and international trade from around Europe attended the annual Odessa Shipping Dinner which concluded the event.

The event attracted high level attendees from Ukraine and abroad, representing 10 key industries from the transport, shipping and international trade sectors. The number of delegates and status of speakers continues to grow every year.

**Professor Vladimir Torskiy FNI**



Members of The Nautical Institute at the Grain & Maritime Days Conference in Odessa 2018



**MARITIME AND CYBER SECURITY – NI SRI LANKA BRANCH**

➔ The Sri Lanka Branch of The Nautical Institute held a seminar looking at two of today's most important maritime topics:

- Maritime and cyber security for Sri Lanka;
- Criminalisation of the seafarer – What do you need to know?

The seminar was held in association with the General Sir John Kotelawela Defence University (KDU), and took place at the KDU's main auditorium. Nearly 300 participants attended, including members of the Company of Master Mariners of Sri Lanka, merchant navy officers from a number of shipping companies, representatives from maritime training institutes, manning agencies and senior law students of KDU.

The full day seminar was declared open with the lighting of the traditional oil lamp by NI Sri Lanka Branch Chairman Capt Harindra Perera FNI, Rear Admiral Jagath Ranasinghe AFNI, Vice Chancellor of KDU and the sponsors Laugfs Maritime, CICT, Sri Lanka Shipping Co., CINEC Campus, Ceyline Shipping, Company of Master Mariners and KDU.

Welcome speeches from the Branch Chairman and the Vice Chancellor of KDU, were followed by a video greetings message from the Chief Executive Officer of the NI Capt John Lloyd FNI.

Opening the presentations was Rear Admiral Jagath Ranasinghe AFNI, who spoke on how navigational regimes interact with international environmental law and policy.

Dr Dan Malika Gunasekara PhD, MNI spoke on the law on maritime security in Sri Lanka. He gave a clear explanation of the United Nations Convention on the Law of the Sea (UNCLOS), exclusive economic zones and territorial waters, and how the use and limitations of these definitions affect shipping in Sri Lanka.

Cyber security and data protection was another current topic of great interest, presented by Mr Manjula Prabath, head of the IT department of Mercmarine. Seminar participants were made aware of the current realities and risks facing ships and the maritime industry.

Former Commander of the Sri Lanka Navy Admiral Prof Jayanath Colombage PhD, FNI, who is also the immediate past chairman of the NI Sri Lanka Branch, spoke on ISPS and its effect on Sri Lanka. Admiral Colombage gave examples showing how the Sri Lanka Navy was able to use the framework of the Convention for the Suppression of Unlawful Acts Against the Safety of Maritime Navigation (SUA Convention) to defeat terrorists at sea.

To finish the day's proceedings, Capt Rohan Codipilly MNI, Vice Chairman of the NI Sri Lanka branch, opened the eyes of the seafarers present to the realities of their work on board, speaking on the criminalisation of the seafarer. He explained the benefits of being a Nautical

Institute Member, including insurance covering initial legal support in case of criminalisation.

Capt Rohan Codipilly summed up the proceedings, and a vote of thanks was delivered by Branch Secretary Capt Nish Wijayakulathilaka AFNI.

The seminar had excellent feedback from the participants, who were presented with CPD certificates endorsed by The Nautical Institute.

**Captain Nish Wijayakulathilaka AFNI**



**TRANSAS ANNUAL CONFERENCE, VANCOUVER**

➔ The Transas conferences have become a fixture that stands for out of the box thinking in the maritime industry.

In his opening speech, CEO Frank Coles FNI made a plea for an innovative and quality-driven maritime industry, with forward-thinking people and less bureaucracy to slow down progress. We should be looking to a green, safe and efficient means of transporting goods by sea by reducing the human element risks, providing a greener ship and operations fit for purpose, Coles said. At the same time, we should not lose sight of the need to create an attractive maritime career environment for the younger generation.

To achieve this, ship design, development and operation would need re-thinking in a way that goes beyond alternative fuels and engine efficiency. We need systems that can work in unison with modern logistics. At the same time, we must ensure that the maritime industry is able to operate to the level of safety excellence that one would expect of a global industry in the 21st century. This may require separating the cargo handling and port operation elements of the role from the safety of navigation element. Improving safety may also mean the development of a professional Fleet Operation Resource Management with a quality traffic control and monitoring service, making sure that the human element is properly trained, equipped and structured.

This conference was a unique opportunity for maritime professionals to be inspired by a panel of speakers who are not afraid of rocking the boat. A great event which struck the right balance between out of the box thinking, social mixing, networking and good company!

**Walter Vervloesem FNI**



Walter Vervloesem FNI, (I) Vice President of The Nautical Institute, with Frank Coles FNI, CEO of Transas (centre) and Marius Schonberg, Senior Manager Loss Prevention and Risk Assessment at Gard AS at the closing ceremony of the Transas conference in Vancouver



➔ A round-up of news and events from NI branches across the world.  
Send your updates to [gh@nautinst.org](mailto:gh@nautinst.org)

## NORTH WEST INDIA BRANCH

### National Maritime Day Events

➔ The North West India branch took a leading role in the various National Maritime Day events in Chandigarh in the early part of May. This helped raise the profile of the maritime industry as a whole, and The Nautical Institute in particular, among seafarers, Indian naval authorities, students, NCC Cadets, the maritime industry and the general public.

- Events included:
- Courtesy call on His Excellency Sh. V P Singh Badnore, Governor of Punjab and Administrator UT Chandigarh to explain the maritime significance of Chandigarh and its environs.
  - Visit to Panjab University's departments of defence and international studies, public administration and political sciences,

motivating postgraduate students to take part in a national essay competition on the theme of Indian shipping.

- A three day display of naval equipment, including a sailing boat and models of Indian warships, was positioned at Sukhna Lake, the most popular location in Chandigarh. The display included a selfie point, and attracted high footfall. The response from the public was extremely enthusiastic.
- A professional seminar on the theme 'Indian Shipping- An Ocean of Opportunity'. Rear Admiral Mukul Asthana Indian Navy as the Chief Guest and Capt Vivek S Anand – Director – NYK (India) Ltd as the Guest of Honour headed professional discussions on strategic and commercial opportunities for shipping in and around India.

- A wreath was laid at the War Memorial in a solemn ceremony paying homage to those who have lost their lives at sea.
- Seminar at the National Cadet Corps, again on the theme of 'Indian Shipping – An Ocean of Opportunity', with Chief Guest Captain P S Bist (Indian Navy). Certificates and cash awards worth INR 18,000 were presented to the three winners of the essay competition, judged by Vice Admiral (Retd.) H S Malhi MNI. This was the first time serving seafarers have interacted with university students here.

**Captain MS Kahlon MNI**



## AUSTRALIA – QUEENSLAND BRANCH

➔ The Queensland Branch was fortunate to have the Secretary General of the International Association of Lighthouse Authorities (IALA AISM) Francis Zachariae give a presentation at its annual Technical Meeting on 30 April 2018. Francis gave a very interesting insight into the future of navigation aids and how IALA is managing advancing technology.

**Richard C Johnson**





### NW ENGLAND & N WALES BRANCH

#### 21st century seafarers speak out

→ The branch held its May meeting at the Fleetwood Nautical Campus rather than at their normal venue in Liverpool. This is the fourth year we have held a meeting at Fleetwood. The original idea was to raise the profile of the branch and engage the cadets who are studying there.

This year, rather than providing a speaker for the meeting ourselves, we asked the college if the cadets could provide a speaker or speakers to speak on the subject of '21st Century Seafarers'. True to form, the college came up trumps and four volunteers gave the audience very interesting talks on diverse subjects.

The initial presentation, entitled 'Life at Sea as a Cadet', was delivered by a cadet who had obtained an OOW certificate of competence following time at Fleetwood and at sea on board a tanker and an Antarctic research vessel. He spoke of being the only British person on board the tanker for four months and his interesting period in the ice fields of the southern oceans. His overall prospective of the 'sea' as a career was very positive and he was looking forward to continuing in the near future.

The second talk was entitled 'Shipping under Pressure' and gave a cadet's perspective on how on board management teams deal with the various inspection regimes. He had undertaken voyages on two tankers, a cruise liner and a ro-ro vessel during his sea service period of training. He outlined his observations when

dealing with inspectors for company internal audits, vetting inspections by SIRE or CDI, and unannounced Port State Control visits. He warned the audience that people were leaving the sea, and thought the reasons included work pressure, a negative environment on board, lack of connectivity with family and friends and stress. He also questioned why companies had 'Near Miss' reporting systems. His own opinion, based on his observations on board, was that such systems were only in place to satisfy inspectors or to assist shore side management, and not for the safety of the crew.

The third presentation was delivered by a mature student who in a previous life had been a commodity trader in London and Singapore. His presentation was on the 'Financialisation of Shipping'. A number of interesting graphs were put on the screen showing the increase in Freight Forwarding Agreements instigated by large brokerage firms. He urged the audience, particularly those who would be looking for employment in the future, to study the various markets to ascertain which sector was on the 'up' and seek to join that type of ship, be it tankers, bulk carriers or offshore vessels. He also emphasised the importance of networking within the industry.

The final talk was entitled 'LGBT rights at Sea'. The presenter stated that for the preparation of his talk he had canvassed the views of other members of the LGBT community who had recently served on board different types of ships. The responses and experiences varied greatly. They ranged included the following statements:

- Needed to hide my identity on foreign flag vessels – British crews very good. Foreign crews not so good;
- Each time I came out on each ship I had to be aware of the culture of those I was sailing with;
- Aware of isolation on board. Never discussed with senior officers due to their age;
- People can tell I'm a lesbian;
- My experience as a gay seafarer has been very positive;
- A four month trip on a gas carrier with a Russian crew was very difficult as I did not divulge my sexuality.

The speaker highlighted that in some cultures homosexuality is still a crime. 76 countries do not recognise the LGBT community, and five countries still have the death penalty. The United Nations has an ongoing campaign to eliminate prejudice at sea, and the speaker concluded that things are getting better, but it will take another generation, possibly two, before this prejudice comes to an end.

The variety of subjects generated numerous questions for each speaker. All questions were answered in a manner that demonstrated the speakers had good knowledge of their particular topic. Branch Chairman Ian Mathison thanked everyone for coming to the meeting. He also thanked the college and the presenters for their contributions. He noted that they were excellent examples of future seafarers, and concluded the industry was in very good hands.

**Captain Ian Mathison FNI**

### HONG KONG SAR BRANCH

#### AGM – a lively affair

→ Around 50 members gathered for the Branch AGM. These dedicated individuals were greeted with a glass of champagne before getting down to business.

Outgoing Hon. Chairman Carlos Antao gave his report on a successful year. Hon. Treasurer Petty Leung summarised the financial position, which is healthy as a result of the biennial seminar last year and should allow us to make donations to our three chosen charities.

Paul Walton was elected Chairman with Amit Bhargava as his deputy. Aalok Sharma replaces Amit as Hon. Secretary, while Petty was re-elected to the Treasury by acclaim. Some new faces were added to the committee.

After an efficient AGM, we heard a short presentation from Nicholas Brooke SBS JP, Chairman of Hong Kong's Harbourfront Commission (among many other distinguished public services). He gave us a short summary of the Commission's successes to date, and a more detailed explanation of present and

future targets.

Perhaps the most important task of the Harbourfront Commission in the next few years will be the enhancement of the Central harbourfront area. Developers will have to exercise restraint so the people of Hong Kong can get a world-class waterfront to complement our world-class harbour. Members were inspired by the talk, and Mr. Brooke received several offers of support as a result of his heartfelt address. The full presentation can be viewed on the branch website, and is well worth a look.

Mr Brooke was then succeeded by Gregoir Cleary and his team from House of Fine Wines. Guests were treated to a short speech by special guest Mr Laurent Brotte, the grandson of Charles Brotte, the founder of the famous independent winery in Châteauneuf-du-Pape, France. Laurent offered the guests a taste of the famous 'La Fiole du Pape' red wine, originally created in 1952, and even signed a few of the unusually shaped bottles for eager buyers.

Greg then showed guests how to taste wine 'like a pro', and we gladly sampled wines from France and Italy. Greg shared the interesting news that several European winemakers are now producing wines specifically for the Asian market. Apparently, we Asians are not too keen on high acidity, and the winemakers are responding with new wines which are more appealing to the Asian palate.

An excellent evening.

**Alan Loynd FNI**





# Letters

## JOIN THE CONVERSATION

Send your views and opinions to us at [editor@nautinst.org](mailto:editor@nautinst.org), write to us at **202 Lambeth Road, London SE1 7LQ, UK** or become part of our online community:



[www.linkedin.com/groups/Nautical-Institute-1107227](http://www.linkedin.com/groups/Nautical-Institute-1107227)

[www.twitter.com/NauticalInst](http://www.twitter.com/NauticalInst)

[www.facebook.com/thenauticalinstitute](http://www.facebook.com/thenauticalinstitute)

[www.youtube.com/TheNauticalInstitute](http://www.youtube.com/TheNauticalInstitute)



## Chartership – CEO’s response

→ The conversation and correspondence section of our journal *Seaways* has always been an important part of our member engagement and I appreciate the contribution colleagues make in raising matters of importance.

This correspondence is particularly significant during times of change, innovation and opportunity and so it was especially important for me to listen to the remarks and

discussion generated in response to the letter from Captain Hodge last month identifying ‘Chartered Master Mariner concerns’.

The letter does give me the opportunity to confirm that a Command Qualification is most certainly required for consideration in the Chartership process. This, along with extensive professional experience, is a key requirement to be eligible for consideration.

I think it is long overdue that

leading contributors to our maritime community can be recognised in the same way as professionals in other disciplines and we should be proud that The Nautical Institute has contributed to this initiative.

The importance of command and leadership is in no way diminished by The Chartered Master Mariner scheme which complements the status of our mariners globally.

For further information do take a look at the details of the scheme at: <https://www.nautinst.org/en/CPD/chartered-master-mariner/Application-Guidance.cfm>

I do hope that our experienced members will consider having their contribution to the industry recognised in this way.

**John Lloyd FNI**

## Front cover

→ I have just received the June copy of *Seaways* and to my utter astonishment you have a jolly jack atop a navigation mark in a shocking condition of PPE and safety gear.

- Working at height but both lanyards not deployed (on right hip of harness).
- Safety helmet chin strap not worn (potential drop hazard from helmet).
- No safety glasses.
- Boiler suit round waist leaving arms exposed and snagging hazard.

- Precarious foot position (only part of his feet on structure).  
If you are serious about safety promotion for seafarers, please don’t shoot yourself in the foot by publishing such a shocking photograph. A picture speaks a thousand words, and this picture shows that safety is still by chance in some environments.

**Robert N MacLeod AFNI**  
Ocean Risk Management Ltd

**mars** Mariner's Alerting and Reporting Scheme

**Experienced a marine accident or near miss?**

Help keep others safe by sharing what you learnt from the incident

**CONFIDENTIALITY GUARANTEED**

Contact us in confidence at [mars@nautinst.org](mailto:mars@nautinst.org)

## Correction

An article in the June issue of *Seaways* inadvertently referred to the ‘sinking’ of the bulk carrier *Cape Apricot*. The vessel in fact struck the terminal. This is a typographical error which occurred during layout, and is in no way the responsibility of the authors. Our apologies for the error.





# The Nautical Institute LinkedIn forum



## JOIN THE CONVERSATION

The Nautical Institute has a lively discussion group on LinkedIn  
<http://www.linkedin.com/groups/Nautical-Institute-1107227>

### THIS MONTH: MARITIME AUTONOMOUS SURFACE SHIPS (MASS), COLREGS, AND THE HUMAN ELEMENT

Ghulam Hussain FNI wrote: The introduction of autonomous vessels is one of this year's most hotly debated topics. The NI believes, as do others, that IMO's scoping exercise (MSC 99) should take into consideration:

- Human element aspects, in particular those related to remote operation and related training;
- The impact on seafarers, both in terms of competency and training;
- Interactions between conventional and autonomous ships (e.g. VHF

- voice communications), including non-SOLAS recreational ships;
- Data and communication systems requirements;
- Cybersecurity;
- The availability of related technologies in different countries.

The Nautical Institute will stay engaged in this debate at the IMO and beyond to ensure that the voice of maritime professionals is taken into account as this new dimension of technology is developed. Is there anything else which needs to be addressed?

### THE INSTITUTE'S LINKEDIN COMMUNITY RESPONDED:

→ The IMO would be better employed in concentrating on the role of the human element and the need to maintain safe navigation, rather than worrying about technology that may or may not come into operation in the distant future.

Two glaring examples: one man bridge operation and six on six off watches. So much for MLC hours of rest!

→ I sincerely believe that IMO resource could be better spent on more meaningful subjects, many of which have been outstanding for ages. They should resist being led by the nose on a pointless exercise which will only benefit the coffers of equipment manufacturers and shipbuilders. If the Charterers will not hire oceangoing autonomous vessels because they consider the risk and potential exposure too great, then the project is dead in the water before it starts.

Obviously, all autonomous vessels must comply with the Colregs. Not just the Steering & Sailing Rules, but lights, shapes, communication etc. – including autonomously rigging daylight NUC signals when the vessel breaks down, as it inevitably will, and then requires a tow. What are the emergency towing arrangements, and how are they to be autonomously rigged?

→ Whenever new technology is developed, legislation scrambles to keep up, so I sincerely applaud the efforts of the IMO. MSC 99 is casting the net much wider to include other regulations besides only Colregs. I do think these vessels are here to stay and although most legislation requires the ship to be manned things are definitely changing. We can object all we like but it would be better to constructively participate in this process.

→ Most of if not all Conventions, not just Colregs, are based on the requirement that ship is manned. At same time parallel with autonomous ships there will still be conventionally manned ships... So, will there be two parallel systems running at the same time? Important issues include how emergency procedures will be handled remotely,

questions of liability, periodic maintenance and seaworthiness.

→ By the time you attend the next MSC Scoping Exercise meeting at IMO this shopping list will have grown to extraordinary length - and so it should. Those that are promoting this initiative need to be constantly reminded of their responsibility to consider compliance with ALL the regulatory and legal requirements for oceangoing vessels if they are to operate autonomously.

→ Autonomous Ship-Port interface, port facilities readiness, ISPS requirements, SAR operations, reporting systems including reporting navigational hazards, incidents and pollution.

→ IMO will still be having discussions regarding autonomous vessels in 10 years – while certain countries will have them up and running under the radar as weapons of war.

→ The most interesting issue must be the requirements for redundancy of instruments. What if the systems are down and you only have engineers onboard? Will they be allowed to sail the vessel to nearest port without having STCW certificates as watch keepers?

→ Colregs is narrowed to a single rule in practice – Rule 2. So-called 'special circumstances' prevail in modern shipping every day. It is time to change Colregs.

→ If autonomous vessels have a special signal to distinguish them, what is stopping manned vessels from displaying it and everyone getting a night's sleep, expecting all other ships to give them a wide berth? Autonomous vessels must not be identifiable by any signal and must obey Colregs in all respects, unless we are to create a two tier system for collision avoidance.

→ Let's first understand the extent of the autonomy of the proposed and likely ships of the future. Is the concept similar to a remotely operated drone or closer to a self-driven autonomous car (Google concept)? Some of the conceptual videos on the internet indicate it to be closer to a drone, whereby humans are

monitoring and controlling the vessel from a remote connected work space ashore. If so, the challenges to be addressed will include secure and continuous all-weather connectivity (similar to tethering) with the craft.

→ Colregs must be reviewed as technology changes. Quite often, electronics equipment interferes in navigation with modern automation technology!

→ Artificial intelligence and robotics are going to impact our society in many ways. The transition from manned ships to unmanned ships is a crucial period. This will happen, but how soon is difficult to predict. The transition phase may involve inherent dangers to manned ships. A few areas can be specified for unmanned ships that will not get in the way of manned ships. When nearing congested areas where both manned and unmanned ships have to operate together, unmanned ships must change to manned status to avoid uncontrollable situations.

→ Before we discuss Colregs, technical details, including responsibility/ capabilities/ nautical competence by remote operators, insurance details, classification standards have to be clarified. I always welcome new technologies aboard when they facilitate the work. For open seagoing vessels (e.g. VLCCS) engaged in worldwide trade, all the discussions about fully automated and remote controlled vessels are science fiction.

All present existing projects involve a vessel of limited size (fjord ferry/ tug) and limited in their range.

→ Good seamanship is something people only get with time on board vessels, navigating, maintaining and operating them. When we get artificial intelligence manning ships, perhaps then we'll be able to have reliable vessels. Otherwise, vessels remotely operated by 'desk' officers seems to me a highly risky step to take.

→ What about search and rescue? Will a MASS rescue a small sailing boat in distress? I don't see how. Any ideas?

This report attempts to give a representative summary of the discussion – it is not possible to include all comments. To see the discussion in full, please visit LinkedIn.

## ➔ Representing The Nautical Institute to the maritime industry and beyond



CEO John Lloyd FNI visited Winchester this month for the Southampton Master Mariners annual Festival of Flags service.

Congratulations to Dr. Surender Kumar FNI who has been presented with India's Best Offshore Trainer award. He is shown here receiving the award from India's Director General of Shipping (India) Dr Malini Shankar.



## Green Award

The Nautical Institute is proud to be joining the Green Awards scheme as an Incentive Provider to support an environmentally friendly maritime industry. The Institute now offers all Green Award members:

- \* 10% discount off all Nautical Institute publications
- \* Additional discounts on orders of 10 or more books
- \* Bulk membership discounts

David Patraiko FNI, Director of Projects for The Nautical Institute and Chair of the Green Award Group said: "Professional development goes hand-in-hand with operational excellence, so we are pleased to offer these incentives to those dedicated to safety and environmental protection."



The NI Publications team at Posidonia with the Green Award team.

## Posidonia 2018

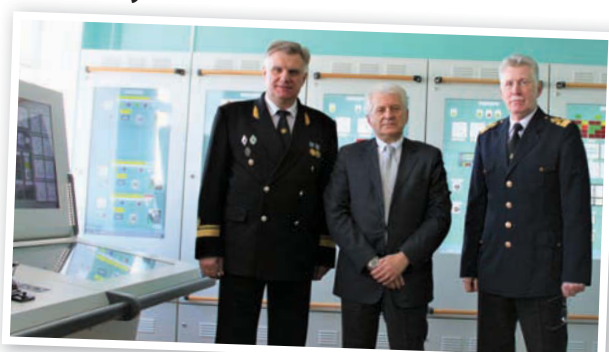


The NI Publications and Membership team spent a week at the Posidonia maritime trade fair and were happy to meet many friends and members from the industry with the help of the Hellenic Branch.

## Publications team in Newcastle

Jonathan Hunt and Bridget Hogan attended the Chart and Nautical Instrument Trade Association (CNITA) 'Meet the Buyer' day.

## University visit



Captain Boris Dunaevsky FNI (centre) visited the Volga State University of Water Transport in Nizhny Novgorod to introduce The Nautical Institute and discuss the possibility of mutual cooperation with the Vice Rectors Dr Andrey Kornev (left) and Nickolay Otdelkin (right).



Senior Vice President Jillian Carson-Jackson FNI and Director of Projects David Patraiko FNI spoke at the biennial IALA conference in Incheon, Korea in June. David presented the results of The Nautical Institute's survey on active seafarer's views on Aids to Navigation.



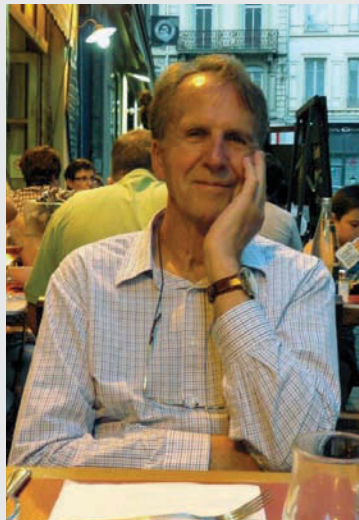
Jillian Carson-Jackson presents a copy of *The Navigator* to Capt Yao Qiang on the China MSA buoy tender *Haixun 153*



# Obituary

## Captain Nick Cooper, MNM FNI

Members will be saddened to learn of Nick's passing at the relatively young age of 76 after the rapid onset of cancer. He joined The Nautical Institute in 1978 while in command of bulk carriers with Safmarine, and was a consistent contributor throughout his life, with three terms on Council. After only a couple of years as a Vice President he was elected as President in 2006 while in command of container ships with Maersk. With the support of his company, he devoted all of his leave periods and more to the Institute. He brought to this high profile role, and Council's deliberations generally, a straight talking style grounded on his thorough professionalism as a mariner with a deep seated interest in promoting training for safe shipping operations. If this ruffled a few sensitivities in his audiences, none could doubt either his sincerity or his qualifications and experience to speak out.



Nick earned his Fellowship of the Institute through the application of superb seamanship in bringing a capesize bulk carrier from Mauritius to Rotterdam for repairs as she only had half a rudder. He provided a detailed account of this operation for *Seaways* (August 1997) and it remains a seminal piece of work. He also wrote extensively on lifesaving appliances, search and rescue, and stowaways, while those in authority were left in no doubt on the shortcomings of GMDSS for those having to operate it on board. He was always willing to pass on his varied maritime experience to his officers and to the wider Institute community through articles and seminar presentations, and particularly focused on preparing his Chief Officers for command.

In addition to his extensive command

experience, Nick had spells as a surveyor and Port Captain, the latter in Egypt and the USA, during which he became a fluent Arabic speaker. He was awarded the US Coastguard Silver Medal for Lifesaving for his heroic actions in rescuing a man who was drowning in the Houston Ship Channel, diving in to save him and bringing him up from the bottom of the ship channel, 10 feet down. He was also awarded the UK's Merchant Navy Medal for Meritorious Service, both of which he has left in perpetuity to The Nautical Institute (see photo of presentation, left).

A dedicated and hard-working professional throughout his career, Nick devoted a considerable amount of time and energy to the work of the Institute and considered the recognition of his peers electing him to the Presidency as the pinnacle of his maritime service. He will be missed by his wife, Micky, who supported him so well, particularly in the two years of extensive travel as President, by his daughter and many members.

**Philip Wake, OBE FNI**



## New members

The Nominations Committee has nominated the following for election by Council:

### Associate Fellow

- Alam, M S** Captain/Master (Bangladesh (Dhaka))
- Batura, V** Captain/Fleet Manager (Singapore)
- Farrell, S** Captain/Training Instructor (Singapore)
- Gibson, D D** Captain/Commanding Officer (CAN/British Columbia)
- Pabiangi** Captain/Master (Singapore)
- Pagarkar, J I** Captain/Marine Pilot (Qatar)
- Requilme, A J** Captain/Master (Singapore)
- Shankar, S D** Captain/Master (India (South))
- SOHAL, J S** Captain/Senior Instructor (Trinidad & Tobago)

### Upgrade to Associate Fellow

- Corcoran, Jr., R E** Captain/Master (Malta)

- Cormier, M P** Captain/Master (CAN/ British Columbia)
- Gates, P T** Captain/Master (CAN/ Maritime Provinces)
- Glover, P A** Dr/Partner (China: Hong Kong SAR)
- Hill, G** Captain/Marine Consultant (China: Hong Kong SAR)
- Hossain, M D** Mr/MCA, Examiner (UK/Solent)
- Jutrovic, I** Captain/Master (Croatia)
- Mylotte, M E** Captain/Master (Ireland)

### Member

- Blair, I R** Captain/Technical Manager (UK/SW England)
- Buchsbaum, D G** Mr/Marine Surveyor (U.S. Pacific Coast (N))
- Bujanovic, T** Mr/Master (Croatia)
- Carsten, B** Captain/Senior Instructor (Denmark)
- Chakraborty, A** Mr/Chief Officer

- (Bangladesh (Chittagong))
- de van der Schueren, R R M** Mr/ Project Manager (Netherlands)
- Dimitriou, P** Captain/Marine and Safety Superintendent (Cyprus)
- Jayathilaka, T R G D D** Mr/Chief Mate (Sri Lanka)
- Kenyon, J** Lt Cdr/Staff Officer (AUS - NSW)
- Lersch, K** Mr/3rd Officer (US Gulf (Florida))
- Longva, A J** Captain/Crew Manager (Norway)
- Miller, R S** Mr/Chief Officer (AUS - QLD)
- Ponnasamy, J** Mr/2nd Officer JDPO (Malaysia)
- Quintero Malcampo, J** Mr/Marine Surveyor (Mexico)
- Storey, T J** Mr/2nd Officer (UK/ London)
- Taufik, M** Captain/Master (Indonesia)

- Veale, M R W** Mr/Assistant Harbour Master (UK/SW England)

### Upgrade to Member

- Isbister, R L** Mr/Third Officer (UK/ Shetland Is.)

### Associate Member

- Besson, J** Mr/Student (Belgium)
- Brouhon, S** Mrs/Vetting Manager (Belgium)
- Drouet, E** Ms/Student (Belgium)
- Johnston, S E** Mr/Deck Cadet (UK/ Central Scotland)
- Gandy, J** Mrs/Director (AUS - NSW)
- Scheiris, E** Mrs/HSEQ Manager (Belgium)

\*Signifies members who have rejoined

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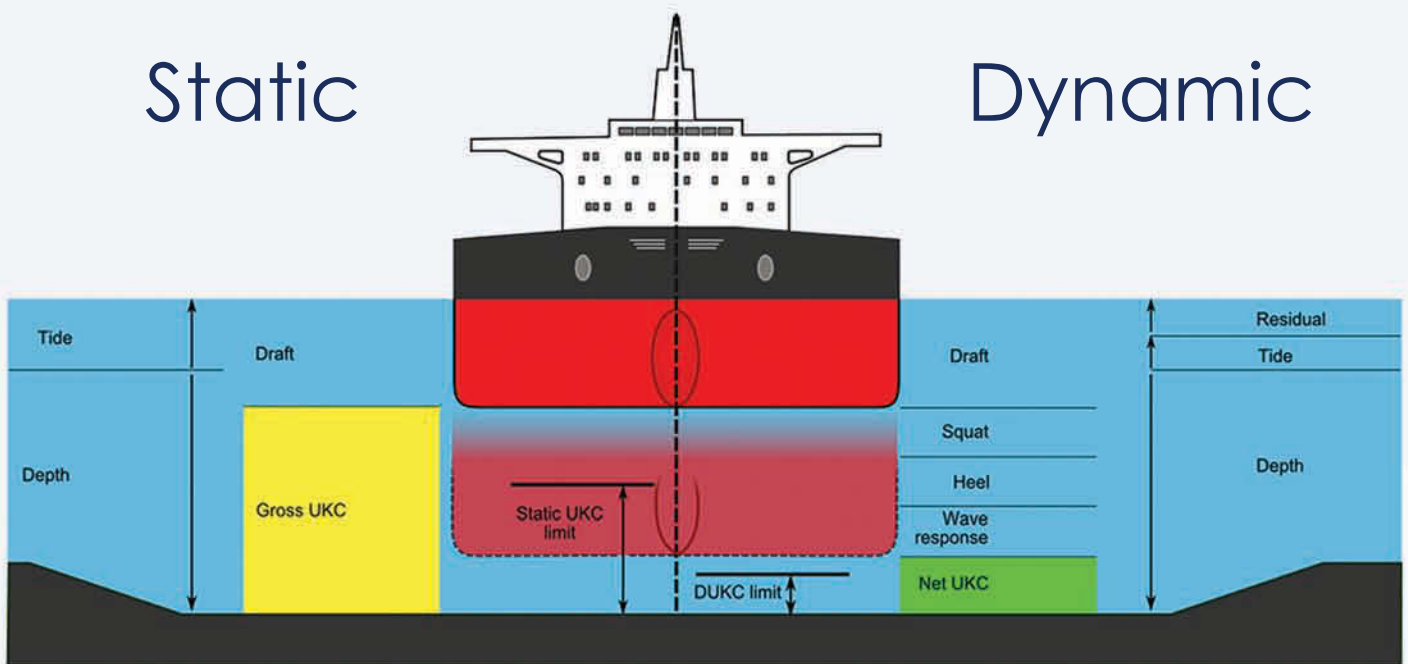
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