

Performance, Outcomes and Results
The MET Network with NGO Observer Status at IMO

GlobalMET

NEWSLETTER



To promote, develop and support in the spirit of cooperation, the common interests of its members in all matters concerning the development and quality of maritime education and training.

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Editorial



Figure 1 - Source: gCaptain 4.4.2018

The world's first shipping company focussing entirely on autonomous ships is being established in Norway as the shipping industry continues its push towards autonomous technology. Shipping group Wilhelmsen and technology firm KONGSBERG, both from Norway, have joined forces to establish the new company, named Massterly, which will launch later this year offering the complete value. (gCaptain 4.4.2018)

As industry races towards autonomous ships we are reminded of the El Faro tragedy by an article in Vanity Fair, by William Langewiesche, "The Clock is Ticking – Inside the worst US Maritime disaster in decades".

The El Faro is a case study assessment I have given to my learning group of Class 1/Chief Mates. As a competency-based and action learning, assessment project, the learners must research, examine and analyse the incident. They then present their findings based on the materials they reviewed. They are to also make recommendations to avoid another disaster of this nature for vessels who operate under all weather and sea conditions. The group will be peer reviewed/assessed by their class mates who also have similar assignments on other incidents, duly supervised by two facilitators/assessors.

Will instruments, digital innovations and artificial intelligence take over human behaviour, responsibility, knowledge and skills? If the El Faro incident and other similar cases showed so much neglect from the praxis of both the shore and the ship administration, perhaps autonomous ships are justified?



Figure 2 - Source: ABB Electric, Digital, Connected

Meanwhile ABB of Switzerland, a leading edge digital innovations organisation have mooted that the next generation of ships will be electric. Digital and connected. What this means in simple terms is that more and more ships will be connected to subscribed, collaborative operation centres for around the clock remote support no matter where they are. Their claims presently include over 700 vessels now connected to their ABB Ability™ system. Will autonomous ships logically be also connected to "remote operation centres" in the actual management and operations at sea?

If so, we then, should be prepared to formulate fresh curriculum, new and innovative development courses or training programmes to fit the nature of future ship operations. The old wheel has ceased turning efficiently, and no amount of tinkering will make it effective again. Let us now work towards a better designed wheel and associated mechanisms that can provide the relevant service.

What then must MET directions be in the immediate future and thereon? The STCW is out of date or likely close to its use by date. It has been tinkered to death, supported by Model Courses that do not have the standards as outcomes but knowledge-based, focussed on subjects' curriculum. These are usually not outcomes based nor delivered by competency-based learning, education and assessment methodologies that result in performance outcomes. Courses are still laboured with teacher centred lectures culminating with onerous written examinations (memory tests) that do not allow much demonstrable activities that provide or show standard competences have been attained. No blame should be attached to anyone, except the system itself that does not make formal outcomes-education and competency-based teacher training compulsory for MET practitioners. Although many institutions do provide basic training for their teaching staff, these are usually more biased towards academic learning pedagogy rather than professional, skills-based training for adults (andragogy). To compound this problem, many jurisdictions do not have examiners or assessors who are sufficiently trained as well. Ship operators are reluctant to fund continuing professional development for officers to perform work-based learning activities. MET institutions have even lesser funding available to develop their teaching staff.

This issue carries interesting perspectives on MET and stricter surveillance on older bulk carriers. Rod Short's narrative on navigation in difficult seas and waters, be it natural obstructions or piracy offers interesting thoughts on skills and ability to make navigation safer with the construction of Horsburgh Light House.

Members and reading public are urged to send in your letters and writings to add to this newsletter. Its here to serve members and what better then to hear from members. Please circulate to your staff and students.

By **Capt. Richard Teo**
FNI FCILT MAICD
Director

Members and their staff members are encouraged to submit their thoughts through authoring articles for publishing in our Newsletter. Articles should reach the Secretariat by the Friday of each month. Publication usually will be in the 3rd week of each month. GlobalMET reserves the right to reject any article that may be deemed inappropriate for the promotion and well-being of MET.

The Changing Face of Maritime Education & Training - MET



Preamble

At a recent MET conference in Manila, the anxiety raised by many conference participants was the need to graduate their officer cadets with a comparable Higher Education 4-year academic degree at the same time as they would receive their OOW Certificate of Competence (CoC). Whilst this seemed like the logical pathways to accessing greater knowledge, in a meritorious based career there was little practical evidential policy for developing the experiential skills and competences expected of the candidates to be job ready as junior officers in charge of a watch at sea on board a ship on graduation.

The career pathways through experiential learning on the job (time based) to attain the optimal Certificate of Competence during their career is the accepted norm. The question arose was, whether the 12-month internship (sea-time) was sufficient to attain the competences per the STCW Convention 1978 as amended and be awarded the OOW Certificate of Competence. The way the awardee would be examined and assessed must be outcome-based (OBE) in accordance with competency-based learning and assessments (CBETA) methodology. There is a grey area in which competency-based assessments and academic based examinations coexist. Traditional educators battle against the change in paradigm and cross over between the traditional pedagogy (class room, teacher centred) and adult andragogy (adult work-based learner centred) andragogy. Learning spaces have developed to learning and doing on the go that traditional class room approach will not match despite modern heutagogy being available to assist the learning processes. Yet MET institutions have not kept in step with what the job requires.

The current general desire of MET qualifications with Academic degrees is to have an attractive certificate that allows transportability or mobility of the career officer across industry borders and disciplines. However, the growing concern, yet to be addressed in earnest, is the capability and capacity of the individual ship's company to develop, train and mentor the subordinate officer to attain the competences (skills, knowledge and behavioural attitudes) for their next senior roles and certification required of them. Without this in place, the cadet officer will not warrant any attention.

Surprisingly, at the conference, a group of overseas "experts" in attendance were more interested in advertising the courses available at the institutions they represent. There was little priority on how the MET industry might address the fast-changing type of persons required to crew the ships in the near future as the industry rushes towards automation, substantial crew reduction and eventual autonomous ships. (see Editorial Issue 70).

The desired standard operational establishment (manning scales) of a ships company that provides safe and efficient crewing of the future ships was not a topic on agenda.

Tinkering and Short-Term Modifications

The international framework for maritime qualifications and quality of training and certification remains with STCW Convention 1978 as amended (current 2010 Manila amendments). This document though very useful is fast reaching its use by date, if not already. The important thing and becoming more urgent, is the lack of uniformity or standard curriculum.

This was recognised by IMO earlier on with the promulgation of the Model Courses. Despite reviews, these courses are not standard curriculum specifying outcomes-based delivery and assessments to the competences in the standards (competency – based learning), stated within functional roles and reiterated by IMO.

One of the setbacks is that MET teachers are not formally educated, developed or trained in formal educational methodologies and practice. These encompass advanced studies and praxis in traditional pedagogy aimed at children and high school youth, and modern adult and professional learning and assessment methods that apply andragogy and heutagogy (modern digital learning advances).

Class-rooms (off site) or work based (on site) learning

These two learning environments and spaces are very quickly eroded by virtual learning spaces with the advent of artificial intelligence (AI) and digital innovations. All very well where the internet of things (IOT) is easily available and used extensively without delays or interruptions. Not so however, on ships at this time, for several reasons, one of which is cost that operators are most unwilling to spend and the other of course the technology is not always up to date or available on ships. Will virtual learning spaces be the next primary learning platform for MET?

Organising for Urgency

MET institutions and organisations offering MET need to compete at the speed of digital. There is a need to unleash fresh strategies, structure and our people.



- Adopt a recipe to run the place
- Cultivate purpose, values, and social connection
- Unleash decision making
- Reimagine your structure
- Personalize talent programs
- Worship speed
- Shift to emergent strategy

Rethink our leadership model Identity, Agility & Capability Urgency

With MET institutions, there is a need for agility to make high performance possible. Critical skills of MET practitioners as individuals, team members and leaders need to take on the challenge of workplace automation and AI. We must begin to train the workforce to not just perform in concert with machines but also to adapt to uncertainty. The more information - rich tools are used (and the more effective they become), the harder it will be to achieve the proper balance between person and machine. This challenge amplifies the importance of continuous learning, employee development and consistent leadership. Hence continuing professional development, CPD programmes become synonymous with formal MET learning and doing and human resources development, HRD at the workplace.

GlobalMET has a distinctive role in the sphere of influence of MET and must take on the leadership challenges. In particular

monitoring quality of membership and teacher development and training.

I had planned to initiate the GlobalMET-MARINA, national / international MET Teacher standards development programme at this conference. I was able to take on board key MET leaders from industry associations, representing the majority of MET institutions in the Philippines, including industry representatives to CHED-MARINA. This programme will complement MARINA's objective to develop faculties in MET institutes accredited by MARINA, the maritime industry authority of the Philippines.

A fully committed working committee was established on Friday February 23rd, 2018 in situ. This project is funded by the TK Foundation.

By

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Technical Highlight

Multi-Device Silent Logitech Mouse M590

By
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Often times when I'm working on multiple devices, e.g., Google Drive, Amazon Web Services, Smartphone and multiple laptops. It wouldn't be uncommon for me to have 2 wired mice for the laptops, a Bluetooth keyboard for the Smartphone, along with multiple thumb drives. And, of course I need information off a thumb drive in another computer—you know what I mean!

The other day, I ran across a Multi-Device Silent Logitech Mouse (\$30), what a mouth full; it can be used for working on a single device or 2 computers simultaneously; that's right 1 mouse, 2 computers with the touch

of a button; click the button for "1" and you're using the mouse on device 1; click again for "2" and you're working on device 2. You can also install and enable the smooth flow option between computers, no buttons. If you're on a WIFI network and sharing folders (drives and thumb drives) you can really get the full benefit. One computer uses a wireless plugin attachment (shown below), while the other uses Bluetooth. It's also a silent mouse so no loud clicking.

The wireless plugin fits inside the mouse for safe keeping so you won't lose it, it's a great tool if you work on multiple devices like I do.



Multi-Device Silent Logitech Mouse M590

Authentic Knowledge in Maritime Education and Training



All Things Maritime

As I begin my doctoral candidacy in Organizational Development and Leadership: Training and e-Learning, I am reminded that a major premise of the GlobalMET Newsletter is to promote, develop and support the common interests of its members concerning the development and quality of maritime education and training (MET). As you may be aware, GlobalMET went through great pains to obtain Non-Governmental Observer (NGO) Status with the International Maritime Organization (IMO) to help highlight current issues and help bring those issues to light to the IMO.

It should also be evident, that the desired outcomes and results for GMET members, industry and larger society be reflected in the newsletter by way of articles (both technical and non-technical), content, and all things maritime – to include topics of interests in maritime education and training.

The Science of Maritime

Take Science here to be the Collins Dictionary definition, with reference to Maritime, embody the European Commission MEMO/08/533, Brussels, 3 September 2008 definition of Maritime Research "... that aims at technologies and innovative solutions for a better exploitation of sea and ocean resources such as design, building and operation of vessels, harbours, oil platforms and more widely any kind of human related activity centered around sea and ocean resources (e.g. , tourism)". Further as a branch of the Earth Sciences and system concerning the issues related to nature, man and society; of empirical and theoretical results born of epistemology (history) and authentic knowledge of Maritime – further as not concerning practical or belief based; i.e., of authentic scientific knowledge and the science of science (both empirical and methodological) giving way to concepts, schemes, models, scope, theories and laws.

Moreover, processes that lead to corrections, evolution, revisions and even revolutionary breakthroughs are possible concerning the current issues of merit and problems of the maritime industry as highlighted by the IMO and its members in its motto, "safe, secure, efficient shipping on cleaner oceans". This is the value proposition of the maritime industry and greater global community. And thus, also a major reason for maritime education and training (MET) – to certify, help provide solutions, demonstrate science and the science of science in the highest forms possible; otherwise, best they be called maritime certification institutes (MCI) for STCW and hang their diplomas and degrees as shingles on a wall. This is confirmed by one Captain who states,

"My data collection in recent times shows that students aspiring to be mariners are almost all short term aspirants, looking for transportability and mobility across borders of industry. Quick fix it and instant promotion with higher educational qualifications [having been] relegated [to] competency certification. All good if MET actually can produce job ready graduates."

Surely MET is about more than just the aforementioned and commercial objectives at the expense of duty, ethics, higher order thinking, logic, morals and reason.

Still, the newsletter should represent all these forms in maritime – both good and bad, commercial or otherwise; respecting the many seafarers that have gone before us, who are presently sailing and those yet to sail as many seafarers have laid down

their lives, succumbed to fate and/or buried at sea. Uphold the IMO motto fully!

The Loss of Life and Catastrophes Continue

As much, depending on what you read, the average yearly losses of vessels due to some catastrophe is more than 100 vessels, figure 1 and 2 refer. One could say that these catastrophes are unsafe and thus there is a problem with the value proposition for the maritime industry as articulated by the IMO and worthy of writing about in the newsletter as well. Also pointed out to me, this doesn't mean investigating in the newsletter. Moreover, after obtaining the investigation report, what's the point in writing about it in the newsletter? On the surface of this argument, it seems like more than a fair observation, however, after further study, e.g., what about the environmental impact of these incidents, the human factors, both commercial and social pressures as mitigating circumstances that must be examined – one would agree? There is also the element of documenting the history (epistemology), referencing, bibliography and literature reviews. Without this, authentic research and methodology would be superficial at best. Still others argue that the focus should be on the future and not historical data. To the contrary, the author would argue that one must have more than a solid foundation (history) in the subject matter at hand before any hope of creativity, innovation or revolutionary change is possible.

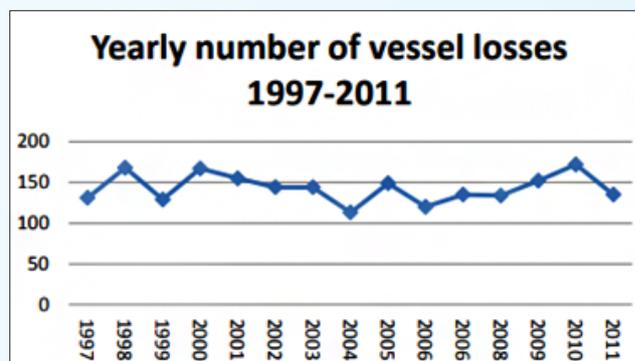


Figure 1 - Interim Report: A Review of 15 Years of Shipping Accidents, 2012

Two Schools of Thought on Sea Time

I would be failing not to mention that there are a few schools of thought in maritime regarding the sea time of cadets and thus presumed "good mariners". One camp believes "good mariners" can only be had by cadets spending more time onboard ship, 3 - 4 years to be exact, as they themselves did before the 1980s as opposed to now where diplomas and certificates of competency (COC) are issued after only one year of sea time, 2 years of schooling and an oral board. One problem with the former's assumption of longer sea time is that there is little to no authentic knowledge or data to back it up. If there is, please send it. The Lloyd's Registry comes closest, but it appears no way to get at this earlier period of data. This could be another area to write about in the newsletter and maybe learn something more from; maybe the first camp has it right? We'll never know as many of them aren't writing to

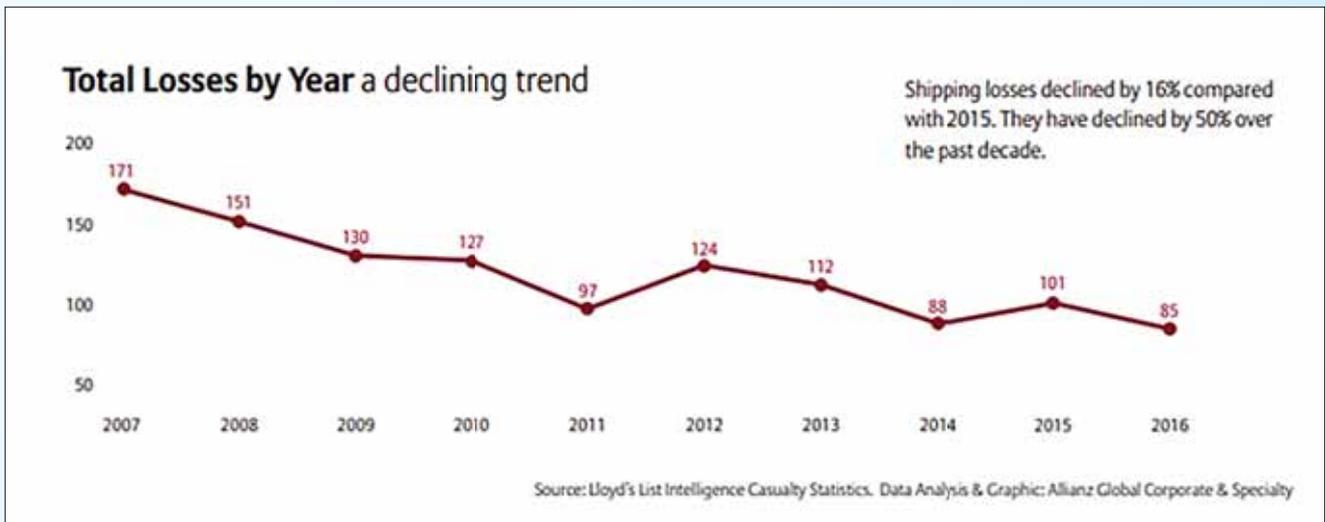


Figure 2 - AGCS Safety Shipping Review 2017, Allianz Global Corporate & Specialty SE

the newsletter and neither is the second camp – but, at least there's some data in that regard.

My former captain would call such suggestions of what to do or write about as “rudder orders,” as real professionals – we need not such orders or suggestions to do the right thing.

Coming Full Circle on Man, Nature and Society

Coming full circle and back to the purpose of the newsletter in the first place, the application of a scholarly lens to the matters of maritime (nature, man and society); the application of the science of science in the development, support and quality of MET. Proven in journals and scholarly ranking systems, there must be progress in this area.

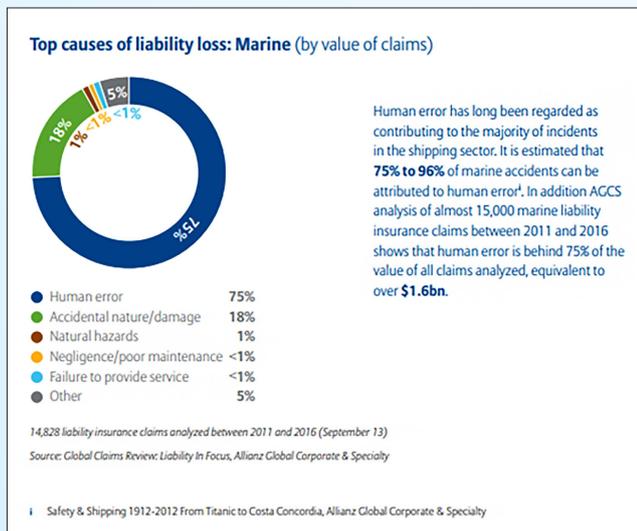


Figure 3 - Top Total Losses in Maritime, Allianz Global Corporate & Specialty SE

Seems the data before 2006, figure 3 refers, regarding ship catastrophes is nearly non-existent. This is an area where having such knowledge could shed a lot of light on what works and doesn't work as far as solutions.

Overt disregard for the scientific epistemology (history) of the problems of maritime as well as its scientific treatment is quite likely due to perceived commercial pressures and is indeed regretful – or at least short sighted. Yet, the industry purports to aspire for change. What change one may ask, away from that articulated by the IMO's position?

Conclusion on Authentic Knowledge in Maritime

Many non-maritime institutions of higher learning also have commercial pressures and yet more than manage to uphold the highest standards of discourse expected of them and more.

Ships are getting bigger and more complex, there's more commercial pressure and demands on the environment than ever before; climate change, global warming and pollution are constant threats. Shall we wave the banner of commercial pressure even to the very end?

We must change for the better the way we do business and contribute real solutions to the maritime community in the form of explicit knowledge – meaning out of your head and documented to really be meaningful and useful to the maritime communities of practice (MCOP); this authentic and real knowledge to the problems, triumphs, hopes and dreams of the maritime industry must be voluntary – it can't be forced, that has already been tried and a colossal failure.

We can start demonstrating interest in maritime in a global format like the GlobalMET Newsletter and NGO where the breath of articles, types and nature are varied- if not, then where? Many journals, periodicals and such are constrained by genre, style and form – whereas, in the GMET newsletter – while having some constraints in the way of a well written article (grammar, spell checked and flow), I believe it's an opportunity and a privilege to help the IMO, GMET, NGO and maritime community. Become an active reader and contributor to the many scientific journals. For the potential to be great is limited only by our capacity to dream, think and achieve. Thanks for reading, looking forward to your articles and comments.

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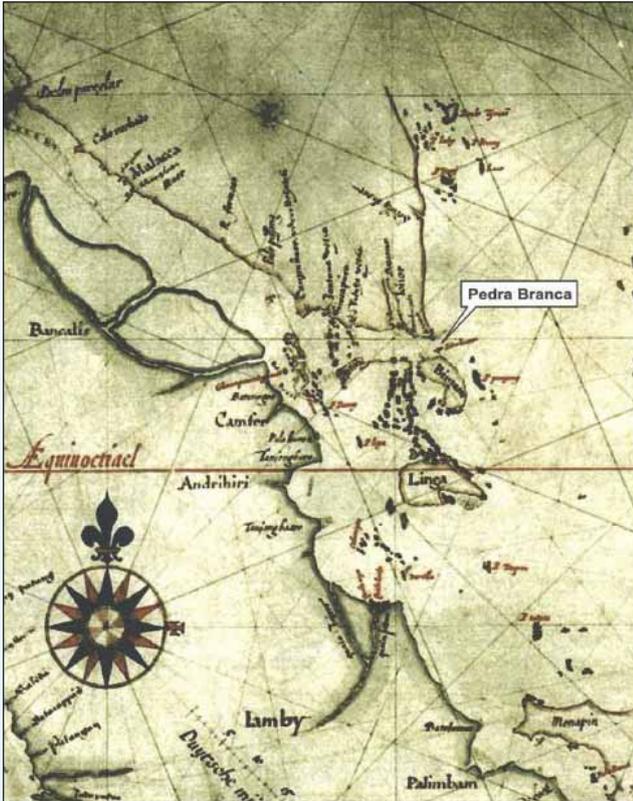
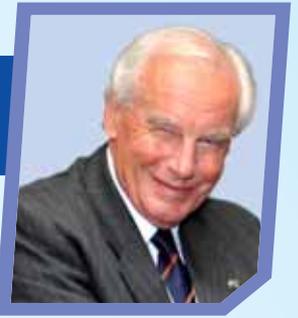
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By **Iman Fiqrie@ William E Hamilton**
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Lecturer

First Pharos of the Eastern Seas



Detail from a 'Map of Sumatra showing the island of Pedra Branca' Hessel Gerritz (1581-1632)

"From the Cape of Singapura to the hooke named Sinosura easterward are 18 miles, 6 or 7 miles from thence lyeth a cliffe in ye sea called Pedra Bianque, or White Rock, where the shippes that come and go from China, doe often tymes posse in great danger and some are left upon it, whereby the Pylots when they come thether are in great feare, for that other way this they have not."

(From early Portuguese pilotage directions, translated by John Wolfe in 1595.)

Dutch voyager Johann Van Linschoten wrote in 1583 about a "Pedra Bianque, a white rock, where the shippes that come and goe to and from China, doe oftentimes passe in great danger and some are left upon it...". Chinese sailors also recorded a *bai jiao* close to Singapore. To the experienced seafarer, Pedra Branca served as a navigational marker that warned ships of the proximity of dangerous waters.

Anyone who has been close to Horsburgh and seen the swells of the South China Sea breaking over the very dangerous reef readily understands the need for marking the reef with a large clearly visible structure. This is particularly so during the North East monsoon, from October to January, when the sea appears to wash right over the reef. It is not difficult to sense the great danger that these rocks presented to seafarers before the lighthouse was built.

Pedra Branca

Long recognised as a major navigational danger and feared as the graveyard of many ships, the reef at the eastern entrance to Singapore Strait was known as Pedra Branca (White Rock)

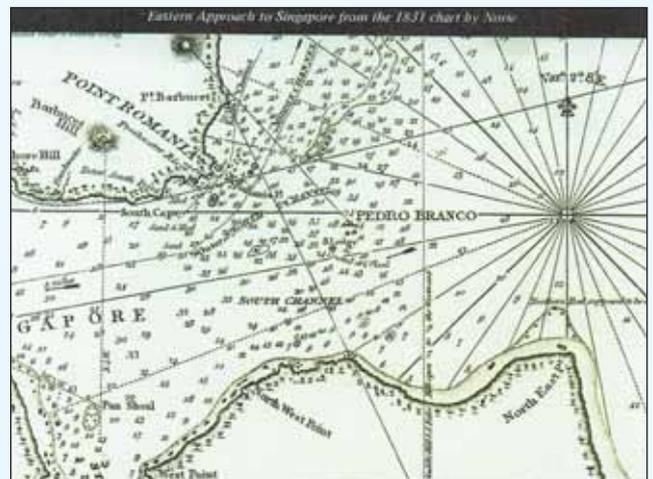
by the Portuguese, because the large rock at the northern edge of the reef was white with the droppings of terns which used it (and still do) as a resting place while they watched for fish near the reef.

We have no idea how many ships must have foundered through striking this reef, which lies where ships coming in from the South China Sea begin to enter Singapore Strait. We do however gain some idea from records kept between 1824 and 1851, when the lighthouse was completed. The loss of 16 large ships is recorded during these years, including the Portuguese brig "Dauado" with 500,000 Spanish dollars on board, and the British barque "Sylph" with nearly 600,000 Spanish dollars of opium.



The barque "Sylph"

The practice of piracy was common in eastern waters. The slow moving and relatively helpless ships, often laden with valuable cargo, were easy prey. A ship stranded on a reef was particularly easy prey. To minimise the risk of detection the pirates often slaughtered the crew before plundering the wreck. Pedra Branca was greatly feared, especially by those on board a ship making a landfall on a dark night with poor visibility.



Initiative

It is rather surprising that it was not until as recently as 1836 that the first step was taken to place a lighthouse at the eastern end of Singapore Strait.

To commemorate that life and work of James Horsburgh, Hydrographer of the Royal East India Company, who was responsible for many surveys and charts of this region and who had recently died, a meeting of international merchants in Canton, chaired by William Jardine of Jardine Matheson & Co of Hong Kong, decided to erect a lighthouse on Pedra Branca.

Unfortunately, although the Singapore "Free Press" reported in 1842 that Jardine Matheson had informed the Government of the Straits Settlements that they were prepared to hand over the considerable amount of money that had been raised through subscriptions, it took 13 years before instructions were given to design a lighthouse to an architect in Singapore. The delay was partly due to a survey to determine the best site for the lighthouse and eventually Pedra Branca, the outermost danger was chosen.

Mr J T Thompson, the Government Surveyor in Singapore, was ordered to draw up plans and estimates. Remarkably, after the bureaucratic delays, Thompson who was placed in charge of the project, completed the construction in only two years. He wrote a detailed account of the building of the lighthouse, which was published in the "Journal of the Indian Archipeligo and Eastern Asia" in 1852.

The source material for these articles is found in the extracts from Thompson's writing, which were published in "First Pharos of the Eastern Seas – Horsburgh Lighthouse" a chronicle compiled by J A L Pavitt for the Singapore Light Dues Board in 1966. The next article will describe the construction of the lighthouse.

By **Rod Short**

Tips for Bulker Crews

Some points regarding carrying out checks on older bulk carriers:

- Bulk carriers carry different types of cargo like coal, sulphur, concentrates, grains, sugar, rock phosphate, etc.
- The standards of cleanliness while carrying grains are very high. Remnants of the previous cargo have to be removed from under hatch covers, ladders, ventilation trunks and from rose boxes. This requires thorough checking and cleaning.
- Weather tightness of hatch covers is very important and is a topic in itself. Follow best practices as prescribed by your owners, charterers and others. If tape needs to be affixed along joints, do it properly. Structural strength of hatch coamings is important so see that no water can go in from here.
- Air pipes and sounding pipes passing through cargo holds must be checked. These are covered by steel angles for protection, so any hole developing on them can go unnoticed. If you have powdery cargo, it will find a place in the bunker tanks below and will damage your fuel pumps.
- Heating of bunker tanks is important. No more than 40 degrees celsius otherwise grain/soya bean cargo can be damaged.

- Keep photographic evidence while loading cargo and precautionary work done by ship staff for cargo safety. It will serve you well in case of a cargo claim.
- TML (Transportable Moisture Limit) of concentrates must be kept in mind. Carry out a drop test.
- After hatch cleaning and before loading the next cargo, a responsible officer must check the frames in the cargo holds. Generally this is neglected. Ventilation trunks and motor supports in trunking must also be checked.
- Cargo ventilation is a subject in itself. Acquire a good knowledge of the characteristics of the cargo and of the action in case of fire.
- Sometimes reverse flushing of cargo hold bilge lines from the ER (mind NR valve) to cargo holds is very helpful. While carrying cement and rock phosphate, use gunny filters placed on rose boxes. Once on a ship the bends on cargo hold bilge lines got blocked by cement and had to be cut out and replaced.

BE watchful. BE thoughtful.

By **Mahendra Singh**
Chief Engineer





Vessel grounded at full speed on the breakwater. Was OOW asleep?

Reported by The Nautical Institute: A vessel was due to arrive at a port in Spain at 0800 local time (LT). It would appear that at about 0600 the vessel contacted the pilot station confirming the ETA and was instructed to contact again some 20 minutes before arrival.

At 07.59 hours, and despite calls from traffic control, the vessel grounded at full speed on the breakwater at the entrance to the port.

A video, taken by surveillance cameras, shows 'live' the sequence of the grounding, and needs no comment.

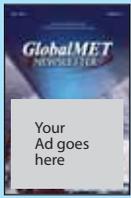


The vessel had a crew of seven, with only two watchkeeping officers, master, and chief officer. While ISM, ISPS, GPS and all the other gadgetry are extremely useful for safer navigation, it is my humble opinion that adequate manning is a must to avoid such

cases. In this particular incident, the chief officer was alone on the bridge at the time of the incident.

Report By Mars Report

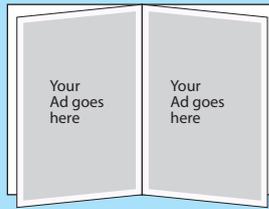
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