

EIGHT BELLS

FEBRUARY 2020

JOURNAL OF THE COMPANY OF MASTER MARINERS OF SRI LANKA



The Carols,



the ladies,



& the gents!

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Membership as at December 2019.

Total Membership 349,
Life Members 241,
L/Membership due 101
Annual Members 07

Events held

P.B. Karandawala Memorial Lecture was held on 24th January, 2020 at The Institution of Engineers, Sri Lanka.

Memorial Lecture on "Manning industry of Sri Lankan seafarers and its contribution to the country's economy" was delivered by Capt Ajith Peiris, Chairman/ Managing Director, CINEC Maritime Campus. This event will be covered in the next issue.

Future Events

Plans are underway to have a day out with families at a hotel in Colombo suburbs. The date and venue will be notified to the membership.

A CPD will be held for operational level students during the course of the year.

AGM will be held in June this year. The date and venue is yet to be confirmed.

CMM Dinner dance "Night at Sea" will be held on the 3rd of October at Cinnamon Lakeside Hotel

President's message

Although this edition is delayed by one month due to unavoidable circumstances, we should be happy that it is ready at last. Thank you very much for the entire editorial staff.

This year we started with a new President for the country and with that there were changes in the ministries and associated departments. As we belong to the shipping industry we hope and pray that those who were appointed to the respective posts will have the courage to take constructive criticism and take the correct decisions to improve the lives of Sri Lankans in general and in particular those of the seafarers. The general elections are due in April/May this year and hope the Citizens of this country will select a stable government so that the new policies would be implemented for the betterment of the society so that we can move forward as a country.

During the past Six months, we have conducted a few bi monthly seminars inviting knowledgeable people in their respective fields as presenters. The selected subjects were related to shipping and environment. Most of the CMM members and the members of the other OPA organizations who attended

would have enhanced their knowledge out of them.

Last December, The CMM organized a CPD (Continuing Professional Development) program for the sailing officers of the management level. This was initiated by our Secretary Capt. Upul and ExCo member Capt. Sajeewa. This CPD program was successfully concluded. We are encouraged by the Feedback and we will plan to have more of these and especially one in the near future for those officers who missed the program.

As far as the Welfare is concerned, we had our Annual Cricket match with the Marine Engineers with a good gathering. There were so many other matches played between players of different Maritime colleges and Universities. Thank you very much to the organizing committees and the generous sponsors. During the Festive Season, we had our X-Mas party for all our members and their families. It was good to see the increasing number of children. This was an event jointly conducted by CMM/SOCEM/IMarEST. My appreciation to the entire organizing committee as we had a super time meeting mostly our friends who sailed together in CSC and other shipping Lines!

Last year we were to have our " Dinner Dance " and unfortunately we had to postpone it due to reasons that we are all too aware of. What a shame - the Easter Sunday attack and the entire country is still recovering from that shock! I hope things will come to "Normal" and we are hoping to have the much awaited Dinner Dance in October this Year. The Dance committee is headed by Capt. Kolitha and Capt. Mahendra and you can expect something new from this dynamic team. All of us are looking forward to this event.

So , till we meet again,

All the very best to you all and your families .

For the people who are sailing may I wish that you have smooth sailing and good health.

Thank You.

Capt. Palitha de Lanerolle

President – CMM

Secretary's report

As has been the case for past few years now, the Company of Master Mariners of Sri Lanka remains a unique organization that is first and always about objectives and interests as a professional organization.

With a positive attitude towards professional development, CMM conducted the first CPD program for candidates who are appearing for Management level exams under STCW convention. It was well planned and delivered in a lecture hall at Sri Lanka Institute of Development Administration. Series of such programs will be conducted to support seafarers of support and operational level in coming months.

In 2019, there were two events that attracted many members. Annual Cricket match and the Christmas party were attended by large number of members with their family.

With many organizations having limited resources, forming partnerships is a good approach to not only increase capability, but also to build a common understanding, and harnessing the knowledge which is spread across various different perspectives. CILT jointly with CMM has organized the annual late P.B. Karandawala memorial

lecture under the theme of "Manning Industry and its contribution to the country's economy" which will be delivered by Capt. Ajith Peiris.

Year 2020, we intend to engage in more professional programs in building capacities of fellow seafarers and to improve knowledge that is needed to compete and succeed in the changing economic and political dynamics of the modern world.

Two years have passed since my taking over as the Secretary of this prestigious organization. I am quite happy to say that the CMM has managed to uphold its objectives and has been able to function as a very active professional body. In concluding this report I must state that I am eagerly waiting to handover this post to a dynamic figure at the 2020 AGM.

Capt. Upul Peiris

Secretary
CMM

Editorial

First of all I must apologize for the delay in publishing this journal. There are many reasons that I can put forward as explanations but it would not change the fact that the journal is late. The plan was to circulate the journal at least by the end of January but this was a plan that could not be executed owing to various reasons. 'All's well that end well' and I am happy that this edition is finally out.

A lot has happened since the last issue. We have a new government in place and a new set of policies are gradually being implemented. The industry is hoping for a revival and is seeking new opportunities for growth. It is hoped that the 'hands on' approach of the newly elected president will pay dividends in time to come.

The international shipping industry saw the much talked about IMO 2020 Sulphur cap coming into effect this year. This is a complete game changer that will have many ripple effects. Innovation and out of the box thinking will be the order of the day to realize sustainable growth. As the initial trepidations wear off, the stakeholders and the public will adapt to the new environment. As a result, we will be another step closer to making our home planet a safer place for the next generations.

CMM is headed for an exciting year. "Night at Sea" dinner dance was a novel concept mooted last year. Postponed due to the horrific Easter Sunday attacks, 'Night at Sea' is going to make a comeback in October.

The CPD program which was recently held was a success and another event for the operational students is in the horizon. A family day out is in the offing. With the gradually increasing membership numbers member participation is expected to rise over time and members are encouraged to attend CMM events.

By December last year there were not many member articles available for publishing the journal in January. To increase reader worthy content I took the liberty of compiling the result of a study on the IMO 2020 Sulphur requirements. I have received some articles since then but I have not taken out the content on Sulphur requirements as I believe the comprehensive study will be useful to the members. The articles are lined up in such a way that reading them in a continual flow will give the reader a full insight of this important change in the industry. Two articles in the lineup were written by members and a guest writer. Others have been reproduced from the internet.

Surfing through the internet I also came across an interesting

investigation report of a ship colliding with a crane. MAIB had gone into the depth of the matter in this investigation and I planned to add this to the journal. Halfway into the project I realized that omitting sections of the report would be detrimental to the essence of it, but leaving the full text will create space issues in the journal. As a compromise this investigation report will accompany the journal as a safety supplement. Regulatory requirements which are not part of the investigation but quoted as reference in the original report have been left out.

The biggest challenge faced by an editor of any magazine is the sourcing of articles. The 'Eight Bells' is essentially an internal journal circulated among the membership. Therefore it is justifiable to assume that the articles contained herein are mostly written by the members. Sadly, for the moment, I cannot declare that this is the case. A handful of loyal writers sustain the journal and I am ever grateful to them. ***I invite the other members to pen your thoughts and articles so that this journal can become a medium for professional and social interaction of our members.***

Capt. Prawala Perera

Editor

Prawala.perera@gmail.com

CMM MATTERS

National Sea Sunday Service



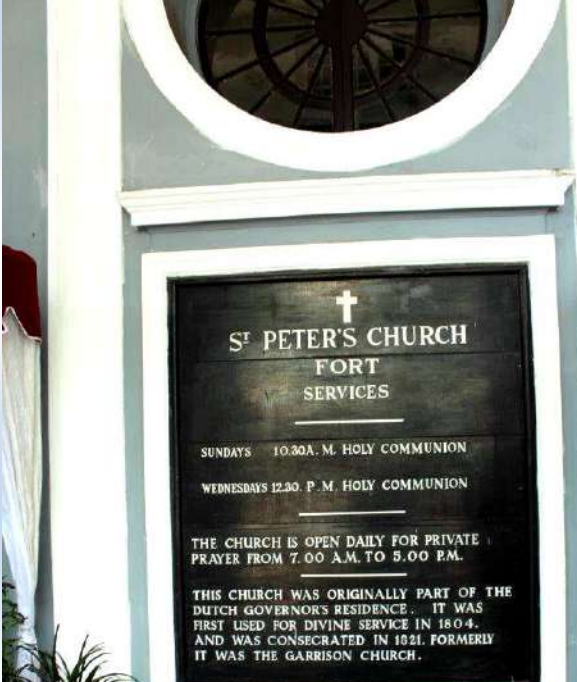
Officers and ratings from the Army, Navy, Air force and Police along with those of the merchant navy attended this ceremonial service.

Every seafarer has been fortunate to meet members of the Global Network of chaplains who serve in many ports around the world.

The Mission to Seafarers in Sri Lanka Colombo celebrated the International Sea Sunday Service at ST. Peter’s Church, Fort, on the 14th of July 2019. ST. Peter’s Church has served as sanctuary of prayer and solitude since 1821’.

The Mission to Seafarers in Sri Lanka at 26, Church street Colombo 1 since 1941 offers the tired and lonesome Seafarers a home next to their own.





Capt. Palitha Lanerolle, Capt. Harindra Perera, CE Nimal Perera, Capt. Gihan Sirimanne, Capt. Ravi Jayawickrama, Capt. Nirmal Silva, Capt. D.J. Amarasuriya and Capt. Jayasriskandarajah were senior mariners present for this service

CPD PROGRAM

Report by Capt.Sanjeewa Delgoda

Council of the CMM took a decision to conduct a CPD program for the benefit of Sri Lankan seafarers as part of the main objectives of the CMM constitution. A six member sub-committee was appointed by the council to coordinate the CPD program.

The Committee members

Capt. Palitha De Lanerolle
Capt. Upul Peris
Capt. Kolitha Gunawardena
Capt. Mahendra Ranathunga
Capt. Sanjeewa Delgoda

Targeted seafarers for CPD program

After a lengthy discussion it was agreed by the sub-committee to conduct its first CPD program for the management level candidates who are currently studying for the Master / Mates examination. The council granted permission to conduct the CPD program & requested to prepare a syllabus for the program.

The budget.

Rs.100,000 was approved by the council for facilitating the CPD program free of

charge to the management level candidates.

Venue / Date

Council and the the sub-committee decided to conduct the CPD programme at a neutral location & SLIDA (Sri Lanka Institute of Development Administration, 28, 10 Malalasekara Mawatha, Colombo) was selected as the Venue for the program.

The date was fixed as 07th December 2019, considering the availability of the Venue.

Selection of the presenters

Messages were circulated among all CMM members, requesting their availability and interest to participate as presenters to share their valuable experience with the younger maritime generation.

Presenters selected were as follows.

Capt. Sanjeewa Delgoda
Capt. Gajaba Sirimanne
Capt. Vimarshana Vidanagamage
Capt. H.S.S. Hemasinghe
Capt. Prasad Alwis
Capt. Indika Jayadewa
Capt. Sanjaya Mahaliyanage

Mr. Saman Kumarasinghe – DNV – GL
country manager

The Syllabus

Syllabus has been prepared based on the required competencies in STCW for the management level candidates. No theories were planned to be discussed and only practical issues were to be the point of focus.

1. Navigation at the Management Level

A) *Plan a voyage & conduct navigation.*

B) *Coordinate SAR operations.*

C) *Establish watch-keeping arrangements and procedures*

E) *Forecast weather and oceanographic conditions*

G) *Maneuver and handle a ship in all conditions.*

H) *Operate remote controls of propulsion plant and engineering systems and services*

2. Cargo handling and Stowage at management level

A) *Plan and ensure safe loading, stowage, securing and care during the voyage and unloading of cargoes.*

B) *Assess reported defects and damage to cargo spaces, hatch covers*

and ballast tanks and take appropriate action

C) *Carriage of dangerous goods*

3. Controlling the operation of ship and care for person onboard at the management level

A) *Control trim, stability and stress*

B) *Monitoring and control compliance with legislative requirements and measures to ensure safety of the life at sea, securing and the protection of marine environment.*

C) *Maintain safety and security of the ship's crew and passengers and the operational condition of life saving, firefighting and other safety systems*

D) *Develop emergency and damage control plans and handle emergency situations*

E) *Use of leadership and managerial skill*



The candidates

Out of 40 confirmed candidates only 22 participated for the program.

CINEC campus assisted in conveying the message to the candidates.

Actual participation - 55 %



Certification

All participated candidates were awarded with a certificate signed by the CMM president and the Secretary.



Festival of Cricket 2019



The Annual Soft Ball Cricket Tournament jointly organized by IMarEST-Sri Lanka Branch, SOCEM (Society of Chief Engineers – Marine) and CMM (Company of Master Mariners) was held at Bloomfield Grounds on 30th November 2020 with the participation of Seafarers and their families.

Just Not Cricket

Report by Capt. Sanjewa Usgodarachchi

We have won this match for many consecutive years and frankly everyone was getting tired of it. We wanted to concede the match so that our competitors will remain interested for years to come.

Without any fanfare the CMM team was decided on the phone the day before the match. No strategies were in place. If there was a plan it was only to have a

buffet as we were planning to enjoy the day indulging in different pleasures.....The day never went according to plan. Our carefully devised plan for a buffet was to end in failure as some of our special members were lucky enough to taste some delicious 'buth packets' as so the called 'buffet' had run out before the appetites did..

In sharp contrast to ours some teams were very serious in their preparations. They had booked grounds for practices. Their ranks were shored up with young talented players. Planning was done well

in advance. Our prayers were with them all the way and we were hoping that their preparations will pay off.

CMM team was young from depending on one's own lines of division but no one can argue that they were all young at heart. Things started as planned. Encouraged by an energetic burst of nonstop commentary engineers had their tails high. With a few of our star batsmen getting out early and for a very short period initially there was a glimmer of hope for the engineers. This was to last only until Capt. Bandara walked into the pitch. Experiencing a phenomena that could only be described as 'achchi wahanawa' he started hammering the ball all over the park. He scored an unbeaten 113 and by the end of the 20th over CMM team had scored a massive total of 212 runs.

All was however not lost. The young engineering team was expected to capitalize on CMM bowlers who are fast approaching their fifties.

If it was the CMM batsmen who were not playing according to plan who spoiled the game for the engineers this time it was the CMM bowlers. The CMM bowlers were breaking through the star studded engineering team like a hot knife through butter. The engineers never seemed to be on top in any part of the game. It was so bad they were all out for 131 runs on just the 16th over.

Frankly we are at a loss of ideas on how to lose this game. We will plan better next year.....I mean we must have a buffet for everyone!





Christmas party

Annual joint Christmas party with SOCEM and IMarEST was held on 07th Dec 2019 at Grand Monarch, Thalawathugoda. This wonderful gathering was enjoyed by the members and their families alike.

This year I would like to take our readership towards a different perspective. Two Officer Cadets who was involved with singing carols have submitted an article and it makes interesting reading. One fine day they will both participate this event as chief engineers! I wish them luck and a successful career!



Carols

*By Isuru Athlantha Fernando E/Cadet
CINEC Campus batch 041 and By
E/Cadet Thushara Undugoda CINEC
Campus Batch 041*



It was a new experience for us to participate in a Christmas Party with Senior Mariners who have achieved great heights in the industry which I have chosen as a career. The Annual Christmas party and Carol singing were organized by the 'Institute of Marine Engineering, Science and Technology' (IMarEST) in collaboration with the 'Company of Master Mariners' (CMM). I was detailed by the Dean of my Faculty to be prepared with other fellow E/Cadets to sing the carols at the event. I was directed to C/E's Mr. Napagoda and Mr. Roshan Fernando to get all the required information and instructions regarding the event.

On the 7th of December we arrived at the 'Grand Monarch' in Thalawathugoda. The Band had already

arrived and soon we started familiarizing with the beat and tempo until the organizing committee members arrived. Since it was the first time all of us participated at such an event, we were given the necessary guidance for the evening program.

The events of evening initiated with the singing of Christmas Carols, soon as the seats were filled up. We wore our ceremonial dress (white tunic) and a Santa stocking cap. Each one of us was given an electric candle so that it looked aesthetic as they were switched on as the lights of the hall were switched off. Starting from the far end of the aft of the hall, a former chorister led us to the stage where the Band was located. We started sing on our way from the rear end of the hall. It was a very impressive and beautiful sight to have the blinking lights in the darkened hall. We stood in line, facing the Chief Engineers, Captains and their families. We sang 8 songs and going by the reaction of the audience who responded very positively, I think we must have done a good job, as part time singers after going through the initial nervousness.



Once the carol singing was over, all 8 of us sat at a table situated in the front *starboard* area of the hall. We were served fruit juice with delicious starters while we enjoyed the kids participating in the games which had pastel drawing competition, Mummy dressing and many more items. C/E Mr. Napagoda was the announcer throughout the event and he did a great job entertaining every one of us. WE also met some of our CINEC Lecturers at the event. We were invited to participate in the “Musical Ball” game where we had to pass a ball around a circle which was formed with the ladies and the Cadets. The last two persons remaining were a Cadet and a lady. Somehow, the Cadet lost.

We had a bit of wine and joined in the dinner which started around 20.30 hrs. After the tasty starters, there was plenty of tasty food which we all enjoyed. We got the opportunity to talk with some Master Mariners and received lots of encouragement. After dinner, we joined in the dance with the ‘Sirs’ who were

very friendly. The present Harbour Master who had been a past President of CMM also spoke with us very kindly.

Apart from the Cadets of CINEC, other Cadets of the NDT Marine Engineering faculty attended.

A typical Sri Lankan party would never end without the dance floor being occupied. Captains and Chief Engineers opened the dance floor and not so long after, we were invited to dance. It was an unexpected request which we did not refuse

It was a marvelous evening and a great experience for all of us Cadets turned carol singers.



Not in our wildest dreams would we have believed that we could be comfortable dancing with Captains and Chief Engineers. Not just that, but also feeling confident to speak to them. I had this level of respect and fear of these officers. Today the respect is even more but the fear is gone! he event definitely taught us a lot.

Member Achievements

Northshore Campus appoints Prof. Nalaka Jayakody as VC and CEO

<http://www.dailymirror.lk/press-releases/Northshore-Campus-appoints-Prof-Nalaka-Jayakody-as-VC-and-CEO/335-182423>



Northshore Campus, a leading higher education institute with modern state-of-the-art infrastructure, very recently appointed renowned Professor Nalaka Jayakody as its new Vice Chancellor and CEO to steer and lead its future growth.

Professor Jayakody is undeniably one of the best-known and most respected mariners and academic both locally and as well as internationally. His vast contribution to the sector goes without saying. With extensive leadership experience in the higher education sphere, he previously served as Vice President of CINEC. Having joined CINEC as a lecturer in 1998, he went onto becoming senior lecturer, head of the department, dean of the faculty, and director. With a strong determination to continue his enormous contribution towards state and private higher education and maritime sector in the country, Professor Jayakody strongly believes in the vision of making Sri Lanka a maritime and knowledge hub.

He is the first and only Sri Lankan Master Mariner to obtain a doctorate and become a

professor. He was also very recently conferred the International Leadership Innovation Excellence Award 2019 by the Institute of Economic Studies, India.

Prior to pursuing an academic career, he was an experienced seafarer having traveled to over 90 countries with exposure towards diverse cultures. He began his maritime training in 1984 as a Cadet Officer and obtained the first Certificate of Competency (CoC) as Class II Second Officer from the Australian Maritime Campus (AMC) in Tasmania, Australia in 1989. He was awarded the Master Class I certificate from Royal Melbourne Institute of Technology (RMIT), Australia in 1994, and rose to the rank of a Ship Captain.

He has a Master of Science (MSc) in Maritime Education and Training (MET) from the prestigious World Maritime University in Malmo, Sweden and a Doctor of Science (DSc) in Maritime Affairs from Dalian Maritime University in China where he also served as a Professor. He is a renowned public speaker at many international and national maritime forums, and contributes to various international journals. He also served the University Grant Commission (UGC) Sri Lanka to review programs in Maritime colleges both locally as well as internationally.

He is a fellow member of many professional bodies such as The Nautical Institute UK, Chartered Institute of Logistics and Transport UK (CILT), Institute of Marine Engineering, Science and Technology UK (IMarEST) in addition to being a Chartered Marine Technologist UK (CMarTech), Life Member of the Organization of Professional Associations of Sri Lanka (OPA), Life Member of the Company of Master Mariners of Sri Lanka (CMM), and Member of International Maritime Lecturers Associations of Sweden (IMLA).

Professor Jayakody presently serves as the Chairman of The Nautical Institute (NI-UK) Sri Lanka Branch, Advisor – Professional Services (Education) of Export Development Board

(EDB), Committee Member – Sri Lanka Quality Framework (SLQF) review panel (World Bank), Committee Member- Minimum standards for non-state degree awarding institutes- Ministry of Higher Education. He is the Past President of the Sri Lanka Association of Non-State Higher Education Institutions (SLANSHEI).

He also served as Board Director of Maritime Training Centre in Seychelles and Fiji Maritime Academy in Fiji, Chair of the Academic Board and Member of the Board of Governors at CINEC, Member – National Task Force of IMO implementation of Ballast Water Strategy, Member – Sri Lanka, Marine Environment Forum, Visiting Professor as well as an External Auditor- Dalian Maritime University in China, Program Reviewer– University Grant Commission (UGC), Auditor – CILT Accrediting Committee, Former Vice Chairman - Chartered Institute of Logistics and Transport (CILT-International- Sri Lanka Branch), and the recipient of the Award of Academic Excellence back in 2014 by His Excellency the President of Sri Lanka.

With an outstanding panel of lecturers consisting of highly qualified and competent academics, the campus provides various programs such as HNDs, undergraduate and postgraduate in the fields of Engineering, Business Management, and Information Technology. Streams such as Tourism and Hospitality, Linguistics, Teacher Training and Education, and Health Sciences are set to launch in near future.



Joining the OPA

The CMM is a member of the Organisation of Professional Associations (OPA). CMM members who wish to join the OPA as an "OPA Centre Member" can apply for life membership to use the OPA facilities. This will give CMM members a lot of exposure to other professional organizations and network with other professionals, enveloping nearly all industries in Sri Lanka. OPA has a huge knowledge base which will enhance our understanding of shore based affairs. There is also restaurant and bar, convenient parking and committee rooms to conduct meetings.

An application has to be made to the OPA through the Secretary CMM. Kindly note the only educational and professional qualification which is required from CMM Members and which should be stated in the OPA application, is "Master Mariner". Please contact CMM Secretary for further details.

Members may obtain an "OPA Membership Application Form" from Capt. Upul Peiris. Kindly forward your completed application form along with copies of the required documents, to the Secretary CMM on email cmmsrilanka@gmail.com with payment.

You can also send by post to 157/12, Koswatte Road, Nawala.

PLEASE DO NOT FORWARD APPLICATIONS DIRECTLY TO THE OPA. All applications have to be forwarded through CMM.

Please note the following when filling up the application form -

Item No: 5 The Company of Master Mariners of Sri Lanka item No: 8 "Academic Qualifications" keep blank item No: 9 Professional Qualifications only write "Master Mariner Class I" item No: 11 will be filled by Secretary

Note: Many CMM Members have obtained Life Membership with the OPA as at Dec 2018.

Member Achievements - Members are invited to bring to the notice of the Editor, any special achievements of our Members and their organizations to be included in the 8 Bells.

Member achievements are also posted on the CMM Website.

A new CMM website is now being designed through a new webmaster which will have enhanced facilities. Also a new CMM App will soon be available for use by all members under the control of the Secretary. This will allow members to network using the app and get information on CMM activities and events on your mobile phone. Details will be out soon. This will also mean that the CMM diary will be discontinued from next year or so, as the change with time is inevitable.

CMM paraphernalia including the CMM tie, lapel and an attractive new cap and tee shirt are the latest additions to CMM Member items, which are priced as follows: new design Tee-shirts (L & XL) Rs. 1000 / Tie Rs. 1000 / new design Cap Rs. 300 / Jacket Lapel Rs. 500, Tie pin & cuff in presentation box Rs.2,500, CMM Cricket V neck tee shirt and Cricket bottom is now on sale.

For purchases, please contact Treasurer Capt. Uditha Karunathilake on 077 605 3345 OR Secretary Capt. Upul Peiris Phone – 077 685 3939 email: cmmsrilanka@gmail.com

All members are encouraged to attend the bimonthly meetings, seminars and other sports events and meet CMM colleagues in fellowship. Announcements, which are circulated by the Secretary through email to the

general membership, will also be posted on the CMM website.

In advancement of professionalism and keeping abreast with the technical and related aspects in the field of Navigation and Maritime Transportation, members are encouraged to join the Nautical Institute U.K. and the Chartered Institute of Logistics and Transport U.K., which process is made quite easy through the Sri Lanka Branch offices.

NI Corner

The Nautical Institute Sri Lanka Branch (NISLB) continues to grow in membership and activity. NISLB is unique as it is the only maritime organization having members from the Sri Lanka Navy and the Merchant Navy. Since CMM members are the main office bearers of the NI Sri Lanka Branch, CMM will be kept informed of the branch activities through the Secretary.

The NI Sri Lanka branch continues to be steered by Capt. Nalaka Jayakody (Chairman), Capt. Nirmal Silva (Vice Chairman), Capt. Nish Wijayakulathilaka (Secretary), Capt. Kanchana Dolapihilla (Treasurer), Capt.'s Nimal Perera, D.J. Amarasuriya, Peshala Medagama, Ravi Jayaratne, Chinthaka Batagoda, Keith Jayasuriya, Anura Fernando and Kushantha Samarakkody. The immediate

past Chairman is Capt. Harindra Perera, a founder member of CMM.

The Nautical Institute Sri Lanka Branch held its 26th AGM on the 26th of July 2019 at the Light House Galley, Colombo Lighthouse. Many CMM Members who are also members of NI attended. At the AGM, five awards were presented in the Branch Annual Awards Ceremony which was held for the 3rd year. Recipients receive a plaque and a certificate along with one year's membership and registration fee with NI U.K.

The awards for Academic Excellence are presented to Master, Chief Mate and NWKO who have obtained the highest aggregate marks at the Certificate of Competency examinations conducted by the Ministry of Ports & Shipping in the previous year, along with awards for the best all-round Midshipman from the Sri Lanka Navy and the Kotelawela Defence University.

Holders of Master Mariner Class 1 certificates can join in the category of Associate Fellow of the Nautical Institute (AFNI) U.K. You can get further details by logging on to the NI UK website or contact the Secretary Capt. Nish Wijayakulathilaka (contact details in the CMM Diary), Capt. Harindra Perera, Capt. D.J. Amarasuriya or watch the following Youtube clip to see the work NI is involved in.

<http://www.youtube.com/user/TheNauticalInstitute>

NI website is www.nautinst.org or you can Login here direct for membership details :

<http://www.nautinst.org/en/membership/>

The many benefits of Nautical Institute membership include the following :

- # Formal, public acknowledgement of your status as a maritime professional, including being able to display your Nautical Institute membership on your CV and business card
- # monthly copy of Seaways, keeping you up to date with the latest industry thinking
- # The opportunity to network with colleagues, customers and employers at NI and other events
- # Legal fees insurance - £100,000 worth of legal defence insurance cover, protecting you against criminalisation
- # A CPD Online framework to support your professional development
- # A representative voice at IMO and other industry forums
- # Large discounts on all Nautical Institute specialist maritime books, and on

delegate fees for key industry conferences

Regular e-newsletter and reduced fees for all Institute courses and self-study schemes

Listen to and view presentations given at key Nautical Institute events

Online technical forums, helping you to connect with your fellow members

NEW: take a free online Videotel professional development course every 12 months

The NISLB conducted a successful joint seminar with the Bar Association of Sri Lanka (BASL) On Friday 23rd August 2019 at the BASL Auditorium in Colombo 12, the subject being “Contemporary Issues in Maritime Law”. Many CMM members attended and participants were given and insight into the depth and complications of International Maritime Law, and its application locally.

On the subject of protection against criminalization, as a continuation of the news in our last issue, the Ukrainian Master Capt. Gennadiy Gavrylov, ex Master of the Avant Garde floating armory ship, still languishes in uncertainty of his future, as it again depends on the final court decision and the interpretation of the applicable laws. Capt. Gavrylov, who is a heart patient

and was denied release to go to his home country for a heart surgery, had to have his heart surgery done in Nawaloka Hospital on 23rd November 2019. On admission he underwent and angiogram and other tests under Snr. Cardiologist Dr. Mohan Rajakaruna. The tests confirmed that Captain required urgent bypass surgery for 3 blockages and the operation took place on the same day by Snr. Surgeon Dr. Gamini Ranasinghe. On 3rd December Capt. Gavrylov was still recovering in room 547 of NH. The case was taken up on that day in Colombo High Court No.3 and Dr. Dan moved for further time until Capt. Gavrylov recovers.

The next hearing for objections regarding the indictment and documents was fixed for 17th December and considering the Capt.’s health condition, permission was granted for him to submit his matters of concern at a later date when he is able to do so. By 10th December Capt. was discharged from hospital but was readmitted less than 2 weeks later due to some internal bleeding.

Meanwhile, the case was taken up on 17th December where objections were raised by all defendants that two companies involved cannot be indicted as they are not natural persons. Out of the 7573 charges in the case it was found that all charges cannot be

maintained and only with a reduced number of charges the case could proceed. On 30th January 2020, adaderana news reported that the AG has filed amended indictments on the Avant-Garde floating armoury case before the Permanent High Court-at-Bar with 882 indictment charges. The case is next to be heard on 10th February 2020, and Dr. Dan will continue his humanitarian mission, supported by NISLB until Capt. Gavrylov is released.

As readers are aware, The NISLB involvement directly commenced soon after Capt. Gavrylov picketed in front of the UN office in Colombo, with a banner requesting for assistance. Full details are included in this edition as it can easily happen to any Master in any part of the world. NI will offer free legal assistance for its members or it is organizations such as NISLB who are fortunate to have a lawyer in Dr. Dan as a member who may come to assist, when alone in a foreign country. Such are the risks seafarers are open to with the risk of Criminalization for no fault of one's own quite a probability....

CILT (U.K.)

CMM Members can also directly join the Chartered Institute of Logistics and Transport (CILT) UK, through the Sri Lanka Branch.

The Chartered Institute of Logistics and Transport is the leading professional body associated with logistics and transport. With over 33,000 members in over 30 countries worldwide, CILT holds unparalleled professional international recognition.

Established in 1919 and receiving its Royal Charter in 1926, the Institute has an exciting history behind it, but is always adapting to stay consistent with current logistics and transport issues. The Institute's Patron is HRH Queen Elizabeth II.

The principal objective of the Institute is "To promote and encourage the art and science of Logistics and Transport". The Institute achieves this objective through both its membership and its educational qualifications.

Membership provides a professional identity to those in the logistics and transport sector, as well as international recognition. The Institute's professional qualifications educate not only those already in the sector, but also those wishing to enter into it.

The Chartered Institute of Logistics and Transport in Sri Lanka was established in 1985 and incorporated in the year 2000 by an act of parliament. Presently it has over 1000 Sri Lankan members (including in the Student category) who

are highly qualified in the Transport and Logistics fields.

Holders of Master Mariner Class 1 certificates can join in the category of Chartered Member of the Chartered Institute of Logistics and Transport (CMILT) U.K. You can get further details by logging on to the CILT Sri Lanka Branch website given below. Please contact Capt. D.J. Amarasuriya, for further information regarding membership.

Contact - The Coordinator
The Chartered Institute of Logistics & Transport Sri Lanka
C/O The National Chamber of Commerce of Sri Lanka
450, D.R. Wijewardana Mawatha
Colombo 10
Sri Lanka.
Direct : +94 11 5657 357 Fax : +94 11 2698 494 E-mail : admin@ciltsl.com
Website : www.ciltsl.com

In view of expanding CMM activities and improving ties with fellow organizations, after a successful teaming up with the Chartered Institute of Logistics and Transport Sri Lanka (CILTSL) where Capt. Peshala Medagama delivered the annual P.B. Karandawala Memorial Lecture on the Topic “Contribution of International Shipping and Maritime Community towards Sustainable Development”; CILTSL has invited CMM to provide a

Resource Person for the 2020 PBK lecture to be held in January 2020.

Being a member of both NI and CILT is professionally advantageous and quite easy to do. You may contact Capt. Harindra Perera or Capt. D.J. Amarasuriya for assistance in this regard.

Please log on to the following links for more information on CILT activities.

<https://ciltsl.com/wp-content/uploads/2020/01/NEWSLETTER LINK Nov.pdf>
<http://www.ft.lk/shippingaviation/CILT-YPF-Quiz-Master-2019/21-692678>
<http://www.ft.lk/shippingaviation/CILT-supporting-100-years-of-logistics-and-transport-professionals-globally/21-692679>
<https://mailchi.mp/ciltinternational/cilt-life-issue-5>
<http://www.ft.lk/shippingaviation/WiLAT-Ignite-6-0-mentoring-induction-on-7-November/21-691212>
<http://www.ft.lk/shippingaviation/WiLAT-SL-holds-mentor-mentee-evening/21-691213>
<http://www.ft.lk/shippingaviation/CILT-delegation-attends-sixth-China-International-Logistics-Development-Conference/21-690266>



coronavirus

A new coronavirus, designated Novel Coronavirus (2019-nCoV) was identified in Wuhan, the capital of China's Hubei province, after 41 people developed pneumonia without a clear cause in early December 2019. The virus has shown evidence of human-to-human transmission. The number of cases has climbed into the thousands by late January 2020 and several countries across Europe, North America and especially the Asia-Pacific has reported cases. Its incubation period (time from exposure to onset of symptoms) ranges from 2 to 14 days, but there is evidence that it may be contagious during this period and possibly also for several days after recovery. Symptoms include fever, coughing and breathing difficulties, and it can be fatal, with an estimated case fatality rate of 2%.

As of 4 February 2020, approximately 20,708 cases have been confirmed, including in every province-level division of China. The first confirmed death occurred on 9 January and since then, as of 4 February 2020, 427 deaths have been confirmed. A larger number of people may have been infected, but not detected (especially mild cases). The first local transmission of the virus outside China occurred in Vietnam between family members. The first local transmission not involving family occurred in Germany, on 22 January, when a German man contracted the disease from a Chinese business visitor at a meeting. The first death outside China was reported in the Philippines.

Dr. Hasitha Attanayake, the Director of Sri Lanka's Infectious Disease Hospital (IDH) said on the 2nd of February that 71 patients suspected to have been contracted coronavirus were admitted to the National Infectious Diseases Institute within the past week.

However, Colombo Medical Research Institute confirmed only one person was actually infected with the deadly virus and the affected woman, a Chinese visitor has recovered completely, the official said.

The latest directive from the Health Department requires all agents to submit the vessel health declarations 12 hours in advance and obtain Port Health Officers clearance to berth. No crew member can be signed off or taken for medical treatment from any vessel without the approval of the Port Health Officer.

Basic protective measures against the new coronavirus

Wash your hands frequently with an alcohol-based hand rub or soap and water.

Why? Washing your hands with an alcohol-based hand rub or soap and water kills the virus if it is on your hands.

Practice respiratory hygiene

When coughing and sneezing, cover mouth and nose with flexed elbow or tissue – discard tissue immediately into a closed bin and clean your hands with

alcohol-based hand rub or soap and water.

Why? Covering your mouth and nose when coughing and sneezing prevent the spread of germs and viruses. If you sneeze or cough into your hands, you may contaminate objects or people that you touch.

Maintain social distancing

Maintain at least 1 metre (3 feet) distance between yourself and other people, particularly those who are coughing, sneezing and have a fever.

Why? When someone who is infected with a respiratory disease, like 2019-nCoV, coughs or sneezes they project small droplets containing the virus. If you are too close, you can breathe in the virus.

Avoid touching eyes, nose and mouth

Why? Hands touch many surfaces which can be contaminated with the virus. If you touch your eyes, nose or mouth with your contaminated hands, you can transfer the virus from the surface to yourself.

If you have fever, cough and difficulty breathing, seek medical care early

Tell your health care provider if you have traveled in an area in China where 2019-nCoV has been reported, or if you have been in close contact with someone with who has traveled from China and has respiratory symptoms.

Why? Whenever you have fever, cough and difficulty breathing it's important

to seek medical attention promptly as this may be due to a respiratory infection or other serious condition. Respiratory symptoms with fever can have a range of causes, and depending on your personal travel history and circumstances, 2019-nCoV could be one of them.

If you have mild respiratory symptoms and no travel history to or within China

If you have mild respiratory symptoms and no travel history to or within China, carefully practice basic respiratory and hand hygiene and stay home until you are recovered, if possible.

As a general precaution, practice general hygiene measures when visiting live animal markets, wet markets or animal product markets

Avoid consumption of raw or undercooked animal products

Handle raw meat, milk or animal organs with care, to avoid cross-contamination with uncooked food, as per good food safety practices.

Protect yourself and others from getting sick



Pilots and crew taking precautions. Capt.Nandika Peiris on duty at Port of Colombo

ENVIRONMENT

ALL YOU NEED TO KNOW ABOUT SULPHUR CAP IMO 2020

Cargo transport by ship is low in air pollutants, because for equal weight carried for a given distance it is the most efficient transport method. Be that as it may, it is estimated that shipping emits approximately 3.1% of annual global CO2 emissions. The latest update to the study by CE Delft projects shipping emissions to increase by up to 120% by 2050. In a business as usual scenario shipping could represent some 10% of global GHG emissions by 2050.

Air pollution is a global public health emergency. 92% of the world's population lives in places where air quality exceeds WHO limits. About 6.5 million deaths 1 in 9 deaths worldwide is due to air pollution-related diseases. Air pollution is one of the largest causes of the four top noncommunicable diseases stroke, lung cancer, chronic respiratory disease and heart disease accounting for between one-third and one-quarter of those deaths. Air pollution is also responsible for 50% of childhood pneumonia deaths.

WHO

IMO & SUSTAINABLE DEVELOPMENT GOALS

In September 2015, the UN's 193 Member States unanimously adopted the 2030 Agenda for Sustainable Development, including the 17 Sustainable Development Goals (SDGs) and 169 related targets. Hailed as a historic agreement forging a pathway to sustainability, the 2030 Agenda has been called a plan of action for "*people, planet and prosperity*". The SDGs apply to all countries and, by adopting the Agenda, Member States have committed, during the period up to 2030, to mobilizing efforts to end all forms of poverty, fighting inequalities and tackling climate change, while ensuring that no one is left behind. The Agenda emphasizes the need to consider simultaneously the three dimensions of sustainable development: social, economic and environmental.

IMO's SDG No.13 is climate action. IMO seeks to combat climate change in a number of areas, including air pollution, energy efficiency and greenhouse gas (GHG) emissions. IMO's global regulations and standards ensure that the maritime sector can continue to improve its efficiency, thus promoting trade and the provision of cost-effective energy across the globe. The maritime sector and IMO have a major role to play

in achieving SDG 7, regarding energy efficiency in particular, and SDG 13 on climate change. IMO has worked extensively to address greenhouse gas emissions from shipping and, in 2011, adopted the first ever mandatory, global, legally binding GHG control regime for an entire industry sector, based on technical measures for new ships and operational emission-reduction measures for all ships. The adopted measures made mandatory the Energy Efficiency Design Index (EEDI) for new ships and the Ship Energy Efficiency Management Plan (SEEMP) for all ships. These measures will require ships built in 2025 to be 30% more energy efficient than those built in 2014. The adoption of mandatory reduction measures for all ships from 2013 will lead to significant emission reductions and provide a significant cost saving for the shipping industry. In addition to these measures, IMO has shown leadership in and commitment to global efforts to support the Paris Agreement on Climate Change. First, IMO adopted a mandatory data collection system for fuel oil consumption. This is the first step in a three-step approach, the second being data analysis, and the third decision-making on whether further measures are needed to enhance energy efficiency and address GHG emissions from international shipping. In a related decision, IMO approved a road map for

developing a comprehensive strategy on reduction of GHG emissions from ships. The road map contains a list of activities with relevant timelines foreseeing the adoption of an initial GHG reduction strategy in 2018 and a revised strategy in 2023 to include short-, mid-, and long-term further measures, as required. Finally, a decision to confirm the implementation date for a significant reduction in the Sulphur content of the fuel oil used by ships globally on 1 January 2020 was expected to contribute further to the reduction of GHG emissions from ships through the anticipated resulting uptake of cleaner alternative fuels. Furthermore, under the LC/LP, Contracting Parties have taken significant steps to mitigate the impacts of increasing concentrations of CO₂ in the atmosphere and to ensure that new technologies with the potential to cause harm to the marine environment are effectively controlled and regulated. The LC/LP includes regulations addressing carbon capture and sequestration in subsea geological formations and others concerning marine geoengineering, such as ocean fertilization.

Sulphur and Shipping

The main type of “bunker” oil for ships is heavy fuel oil, derived as a residue from crude oil distillation. Crude oil contains Sulphur which, following combustion in

the engine, ends up in ship emissions. IMO regulations to reduce sulphur oxides (SOx) emissions from ships first came into force in 2005, under Annex VI of the International Convention for the Prevention of Pollution from Ships. Since then, the limits on sulphur oxides have been progressively tightened.

SOX

Sulphur dioxide, or SO₂, belongs to a family of sulphur oxide gases (SO_x). It is formed from the sulphur contained in

raw materials such as coal, oil and metal-containing ores during combustion and refining processes. SO₂ dissolves in water vapour in the air to form acids, and interacts with other gases and particles in the air to form particles known as sulphates and other products that can be harmful to people and their environment.

Environmental effects

When sulfur dioxide combines with water and air, it forms sulfuric acid,

The infographic features a background image of a ship's superstructure against a blue sky with clouds. The title 'Sulphur 2020' is prominently displayed in large, bold, dark blue letters. To the left, a blue banner contains the text 'Five beneficial changes from IMO's Sulphur Limit for ships' fuel oil'. Five circular callouts, each with a small icon, list the following changes:

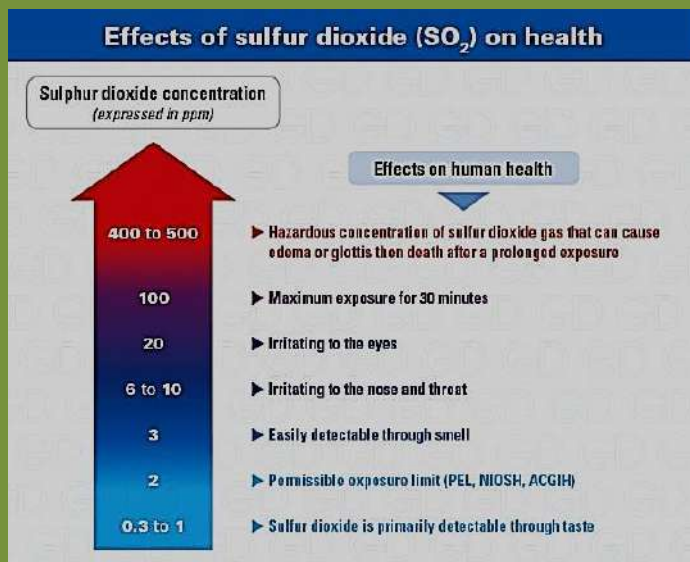
- Cleaner air** (Icon: clouds): 77% drop in overall sulphur oxide (SO_x) emissions from ships – annual reduction of approximately 8.5 million metric tonnes of SO_x
- Positive impacts on human health** (Icon: lungs): Premature deaths, cardiovascular, respiratory and pulmonary diseases will all be reduced
- Higher quality fuels** (Icon: fuel pump): The majority of ships will switch to higher quality, low sulphur fuel oil to meet the limit.
- Ship operators, owners + refineries have adapted** (Icon: refinery): Guidance issued by IMO and other stakeholders to enhance preparedness ahead of the entry into force of Sulphur 2020
- Changes for enforcement authorities** (Icon: person): Flag and port State control will be making sure ships are compliant.

The IMO logo is visible in the bottom right corner of the infographic.

which is the main component of acid rain. Acid rain can cause deforestation, acidify waterways to the detriment of aquatic life, corrode building materials and paints.

Health effects

Sulfur dioxide affects the respiratory system, particularly lung function, and can irritate the eyes. Sulfur dioxide irritates the respiratory tract and increases the risk of tract infections. It causes coughing, mucus secretion and aggravates conditions such as asthma and chronic bronchitis.



IMO 2020 METHODS OF COMPLIANCE

Extracted from *Reed Smith The 2020 Global Sulphur Cap: An Overview* by Ronald Clark Admiralty Manager

On 1 January 2020 amendments to the International Maritime Organization's (IMO's) International Convention for the Prevention of Pollution from Ships (MARPOL) entered into force. It imposed a global limit on allowable Sulphur content in fuel oil of 0.5% m/m. **The new**

global limit is achievable in one of two ways:

- 1) By burning fuel that has a sulphur level that complies with the 0.5% m/m cap or by
- 2) installing approved emission abatement technology – commonly referred to as scrubbers – on board.

Either way, complying with the new regulations governing Sulphur reduction in exhaust emissions potentially requires more expenditure than shipping has ever had to face.

Background

The new MARPOL Annex VI was adopted by the IMO in 1997. It imposes limits on the main air pollutants contained in ships' exhaust gas, including sulphur oxides (SO_x) and nitrous oxides (NO_x), and it prohibits deliberate emissions of ozone depleting substances (ODS). No sooner had Annex VI entered into force on 19 May 2005 than the Marine Environment Protection Committee (MEPC), at its 53rd session in July 2005 (MEPC 53), agreed a revision to strengthen significantly the emission limits in light of technological improvements and implementation experience. The result was a progressive global reduction in emissions of SO_x, NO_x and particulate matter and the introduction of emission control areas (ECA) to reduce emissions of those air pollutants further in designated sea areas. With regards to SO_x, the original global limit of 4.5% set in 2005 was

reduced to 3.5% as of 2012 and 0.5% as of 2020.

SOX issues

Burning fuel containing nitrogen and sulphur in air produces NOx and SOx. Although NOx levels are controllable (to some extent at least) by use of engine technologies, SOx levels are purely a function of the sulphur content of the fuel being used, which presents shipowners with a different set of compliance problems.

At the time when the sulphur level regulations were being drafted, it was considered by many that the only viable option to meet the prescribed levels was to use low-sulphur fuels. Addressing the concern of shipowners regarding the sufficiency and availability of fuel oil to meet the 0.5% sulphur cap by 2020, and the likely cost implications, agreement was reached at MEPC 57 in 2008 to amend Regulation 4 of Annex VI to allow an alternative compliance method by fitting approved abatement technologies on board ships. The methods adopted needed to be at least as effective in terms of emission reductions as those required by the annex. Scrubber technology is now an acceptable means of meeting these SOx emission rules.

Accepting that ships trade world-wide, the IMO recognized that there may be occasions when fuel with the required sulphur content may not always be available. Regulation 18.2 in Annex VI therefore allows whatever fuel is available to be used as long as the

shipowner has made reasonable efforts to obtain the required fuel.

Concern has remained among those shipowners intent on complying with the regulations, notwithstanding the heavy cost involved, that less scrupulous shipowners will flout the regulations and continue to use non-compliant fuels. They demanded measures from IMO to stop this from happening.

The IMO's response was to approve draft amendments to Regulation 14 of Annex VI at MEPC 72 in April 2018 that provide for a change in the form of the Supplement to the International Air Pollution Prevention Certificate concerning a prohibition on the carriage of non-compliant fuel oil for propulsion or operation on board ship, which was adopted at MEPC 73 on October 24th, 2018. This effectively bans any ship not fitted with an approved scrubber from having any fuel with sulphur content above 0.5% on board except as cargo. The exemption for all ships in case of non-availability of compliant fuel would still be available.

MARINE FUELS

The alternative fuel to oil used in any appreciable quantity in the marine propulsion field is liquefied natural gas (LNG). However, while LNG is growing in prominence as a means of complying with the IMO's ambitious emissions targets (it has virtually no sulphur content, and its combustion produces low NOx compared to fuel oil), around one percentage of ships are designed to run on it. Further, although the supply

infrastructure is developing apace, fossil fuels are widely acknowledged to remain the mainstay of power in shipping until the early mid-21st century. Oil fuels exist in several varieties but broadly speaking are divided into three types:

- Marine residual fuels, i.e., hydrocarbons from petroleum crude oil, oil sands and shale;
- Distillate fuels, i.e., hydrocarbons from synthetic or renewable sources; and
- Intermediate fuels, which are a blend of the above

Marine residual fuels	Intermediate fuels	Marine distillate fuels
RMA	IFO 180	DMX
RMB	Higher sulphur content than MGO due to small proportion of residual fuel	DMA Widely used by tugs, fishing vessels, supply ships and ferries
MFO		DMB
RFO		DMC
FO		MGO Lowest sulphur content. Frequently used in ocean-going vessels not fitted with scrubbers and operating in ECAs

LSFO – not plain sailing

Much of the LSFO entering the market is a result of blending fuels of differing viscosities and characteristics, including different sulphur content, to make a fuel with an appropriate level of sulphur. However, while there is an ISO standard (8217) for marine fuels that is updated at regular intervals, it is not widely appreciated that no ISO standard applies

to the new products being marketed as MARPOL-compliant fuels. Predictions are that until an ISO standard is established, compatibility issues and consequent operational problems on board will increase as suppliers strive to develop new products to meet the 0.5% sulphur levels outside ECAs. This is particularly so when using bunkers stemmed in different geographical locations or provided by different suppliers. As a blended product, LSFO has some characteristics of distillate products, which means it can exert a ‘cleaning’ action that may mobilize previously deposited asphaltenes potentially leading to increased filter loading and other operational issues. A blended fuel may also separate out in a ship’s bunker tanks or become unstable when mixed with other fuel during subsequent bunkering operations. If blended fuel separates, the ship may unknowingly burn fuel that exceeds the sulphur limit permitted by MARPOL, resulting in detention or the imposition of penalties. Instability in blended fuel can also result in poor ignition, causing the fouling of cylinders, turbo chargers and exhaust systems and leading to increased risk to the operation and reliability of ship’s machinery and even breakdown, with consequent risk to safe navigation.

SCRUBBERS

The introduction of scrubber technology as an alternative method of compliance (by setting equivalent emission limits laid down in Regulations 14.1 and 14.4)

came about at MEPC 57 in 2008. This was followed in 2009 at MEPC 59 with the production of Exhaust Gas Cleaning System Guidelines, which set out two accepted forms of technology by which SOx could be removed from the exhaust gas, namely by wet or dry scrubbers. Each party to Annex VI has to ensure that its ports and terminal facilities can accommodate residues from exhaust gas cleaning systems.

1. Wet scrubbers

The SOx in the exhaust passes through a water stream and reacts with the water to form sulphuric acid, which then passes out of the system. Whilst highly corrosive, when mixed with sufficient alkaline seawater it is neutralised and wash water can be discharged into the open sea after being treated in a separator to remove sludge. However, the alkalinity of seawater varies; in estuaries and close to land, it is likely to be brackish and close to neutral. By contrast, some areas where there is volcanic activity, the seawater may be acidic. Wet scrubbers are sub-categorized into two types – open loop and closed loop.

i. Open loop

Seawater is used to scrub and neutralize the SOx and no additional chemicals are needed. The volume of seawater needed depends on engine size and power output. Generally 40 cubic metres per megawatt hour is needed so a high pumping capability is required for the system to operate effectively. The system can only work satisfactorily,

however, if the scrubbing seawater has sufficient alkalinity. Fresh water or brackish water is not effective and neither is seawater with a high ambient temperature. The open loop system is not, therefore, suitable for all circumstances or trading areas, for example in the Baltic Sea where salinity levels are relatively low. It is a MARPOL requirement that wash water in such a system is monitored before discharge to ensure that the acid/alkaline balance (PH value) is not too low (i.e., is acidic).

ii. Closed loop

A closed loop system works on similar principles to an open loop system but instead of using seawater it uses fresh water treated with chemicals (often sodium hydroxide) as a scrubbing medium. This converts the SOx into harmless sodium sulphate, which together with the wash water passes into a process tank where it is cleaned and recirculated. Fresh water is carried on board or is produced on board by a fresh water generator. To avoid a build-up of sodium sulphate, a small amount is either allowed overboard or is moved to a holding tank and new fresh water added. The volume of fresh water required in a closed loop system is about half that of the open loop one but more tanks are required for fresh water and/or buffer space as well as a holding tank where discharge overboard is prohibited and a storage tank for the sodium hydroxide liquid and/or storage space for the dry sodium hydroxide.

2. Hybrid systems

A further sub-category of wet scrubber is the hybrid type. These combine both open and closed loop systems, which can be operated in open loop mode where seawater conditions and discharge regulations allow and in closed loop mode at other times. The flexibility makes such hybrid systems popular among shipowners. A recent development has been the introduction of a membrane option to the wet scrubber. Instead of the exhaust gas passing through scrubbing water, non-porous ceramic membrane separation tubes are used to extract the SO_x from the exhaust gas. SO_x is dissolved into an absorbent solution that runs through the membrane tubes. Manufacturers claim that a smaller volume of discharge water is produced and the reduced exhaust contaminants absorbed, and so cleaning discharge water is simpler. The membranes require periodic cleaning and frequency depends on the operating conditions of the engine. Sludge is collected by back-flushing an absorbent solution under pressure through the membranes and transferred to the general sludge tank.

3. Dry scrubbers

The dry system employs pellets of hydrated lime to remove sulphur and transforms it to gypsum. Spent pellets are discharged in port and used for fertiliser and production of plaster board as well as other products. The system consumes less power than wet systems

as no pumps are required, but the weight of the unit is much higher and, while commonly used in land-based plants, has limited use in marine systems to date.

Control and regulation

MARPOL Annex VI allows two schemes: a. Certification of Performance which requires no continuous exhaust emissions monitoring provided it is always operated within approved parameters.

Parameters that must be continuously recorded are:

- i. Scrubbing water pressure;
- ii. Flow rate of scrubber inlet;
- iii. Exhaust pressure before scrubber and pressure drop;
- iv. Fuel oil combustion equipment load;
- v. Exhaust gas temperature either side of the scrubber, and
- vi. Record of chemical consumption.

b. No Certification of Performance but exhaust gas must be continuously monitored while the system is in use.

Both systems require the condition of any wash water pumped overboard to be continuously monitored for acidity, turbidity and polycyclic aromatic hydrocarbons (PAH) – a measure of the harmful components of oil – and data logged against time and the ship's position.

Open loop scrubbers under usage bans

As if the present situation is not complicated enough several maritime administrations have effected usage bans on open loop scrubbers. This is to curtail the pollution from open loop scrubber wash water in coastal waters.

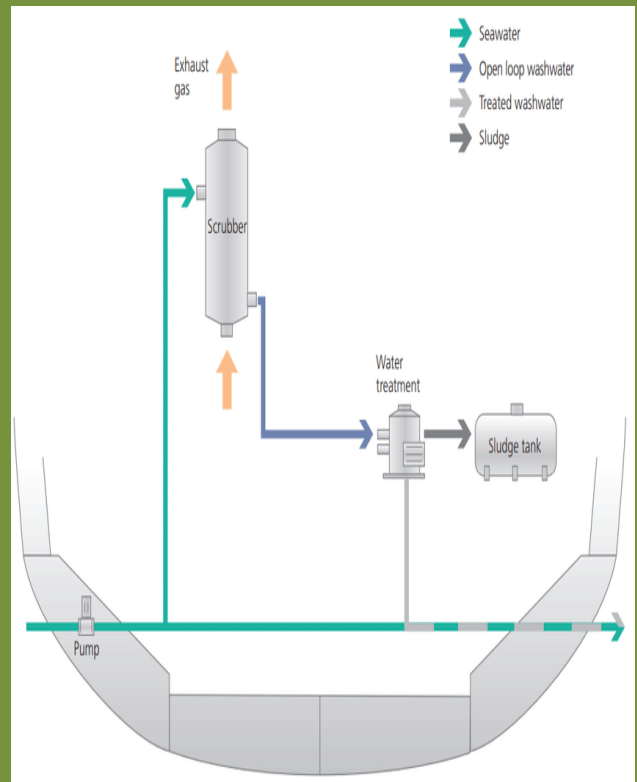
Beware of local restrictions before discharging washwater from exhaust gas scrubbing

<http://www.gard.no/web/updates/content/26939066/>

Updated 20 December 2019

The IMO considers exhaust gas scrubbers to be an acceptable means of reducing vessels' sulphur emissions and ensuring compliance with MARPOL Annex VI. A separate guideline, Resolution MEPC.259(68), specifies the requirements for the verification, testing, survey and certification of scrubber systems and sets out the criteria for discharging scrubber washwater into the sea.

are currently aware of the following regions/states/ports with local regulations that have an effect on the discharge of exhaust gas scrubber washwater, although the list should not be considered as complete.



However, some coastal states and ports have implemented local regulations with more stringent requirements that restrict or completely prohibit the discharge of washwater from open loop scrubbers or prohibit the use of scrubbers. We



THE LEGAL PERSPECTIVE ON TRADE

2020 Bunker Clauses for Time Charter Parties

Extracted from

<https://www.westpandi.com/globalassets/news/2020-marine-fuel-sulphur-content-clause-for-time-charter-parties.pdf>

BIMCO has produced two clauses for time charter parties to address key contractual issues relating to the switch to fuel with a maximum sulphur content of 0.50% as of 1 January 2020. The two clauses are the 2020 Marine Fuel Sulphur Content Clause, which replaces the BIMCO Fuel Sulphur Content Clause 2005, and the 2020 Fuel Transition Clause, which deals with switching between fuel with a maximum sulphur content of 3.50% and fuel with a maximum sulphur content of 0.50% by 1 January 2020.

BIMCO 2020 Marine Fuel Sulphur Content Clause for Time Charter Parties

(a) For the purpose of this Clause, "Sulphur Content Requirements" means any sulphur content and related requirements as stipulated in MARPOL Annex VI (as amended from time to time) and/or by any other applicable lawful authority.

(b) The Charterers shall supply fuels to permit the Vessel, at all times, to comply with any applicable Sulphur Content Requirements. All such fuels shall meet the specifications and grades set out in this Charter Party. The Charterers also warrant that any

bunker suppliers, bunker craft operators and bunker surveyors used by the Charterers shall comply with the Sulphur Content Requirements. The Charterers shall indemnify, protect, defend and hold harmless the Owners from any and against all losses, damages, liabilities, delays, deviations, claims, fines, costs, expenses, actions, proceedings, suits, demands arising out of the Charterers' failure to comply with this sub clause (b), and the Vessel shall remain on hire throughout.

(c) The Owners warrant that the Vessel shall comply with the Sulphur Content Requirements. Subject to the Charterers having supplied the Vessel with fuels in accordance with sub clause (b), the Charterers shall not otherwise be liable for any losses, damages, liabilities, delays, deviations, claims, fines, costs, expenses, actions, proceedings, suits, demands arising out of the Owners' failure to comply with this subclause (c)

Preparation for PSC

<https://www.marineinsight.com/guidelines/how-ships-can-prepare-for-psc-inspection-for-imo-2020/>

The IMO 2020 Regulation requires vessels to ensure ships machinery burns the fuel whose exhaust sulphur component by wt percentage is not more than 0.5%.

Needless to say, is extremely critical for the ships' crews to be familiar with the

new regulations, how it can be effectively implemented and all the associated documentation with it so that when a PSC inspector is onboard for checking the compliance, the ship can easily sail to the next port without any remarks or non-compliance.

The fuel received onboard the ship will be considered as one of the most important evidence for any inspection.

Hence, with respect to the fuel oil, the crew must:

1. Ensure Bunker delivery note and Fuel Sample is kept onboard

This was already a practice onboard vessels. As per the requirement, the BDN to be kept on board ship for three years from the date of issue. The BDN should be accompanied by a Representative Sample of the fuel delivered – the MARPOL Sample.

The fuel sample must be sealed with a sign of the supplier and ship's representative. The sample has to be kept on board for 12 months from the date of delivery.

There have been many issues in the past related to missing BDN, unavailable sample or incomplete information in the MARPOL sample etc. which lead to the PSC scrutiny. When it comes to IMO 2020 sulphur regulation, Port state inspector will be more stringent in finding the faults.

2. Correct Soundings Record:

Apart from the BDN, the PSC will check the soundings of the tanks where the

low sulphur fuel is kept or where the HSFO is kept for ships with exhaust gas scrubber.

Any discrepancies in the value of the sounding may lead to suspicion and further investigation. Ensure the officer in charge of sounding keeps all the records in place and the volume correction is done appropriately as per the temperature of the oil.

The sounding log books need to be updated regularly and signed by the chief engineer and the officer taking the soundings.

3. Fuel Transfer Record:

The ship must keep ready the fuel oil transfer plan for LSFO and HSFO fuel. Along with that, the PSC may ask for a fuel oil line diagram for reference. The tanks dedicated to LSFO must clearly be shown in the line diagram.

Tank cleaning details and dates to store the LSFO must be present in onboard records, including Oil Record Book.

The bunker details with LSFO must be recorded in the Oil Record book and signed by both Master and Chief engineer.

All records of any internal transfer, retention, disposal etc related to fuel oil will be cross-checked by the port state inspector, hence these records need to be properly maintained.

4. Fuel Transfer plan and Piping Diagram

The plan and piping diagrams are important too as the PSC inspector will ask them to understand whether the fuel change-over has been done properly, by cross-referring the data in the BDN, LSFO record book and ORB.

The location of the tank, the number of tanks used, pipelines in play etc. will be studied from the piping diagram. Any modification done for the storage and transfer of LSFO must be indicated and have survey approval from relevant authorities.

Ships visiting Emission Control Areas must have a Fuel oil change over plan to use fuel with 0.1% sulphur content. The plan must be readily available in the engine room and ship staff must know the detailed procedure as PSC inspector may ask them the procedure and local regulations.

If the PSC has doubts about the fuel and the lab results are not available, they will take the sample from service and settling tank for their own oil analysis.

5. IAPP Certificate:

As per the MARPOL Annex VI requirement, all 400GT and above ships are bound to carry a valid International Air Pollution Prevention Certificate and supplement as a confirmation that the ship is fulfilling the requirements of this Annex.

The Supplement of the IAPP certificate provides the details of Sulphur Oxides and Particular Matter and how

the control of emissions from the ship is achieved. It also contains the sulphur content limit values for fuel for ships plying within the ECA.

Any additional equipment fitted to reduce the sulphur content within the required limit such as scrubber tower etc. are also specified in the supplement of the certificate. Thus Master must ensure the IAPPC and Supplement are valid and updated to indicate the compliance arrangements on board which will be checked by the PSC.

6. Scrubber System:

Most of the ships have adopted exhaust gas scrubber system to comply with the upcoming sulphur emission rule because of the ease of using heavy fuel oil.

The PSC will be having a keen eye for the EGB and following things to be taken care of:

- The Data recorder must be operational and records the time, position, pressure, flow rate etc. of the wash water. The PSC will check all these details to establish the correct operation of the EGB
- The data recording device should be robust, tamper-proof, read-only and able to record at a rate not less than 0.0035 Hz The data should be retained on board ship for 18 months
- The ship officer must take out the recent data in readable format for Port state inspector in case he/she demands it

- PSC inspector may ask and check the approved documentation relating to any installed exhaust gas cleaning systems
- At each renewal survey, nitrate discharge data is to be available in respect of sample overboard discharge is drawn from each EGC system within the previous three months before the survey.
- The nitrate discharge data and analysis certificate is to be retained on board the ship as part of the EGC Record Book and made available for PSC if requested

Different port states have different regulations for the requirement of the open and closed-loop system. The ship officer must know if the port allows open scrubber or closed scrubber system to be operational in its territory and prohibit the discharge of effluent.

The Port state inspector may demand to check the state of the wash water discharge pipe if it contains oil or not.

7. Record of Voyage:

The voyage records must be kept onboard as PSC inspector may demand to see the previous passages of the ship to know the time and coordinates for the entry in the port state or ECAs and if the ship has changed over to the compliant fuel in right time by cross-checking the data with ORB and other record books.

8. FONAR; Fuel Oil Non-Availability Report

If a ship is unable to acquire compliant fuel due to non-availability or any other reason, the master has to notify the flag state and other relevant authorities including the nearest or next port state.

This notification is called as FONAR or Fuel Oil Non-Availability Report.

This FONAR application and replies of the flag state respectively should be available for the PSC inspection. FONAR should be used only in case of extreme emergency and when all efforts fail to acquire a compliant fuel.

The PSC inspector will go through the report, correspondence and other details to accept the FONAR. However, a repeated FONAR may lead to negative reviews against the ship and the owner.

9. Other Important Preparations

Apart from the above readiness, the ship's crew must prepare the following:

- Ensure all sounding pipe of fuel tanks have a lid and are marked.
- All sounding pipes inside the engine room have a self-closing weighted arrangement.
- Fuel tank gauge glasses are working and clean for visibility.

- The sample point from the service and settling tank is clear and operational
- Bunker sample locker is properly arranged
- The oil record book is complete and all entries are countersigned by Master and Chief engineer
- Fuel transfer plan, Pipeline diagram, Bunkerline diagram copies are pasted in relevant locations
- The ship's crew knows the basics of the IMO 2020 requirements and regulations
- Exhaust Scrubber Tower is working fine and there are no leakages

From January 2020, the PSC inspector will be looking for shortcomings in the ship regarding the sulfur emission compliance. However, the ship crew must prepare for the complete PSC ship inspections.

Who will pay the fines?

Extracted from <https://www.standard-club.com/risk-management/knowledge-centre/news-and-commentary/2019/04/article-imo-2020-charterparty-fags.aspx>

Primary responsibility for compliance with MARPOL Annex VI rests with shipowners. This is normally reflected in (time and voyage) charterparty provisions. For example, it is fairly common to find that shipowners have warranted that a vessel will comply with International (and National) rules and

regulations. In addition, to comply with any fitness obligations under a charter party, this includes 'legal fitness' for the chartered service, and such fitness is likely to include compliance with International (and National) maritime rules and regulations, such as MARPOL Annex VI.

It is anticipated, therefore, that in most cases, the consequences of non-compliance will rest with shipowners in the first instance. Nevertheless, it is possible for the cost and risk of compliance to be allocated by way of contractual arrangement between the parties, although it will also depend on the nature and specific circumstances of the event of non-compliance itself post 1 January 2020 and the approach to enforcement by any contracting state.

In a time charterparty context, charterers are obliged to pay for and supply fuel to a vessel whilst she is on hire. Clear wording will be required to allocate responsibility and/or liability for non-compliance onto charterers (eg an express obligation to provide compliant fuel and an accompanying indemnity in favour of owners) failing which shipowners will be left to rely on implied terms depending on the nature of the non-compliant event and the charterparty provisions in question. However, in circumstances where the ship is not fit or capable of consuming compliant fuel, liability will, generally, rest with shipowners.

The BIMCO clauses seek to make clear which party bears the responsibility for non-compliance in prescribed

circumstances in a time charterparty context (see below).

In a voyage charterparty context, where ship owners supply fuel and factor this into the freight rate (eg commonly seen as a bunker adjustment factor (BAF) or surcharge), there is unlikely to be the same allocation of risk and responsibility when it comes to non-compliance. Responsibility will, therefore, almost certainly rest with shipowners save for in exceptional circumstances.

Sample Questionnaire sent by a charterer to a vessel to be hired.

Question: Please select the option(s) to comply with IMO 2020 regulation?

Options:

- i. Scrubber (closed loop, open loop & hybrid)
- ii. Compliant fuel
- iii. Switch to 100% distillate fuel
- iv. LNG or LPG
- v. Ethanol or methanol
- vi. Other means such as battery, hydrogen, etc.

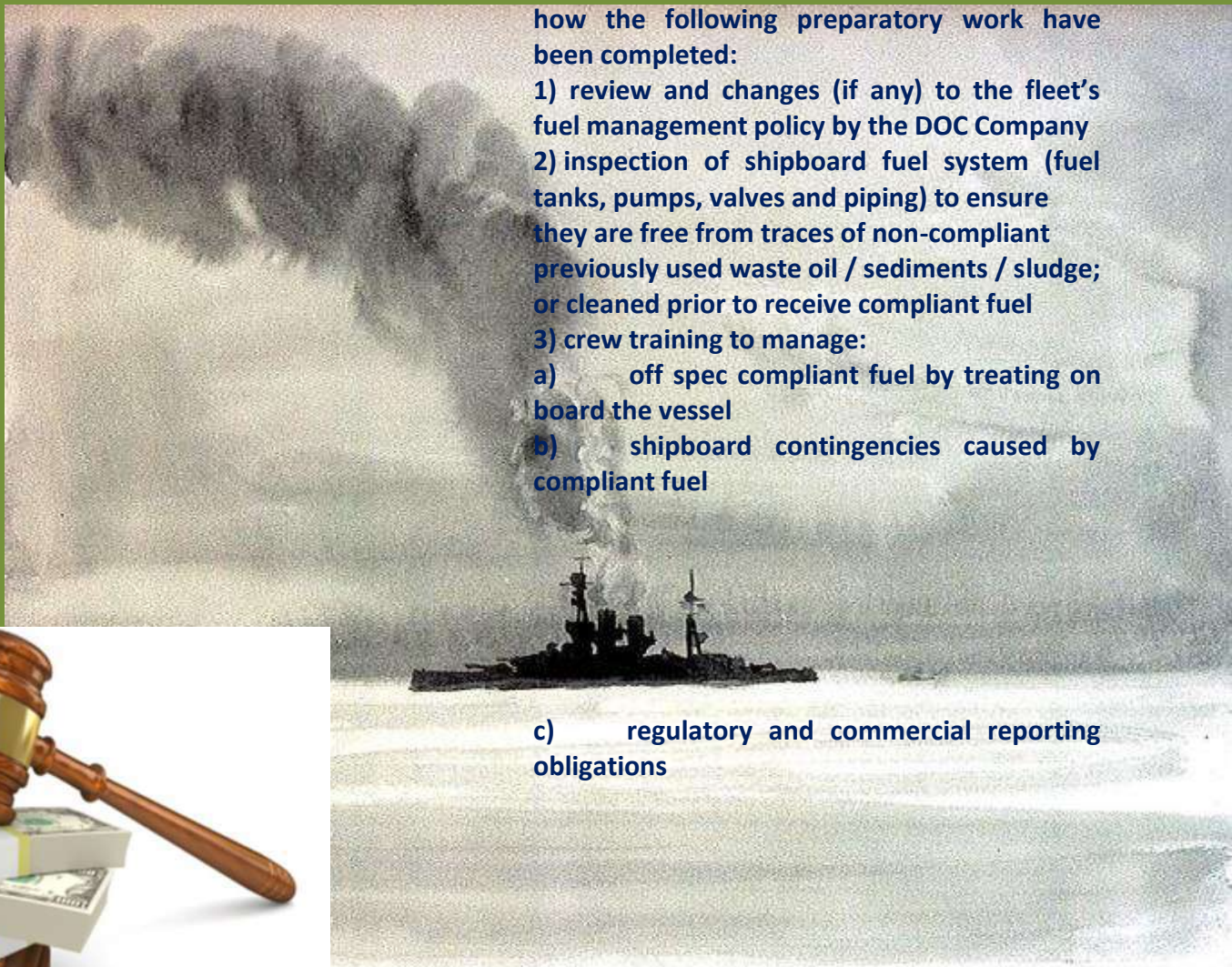
NB: Options 4, 5 & 6 are more of a future state than present.

Question: If the vessel is fitted with scrubber, please demonstrate shipboard preventative control measures to deal with scrubber failures to avoid potential operational delays of the vessel

Question: If the vessel is using compliant fuel, provide material evidence to demonstrate how the following preparatory work have been completed:

- 1) review and changes (if any) to the fleet's fuel management policy by the DOC Company
- 2) inspection of shipboard fuel system (fuel tanks, pumps, valves and piping) to ensure they are free from traces of non-compliant previously used waste oil / sediments / sludge; or cleaned prior to receive compliant fuel
- 3) crew training to manage:
 - a) off spec compliant fuel by treating on board the vessel
 - b) shipboard contingencies caused by compliant fuel

- c) regulatory and commercial reporting obligations



IMO 2020 Compliance and Fuel Management Processes

Issue date: 02 October 2019

To understand the risk profile relating to the implementation of IMO 2020, from 02 October 2019, PPA will embark on an information gathering and assessment exercise for ships calling at the Port of Port Hedland.

Information will be requested and reviewed through a combination of physical ship inspections and desk-top verifications. This will include but not be limited to:

- Ship-specific methods planned / implemented for compliance with IMO 2020 – Compliant fuel / Exhaust Gas Cleaning Systems (Scrubbers), etc.
- Ship Implementation Plans as recommended by IMO (MEPC.1/Circ.878) OR
- An equivalent ship-specific document covering:
 - Risk assessment for the ship-specific methodology of IMO 2020 compliance and a Management of Change document. This assessment must include as a minimum, any potential impacts on the vessel's main engine, auxiliary engines and list of critical spares for potential machinery breakdowns.
 - For vessels using Exhaust Gas Cleaning Systems (EGCS), the impact arising from additional power requirements due to use of EGCS.
 - For vessels using compliant fuels, Bunker Procurement processes.
 - For vessels using compliant fuels, preparation of fuel storage tanks and segregation capability.
 - For vessel using compliant fuels, fuel change-over procedures.
 - Fuel analysis program and procedures to deal with non-compliant / off-spec fuels.
 - Guidance to crew on safe implementation of IMO 2020 requirements on board vessels.
- Emergency Management Plans covering critical machinery failure scenarios including main engine, auxiliary engines & EGCS both at sea as well as within Port.

The below mentioned Industry guidance should be referred to when preparing the risk assessments and Management of Change procedures relating to IMO 2020 compliance:

- Relevant IMO MEPC circulars.
- Latest edition of ICS 'Compliance with the 2020 'Global Sulphur Cap'.
- Equipment manufacturer guidance for main engine and auxiliary engines.
- ISO 8217 and ISO/PAS 23263:2019(E).
- Guidance from CIMAC (International Council on Combustion Engines).
- Flag State & Classification Society guidance, if provided.
- Joint Industry Guidance "The supply and use of 0.5% sulphur marine fuel"

Vessel's compliance with MARPOL Annex VI requirements in Australian waters will be monitored by the Australian Maritime Safety Authority (AMSA) as the Port State Control Authority for Australia.

Any questions or feedback regarding this Marine Safety Bulletin should be addressed to the Port Hedland Marine Operations Team.

THE ALTERNATIVES

In no time in history has the shipping industry been so focused on finding alternative fuels to HFO. The reasons for looking at the alternatives are discussed in a white paper released by DNV-GL which is reproduced in part. LNG is likely to emerge as a popular alternative. Other contenders are biofuel, LPG, Methanol and Hydrogen.

Alternative fuels: the options

<https://www.dnvgl.com/expert-story/maritime-impact/alternative-fuels.html>

The IMO decision to limit the sulphur content of ship fuel from 1 January 2020 to 0.5 per cent worldwide, and the recently adopted resolution to reduce greenhouse gas (GHG) emissions by 50 per cent by 2050, will change the future mix of ship fuels dramatically. The combined amount of heavy fuel oil (HFO) and marine gas oil (MGO) consumed by ships accounts for no more than 25 per cent of total global diesel fuel and petrol production (2016 figures). This is roughly equivalent to the amount of energy consumed using liquefied natural gas (LNG), which stands at 24 per cent; however, LNG represents only a small portion (approximately 10 per cent) of the overall gas market.

Assuming an installed base of about 4,000 scrubbers in 2020, no more than 11 per cent of ship fuel usage will be

high-sulphur fuel, DNV GL calculates. Latest estimates assume that no more than 2,000 scrubber installations will be carried out between now and 2020. This raises the question whether high-sulphur fuel will even be available outside the largest bunkering ports if only 4,000 or even fewer ships will be able to use it. The next question is what the price differential between HFO and compliant fuels will be.

New technologies and alternative fossil fuels

Among the proposed alternative fuels for shipping, DNV GL has identified LNG, LPG, methanol, biofuel and hydrogen as the most promising solutions. Among new technologies, the classification society believes battery systems, fuel cells and wind-assisted propulsion to offer potential for ship applications.

Fuel cell systems for ships are under development but will take time to reach a level of maturity sufficient for substituting main engines. Battery systems are finding their way into shipping; however, on most seagoing ships their role is limited to enhancing efficiency and flexibility. Wind-assisted propulsion, while not a new technology, will require some development work to make a meaningful difference for modern vessels.

When it comes to CO₂ emissions, LNG is the fossil fuel producing the lowest amounts. However, the release of unburned methane (so-called methane slip) could reduce the benefit over HFO and MGO in certain engine types. Methane (CH₄) has 25 to 30 times the greenhouse gas effect of CO₂. Nevertheless, engine manufacturers claim that the tank-to-propeller (TTP) CO₂-equivalent emissions of Otto-cycle dual-fuel (DF) and pure gas engines are lower than those of oil-fuelled engines.

If produced from renewable energy or biomass the carbon footprints of methanol and hydrogen can be significantly lower than those of HFO and MGO.

LNG – The future marine fuel – Supply Chain

By Capt. Chandra Godakandarachchi

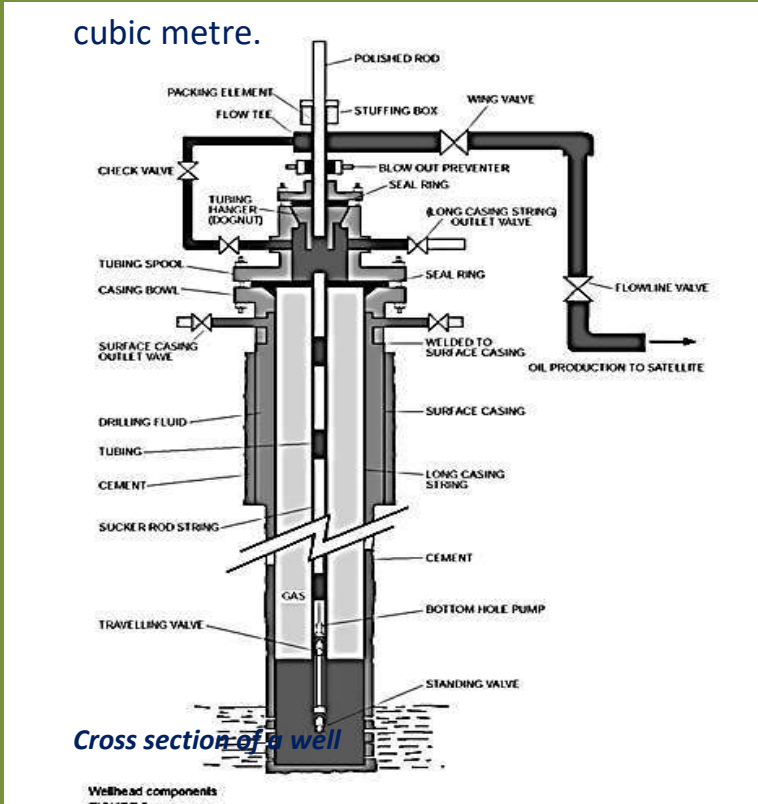
Now with the global shipping industry been restricted quite rightly with much cleaner marine fuel with maximum 0.5% Sulphur content, it is inevitable maritime industry pundits will be in discussion to explore the possibility of utilising natural gas (LNG) widely in marine engines. LNG bunkering is not quite the hot potato as yet though it will be in the near future. As such it may be worth exploring the supply chain, pros and cons of natural gas (LNG) as a Marine fuel.

Liquified Natural Gas produced in Eastern Australia is mostly Methane (approximately 98%) extracted after drilling from underground coal seams which are millions of years old. Coal seam gas reservoirs inherit sufficient gas pressure which causes the gas to migrate to ground level via annulus of gas wells. It is not unusual for water to migrate up together with gas, therefore the first process is to remove liquids by a separator. Some reservoirs have a substantial quantity of water, therefore different types of submersible pumps (positive displacement Progressive cavity pumps, Linear rod pumps etc) are being used to pump water enabling coal seam gas to make way into the reservoir. Water pumped out is processed through membranes (reverse osmosis) to get rid of salinity and PH balancing process to make it water of acceptable quality before directing for various applications including irrigation. Water with high salinity is stored in lined bunds for further processing. Gas coming out of well is then directed to compressors in order to compress gas to a higher pressure for pipeline transport. Compressed gas yet contain moisture is then processed via dehydrator using moisture absorbing harmless chemicals. Coal Seam Gas (Methane) under pressure is then transported by pipeline to a LNG plant. It is pretty much a condensing process by cooling. LNG is a

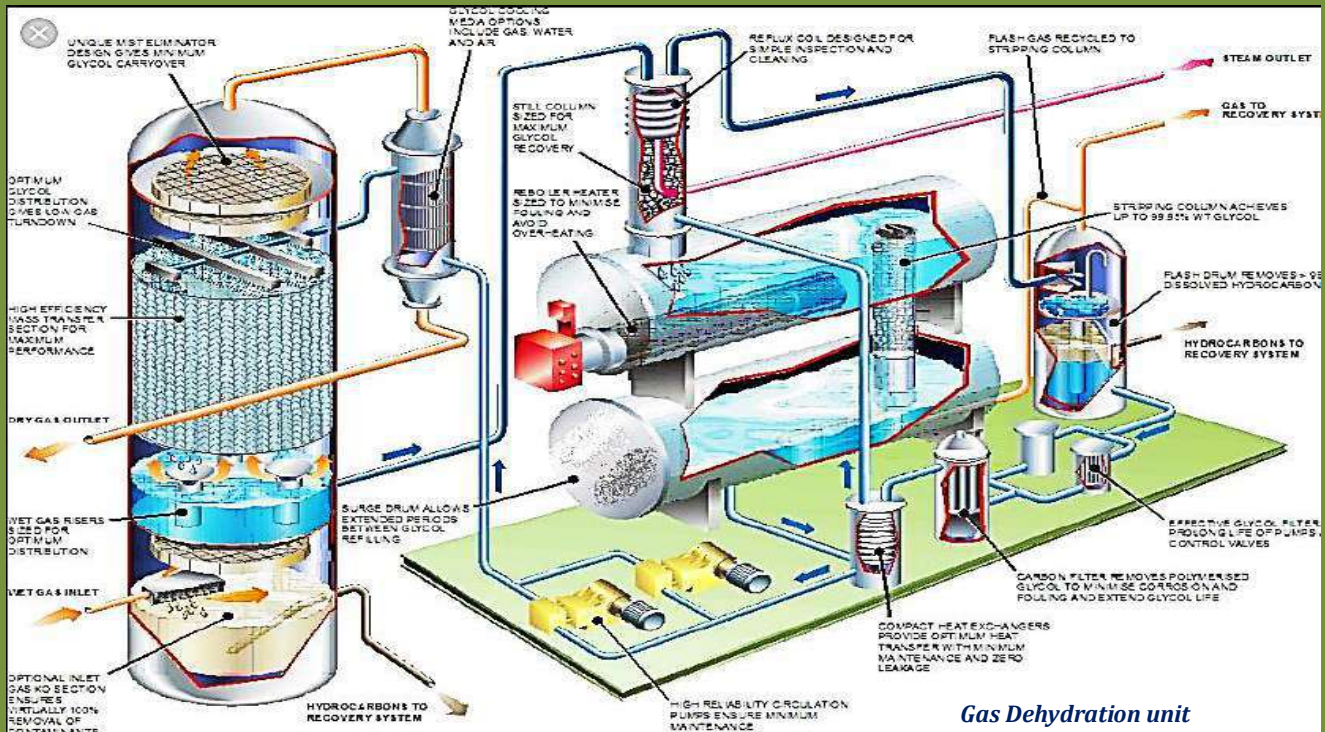
cryogenic liquid, maintained about negative 163 Centigrade, the methane volume being condensed to 600 to 1 with a density of about 0.42 tonnes per cubic metre.

LNG Loading

The need to make LNG from natural gas is to make it possible for sea and land transport. Six hundred cubic meters of natural gas will make only one cubic meter of LNG. As the LNG is loaded at negative 162 C, it is imperative to cool down the pipe work and ship tanks down to loading temperature prior to commencement of loading post purging of lines and tanks with Nitrogen. Cool down process has to be gradual and within acceptable rate in order to avoid integrity issues of pipework and tanks. As the loading continues pressure in tanks (Membrane type) tend to rise due to boil of gas (BOG). Pressure in tanks has to be managed within acceptable limit. This is mainly done by BOG



Cross section of a well



compressor directing BOG to generators as fuel gas or by unacceptable venting.

LNG has to be heated using heat exchangers (sea water) prior to sending ashore at discharge port.

LNG is much cleaner than any other marine fuel in terms of SO_x, NO_x, CO₂ and particles. Biggest environmental advantage is LNG has very negligible SO_x, means it will be very much easier to comply with new marine fuel emission regulations. There has been a lot of discussions of installing scrubbers to get rid of exhaust gas SO_x when using Sulphur based fuel. This will add up more work load to the mariner to maintain scrubbers in order to keep exhaust gas within required environmental regulations. In addition to environmental advantages, LNG is very cost beneficial to operate. Norway has been having LNG fuel ships well over a decade and DNV has proven rules in place for a long time.

There are quite a few LNG engine manufacturers such as Rolls Royce, MAN Diesel and Mitsubishi and said to be well over twenty ships currently in operations with LNG as a marine fuel and the number is increasing rapidly. Above manufacturers offer two types of engines, first one with just LNG and second with dual fuel, LNG and Diesel. LNG tanks are usually located on deck and this is a major concern in terms of

space among marine community. However, there are studies underway to integrate LNG tanks to hull. Another concern is said to be Methane slip effect on engine during low load, currently being addressed, probably to introduce an artificial load during such low loads, similar to load banks in some generators. Another major concern is not having sufficient LNG terminals around the world, however more and more LNG terminals are being built around the world and it will be a matter of time in this era before sufficient LNG terminals are built around the world. Not having sufficient LNG suppliers is another concern though there are so many LNG plants currently being built, including four major LNG plants in Queensland Australia with investment of nearly 100 Billion dollars. All four Queensland LNG plants commenced exporting in 2015. Likewise, there are LNG Plants in West coast and Northern Territory of Australia as well. Therefore, it will be a matter of time before levelling out the supplier concern of marine community.

Safety is paramount in any industry, LNG is no different and has got its own inherited safety risks such as handling cryogenic liquid and all other risk associated in the gas industry. Currently all LNG storage tanks are located on decks, piped to the engine room. All the pipe work in the engine room are having similar construction to double skin to

hold the pressure in case of a pipe rupture. Additionally there are automatic shutdown systems built into trip tank safety valves (XVs) in case of an excessive rate of flow (which could happen in case of a rupture of a pipe) or detection of excessive Lower Explosive Limit (LEL) percentage. Training, continuous simple risk assessments, awareness, avoiding short cuts and doing the right thing all the time is the key to safety.

There are LNG road tankers currently in operation in Europe. The technology is ideal for a country like Sri Lanka, particularly at the beginning of LNG fuelling due to the capital cost involved in building pipeline network. LNG can then be transported to other ports around the coast as well. LNG can be used not only as a marine fuel but also for other major plants such as power plants. Coal power generation will be a thing of the past when all the emission regulations are forced on to countries like Sri Lanka as it will become expensive to run a coal plant for power generation. In addition to several other ports, Port of Rotterdam too is already geared with LNG bunkering facility, Colombo being a major port should get the ball rolling to plan for a LNG terminal without much delay in order to keep pace with rest of major ports in the world.

LNG loading and handling is not difficult for anyone with sufficient tanker experience. It is earnestly requested from the younger generation of Master Mariners to try and get into LNG tankers as Sri Lanka may need officers and engineers with LNG experience in the future.

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About the writer:

Capt. Chandra Godakanda Arachchi Joined Lanka Kalyani as a Deck Cadet in November 1975. He worked in all ascending capacities on board commanding CSC ships at the age of 28 years. He worked as a pioneer Mooring Master for Ceylon Petroleum Corporation prior moving to SLPA as a Marine Pilot. He then migrated to Australia in 1996 and worked as a Marine Surveyor (oil and gas) before joining Santos at the end of 2005. He has been working as a Permit Authority in oil and gas industry (Hot work , Cold Work , Excavation work and Confined Space Entry). He is also a qualified Safety Systems Auditor. He has been working as a Controller for GLNG Primary Control Centre from inception looking after GLNG assets, gas wells, hub compressors, turbines, power plants and all other associated plants including high pressure gas network spanning over 600 kilo meters East Queensland remotely from Brisbane. He worked as a Marine Superintendent (LNG Loading) on secondment during initial LNG loadings of the projects at Curtis Island Gladstone prior deciding to move back to Brisbane.

Capt. Godakanda Arachchi can be contacted at cgodakanda@gmail.com

LNG Process

Steve Breiner writing for 8 Bells

The purpose of the GLNG plant is to process and convert the upstream coal seam gas into liquid form which condenses the volume to 1/600th of its gas volume. By reducing the volume, it enables it to be stored and then commercially transportable. This is carried out by cleaning the gas of impurities, drying the gas of all entrained moisture and then chilling the gas into liquid form at -162 degrees Celsius.

The coal seam gas enters the plant from the upstream wells between 5700 and 10000kPa. Typically, the inlet pressure will vary during operation between 5.7 and 6.3 Mpa for efficiency. The gas will go through three initial process units to clean and dry the gas to a specification that allows chilling and liquifying of the gas without the potential of freezing any water or CO₂ in the process. The initial three units for the cleaning and trying of the gas are known as the purification side of the process. This involves inlet separation, acid gas removal and dehydration of the gas.

1.) Inlet separation is the start of the process, it involves the feed gas entering the plant and going through a large horizontal inlet separator vessel designed to remove any liquid slugs or oily

water present in the inlet feed stream. Water drops out into the vessel and gas exits through the top. Gas then travels through an inlet filter coalescer that removes solid particles and liquid droplets greater than 100 microns. This is done to avoid any damage to the plant inlet control valves. Feed gas will then go through a gas preheater which is a shell and tube design that uses hot oil as the heating medium. Gas is heated to compensate for the Joules Thompson cooling effects to maintain the temperature of the feed gas to design limits of downstream piping. Next the gas goes through a set of control valves and a metering skid made up of two ultrasonic flow meters that help maintain flow control.

2.) Feed gas will now enter the acid gas removal unit. The unit begins with an inlet filter coalescer that is designed to remove any trace of liquids or particles that may still be entrained in the feed gas. The feed gas then enters an Absorber column that removes any entrained CO₂ and H₂S. This is achieved by feed gas flowing up the tower through trays against a counter current flow of a chemical called Amine flowing down the tower. The amine absorbs CO₂ and

H₂S before being regenerated via a Regenerator tower column to be re-used in the process. Feed gas exits the Absorber tower at around 50 degrees. It is then passed through a Propane chiller vessel which is a shell and tube design to reduce the temperature and drop out any carry over moisture.

3.) Feed gas will now enter the dehydration unit. Feed gas travels through a knockout drum that captures and removes moisture from the Propane Chiller vessel. It then travels through a two-stage filter coalescer that removes any moisture or contaminants down to one micron in size. The feed gas now enters the Molecular sieve beds or dryer beds. These beds use an activated alumina desiccant to adsorb any remaining moisture or CO₂. Molecular Sieve after filters are then used to remove any carry over dust down to one micron. Next the feed gas travels through mercury removal beds which contain a carbon activated catalyst that is designed to remove any trace of mercury that could damage downstream heat exchangers. Lastly the feed gas will pass through Mercury removal after filters that are designed to capture any carryover

catalyst dust from the mercury removal beds. Gas is now on spec and ready for the liquefaction / refrigeration side of the process.

Once the gas has been purified to the required specification it is processed through what is known as the liquefaction side of the process. This involves a refrigeration process consisting of three cascading refrigerant units. Propane Ethylene and Methane.

The Methane feed gas begins its path through this refrigeration process at a temperature of 20 degrees with a pressure of 5840kPa. The Liquefaction process chills and liquifies the gas by first processing it through a series of Propane and Ethylene chiller vessels. The feed stream is then dropped in pressure via JT valves into three individual Methane flash drums where the pressure drop results in a corresponding temperature drop. At the completion of the liquefaction side of the process the LNG has been liquefied and is sent to storage tanks at a temperature of -152 degrees at a pressure of 100kPa.

1.) The Propane system is the first unit of the liquefaction process. The unit is a closed loop, that uses LM 2500 GE turbines to drive three stage centrifugal compressors to re-compress all boil off vapours produced in the refrigeration process. The Propane system uses three

stages of chiller vessel which are core in shell design. Each is covered by liquid Propane at different temperature and pressure setpoints. As the process flows travel through the cores of the chillers, they are cooled by expelling their heat into the liquid propane covering the cores which causes propane to boil off as vapour which will be recompressed via the centrifugal compressors. The main purpose of this propane system is to chill the feed gas from 21 degrees down to minus 32 degrees, to cool and condense The Ethylene discharge flow from 40 degrees down to minus 32 degrees and to de-superheat the methane discharge from 40 degrees down to minus 3 degrees.

2.) The Ethylene system is second unit of the liquefaction process. The Ethylene system is also a closed loop, that uses LM 2500 GE turbines to drive two stage centrifugal compressors to re-compress all boil off vapours produced in the refrigeration process. The Ethylene system uses two stages of chiller vessel which are core in shell design. Each stage (One high and one low) is covered by liquid Ethylene at different temperature and pressure setpoints. As the feed gas flow travel through the cores of the chillers, they are cooled by expelling their heat into

the liquid Ethylene covering the cores which causes Ethylene to boil off as vapour which will be recompressed via the centrifugal compressors. The main purpose of this system is to cool, condense and slightly sub-cool the feed Gas. The Ethylene system also cools and condenses the Methane compressor discharge and sub-cools inter-stage Propane refrigerant. The feed gas stream is cooled to -91°C at the outlet of the low stage Ethylene chillers. Under normal operating conditions, Ethylene low stage feed condenser is the first exchanger where Feed Gas condenses to a liquid (LNG).

3.) The Methane system is the third unit in the liquefaction process. Unlike the Propane and Ethylene units the methane unit is an open loop that combines with the feed gas stream. The main purpose of this system is for the “open loop” Methane and Feed Gas flow to be liquefied and cooled by, chillers, economisers, pressure drops and flashing, so that it can be stored at near atmospheric pressures as LNG ready for export. The Methane system also uses LM 2500 GE turbines to drive three stage centrifugal compressors to re-compress all boil off vapours produced in the refrigeration process. The liquid methane is dropped in pressure and temperature across

three stages of flash drum, The High stage, Inter-stage and low stage flash drums. The high stage flash drum drops the temperature from -95 degrees to -118, The inter-stage flash drum drops the temperature from -118 degrees to -134 degrees and the low stage flash drum drops the temperature from -134 degrees to -152 degrees. All boil off vapour produced in the flash drums are recompressed via the centrifugal compressors.

The last part of the process is referred to as storage and loading. The liquefying of the gas has reduced its volume by 600 times, so the LNG is now able to be stored in two 140,000m³ capacity storage tanks equipped with cryogenic Ebara loading pumps. The purpose of the storage and loading side of the process is to store the produced LNG near to atmospheric pressure via one final drop in pressure as it enters the storage tanks. The LNG is now ready for export. The transfer of the LNG onto LNG carrier ships is then carried out using the Ebara pumps to transfer then LNG via a loading pipeline onto the ship via four LNG loading arms, three for loading and one for vapour return to the storage tanks.

About the writer:

Steve was an officer of the Royal Australian Navy and he joined Darwin LNG after retiring. A few years later he joined Gladstone LNG, LNG Plant Operations as a Controller. Steve was working in Curtis Island Gladstone LNG Plant operations from commissioning of the plant up to full on operations. Steve has an extensive experience and knowledge in all aspects of LNG Plant operations. Steve joined Primary Control Centre team, GLNG in Brisbane this year as a Controller looking after GLNG upstream gas wells operations, Hub compressors, turbines, power plants and all other associated plants including high pressure gas network spanning over 600 kilo meters East Queensland remotely from Brisbane.

BIOFUELS

<https://www.eia.gov/energyexplained/biofuels/>

Biofuels are transportation fuels such as ethanol and biodiesel that are made from biomass materials. These fuels are usually blended with petroleum fuels (gasoline and diesel fuel), but they can also be used on their own. Using ethanol or biodiesel reduces the consumption of gasoline and diesel fuel made from crude oil, which can reduce the amount of crude oil imported from other countries. Ethanol and biodiesel are also cleaner-burning fuels than pure gasoline and diesel fuel.

What is ethanol?

Ethanol is an alcohol fuel made from the sugars found in grains such as corn, sorghum, and barley. Other sources of sugars to produce ethanol include

- Sugar cane
- Sugar beets
- Potato skins
- Rice
- Yard clippings
- Tree bark
- Switchgrass

Most of the fuel ethanol used in the United States is distilled from corn. Scientists are working on ways to make

ethanol from all parts of plants and trees rather than just grain. Farmers are experimenting with fast-growing woody crops such as small poplar and willow trees and switchgrass to see if they can be used to produce ethanol.

Ethanol is blended with gasoline

Nearly all of the gasoline now sold in the United States is about 10% ethanol by volume. Any gasoline-powered engine in the United States can use E10 (gasoline with 10% ethanol), but only specific types of vehicles can use mixtures with fuel containing more than 10% ethanol. A flexible-fuel vehicle can use gasoline with ethanol content greater than 10%. The U.S. Environmental Protection Agency ruled in October 2010 that cars and light trucks of model year 2007 and newer can use E15 (gasoline with 15% ethanol). E85, a fuel that contains 51%–83% ethanol, depending on location and season, is mainly sold in the Midwest and can only be used in a flexible-fuel vehicle.

What is biodiesel?

Biodiesel is a fuel made from vegetable oils, fats, or greases—such as recycled restaurant grease. Biodiesel fuel can be used in diesel engines without changing the engine. Pure biodiesel is non-toxic and biodegradable. Burning biodiesel produces lower levels of most air pollutants than petroleum-based diesel

fuel. Biodiesel is usually sold as a blend of biodiesel and petroleum-based diesel fuel. A common blend of diesel fuel is B20, which is 20% biodiesel.



Are biofuels a viable alternative for marine application?

Article based on Capt. Prashanthen Athipar's speech delivered at the Global Biofuels Summit 22-23 October 2019 held at the Novotel Singapore Clarke Quay in Singapore.

The IMO announced the world's first full agreement on tackling climate change in the global shipping sector. Following a marathon two-week meeting involving representatives from more than 170 countries around the world, it was agreed that by 2050, greenhouse gas emissions will be cut by 50% compared with 2008 levels.

The announcement was made amid mounting pressure on the IMO, after international shipping was left out of the 2015 Paris Climate Agreement despite accounting for around 3% of global carbon dioxide emissions, and increasing

its emission levels by 77% between 1990 and 2015.

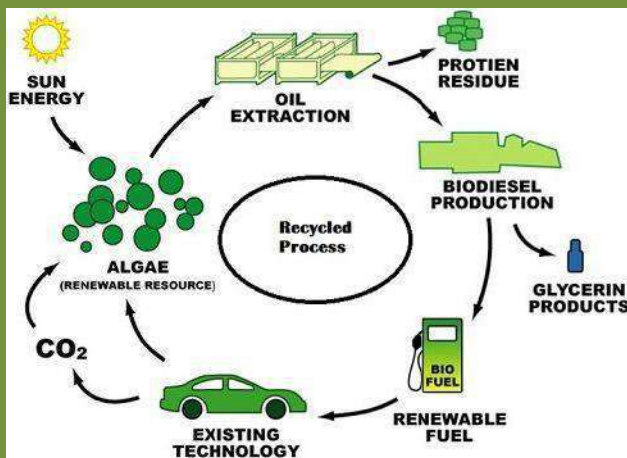
The biofuel option



Some of the most promising renewable fuels currently available are biofuels such as biodiesel, bio-methane, bio-methanol and hydrogenated vegetable oil. They are derived from biological waste produced in other areas of society such as agriculture, forestry and farming, or from dedicated biofuel crops. Depending on the type of biofuel used, analysts say they can achieve CO2 reductions of as much as 80-90%.

A lot of biofuels are already compatible with current engine technology and could be used in existing infrastructure and vessels with little to no retrofitting. But years after biofuels were first raised as an option for the shipping industry, uptake remains incredibly limited. Less than 1% of the current fuel supply makes use of the fuel, with the few initiatives currently operational mostly involving inland or short-sea shipping.

The main problem remains the cost of biofuels, which are forced to compete with heavy fuel oils that have been used by the industry for decades in poorly regulated international waters. Lack of supply infrastructure also poses a major problem. Before ships can use biofuels on a meaningful scale, an entirely new supply chain will need to be built, from choosing the right biomass feedstock and production methods, to ensuring biofuels can be transported and made available at ports around the world.



Major ethical concerns over land use have also hampered their uptake over the past decade. Concerns revolve around developing countries where using land for bio crops rather than edible food can aggravate existing food insecurity. Felling forests or turning grasslands into agricultural land can also undo the positive effects of biofuels by increasing greenhouse gas emissions.

Potentials of biofuels as a long term fuel solution and main barriers

China's growth is directly proportionate to its energy demand and therefore China is a good case study.

According to BP Energy Outlook 2019:

- i) +1.1% Annual average growth in China's energy consumption
- ii) 22% Share of global energy consumption in 2040
- iii) +29% Growth in China's energy production
- iv) 18% Share of global energy production in 2040

According a research paper published by IEA (*IEA Bioenergy report, October 2016 – The Potentials of Biofuels in China*); in China, unlike the ethanol industry the biofuel industry had developed slowly and is dominated by small scale private businesses and is largely unregulated.

There are also limited incentives to carryout biofuel production and blending. The vast majority of the biofuel that is produced is used by industry, with only about 30% used for transport. In contrast to China, other jurisdictions such as Brazil, the EU and the US have shown the essential role the supporting policies play in creating demand, stimulating production and facilitating research, development and commercialisation of biofuels (*IEA Bioenergy report, October 2016*).

The outcome SWOT analysis carried out to assess biofuels for marine application reveal the following:

Strengths –

- i) Feedstock are extremely low in sulphur content,
- ii) Second generation feedstock (plant dry matter – biomass and waste) are available in large quantity for use
- iii) Marine fuels are of lower quality and do not need intensive upgrading and refining, and
- iv) Switching over to biofuel does not require major changes in the bunkering infrastructure.

Weaknesses –

- i) Marine biofuels are not cost competitive with fossil fuels,
- ii) Lack of long term fuel testing data for marine fuels,
- iii) Concerns about storage and oxidation stability of the fuel
- iv) Commercial production of high biofuel volumes required for marine application is not yet established.

Opportunities –

- i) regulations regarding bunker fuels and emissions have become stricter

- ii) Introducing new alternative fuels in the marine fuel mix would reduce fossil fuel dependency
- iii) Biofuels show a strong potential to replace part of the fuel mix, and
- iv) New engine technologies may open a marine market for biofuels.

Threats –

- i) Operations with fossil fuel are well understood. However, switching to biofuels involves an effort between engine manufacturers, fuel suppliers, vessel owners and vessel charterers,
- ii) LNG is slowly gaining popularity as an alternative fuel,
- iii) Vessel owners would have to adapt to new fuels in the fuel mix,
- iv) Relatively low price of crude oil has delayed biofuel development

Technical assessment of biofuels for marine engines

OECD Report 2018 – Decarbonising Maritime Transport – Pathways to zero-carbon shipping by 2035 provides that it is technically possible to produce marine

biofuels that are compatible with the existing marine engines, pipelines and bunker infrastructure, so adaptation costs are limited. So far neither engine manufacturers nor classification societies have said bio fuel is not suitable for marine application.

Nevertheless, many vessel owners are still studying this matter and not ready for even trials due to various reasons – risk appetite, safety management system implications, crew familiarity and training and commercial implications.

Various reports such as *OECD Report 2018* cautions about selecting certain types of biofuels for marine application, since some specific biofuels have a tendency to oxidise and degrade when stored more than six months. This tendency heavily depends on the conversion technology from feedstock to biofuel. The ISO 8217 marine fuel standard (sixth edition) makes a clear distinction between superior and inferior biofuel grades.

Australian mining giant BHP, major Japanese shipping operator NYK, biofuel company GoodFuels and BLOC, which delivers Block Chain solutions to the maritime industry, announced in early February 2019 that the BHP-chartered and NYK-owned bulker, Frontier Sky, has taken a delivery of a 30 percent/70 percent biofuel-marine gasoil blend of ship fuel. This particular bunkering

reportedly saved over 50 metric tons of carbon dioxide emissions (50 metric tons equals 110,250 U.S. pounds or 55 U.S. tons).

In November 2018, Danish shipping operator Norden completed a test voyage, using carbon-neutral biofuel from GoodFuels. The voyage was from Rotterdam (Netherlands) to Tallinn (Estonia) on a 37,000 deadweight, 182 metre-long handy size product tanker that was sailed in ballast. During the voyage, the vessel's fuel was swapped from a conventional fuel to the biofuel. It was discovered that the biofuel did not adversely affect the engine or its performance.

Ensuring a sustainable supply chain from field to ship

- a) Political stability – trade wars and regional security situation
- b) Biofuel industry needs to move away from first generation (based on what can be delivered by adopting the current agricultural and forestry production technologies without adding land use or reducing food supply) to second generation (based on non-food crops such as biomass and waste) and third generation (based on specially engineered crops such as algae) biofuels

- c) Government assistance – subsidies and tax benefits
- d) Collaborative approach - engine manufacturers, fuel suppliers, vessel owners and vessel charterers

Conclusion

The demand for secure, sustainable and clean energy supply is expected to propel the demand for biofuels across the globe. On account of higher mandates for biofuel blending in automotive fuels and increasing government support for eco-friendly alternatives, the global consumption of biofuel is expected to further grow at a significant level in the near future. Likewise, businesses are likely to invest in biofuels technology. However, the return on such investments could take a very long time, such as 20+ years, meaning investors used to immediate returns will need to dramatically change their mind sets from short-term gain to doing what is ethically right.

About the writer: Capt. Prashanth started his career at sea in March 1994 as Deck Cadet and rose through various ranks to Master in January 2010. He obtained his Class 1 Deck Certificate of Competency in December 2003 issued by MCA United Kingdom. He sailed on various types of ships, but predominantly on oil tankers.

completed a postgraduate studies (Graduate Diploma in Legal Practice). He is currently reading for his Master of Laws (LLM - International Law) at the Australian National University and planning to get admitted to practice law in Australia in the near future.

In September 2011, he joined Australian Maritime Safety Authority (AMSA) and held Advisor, Principal Advisor and Manger roles in Standards, Operations and Marine Environment Divisions at AMSA respectively. Prior to leaving AMSA in March 2018, he was the Head of Salvage and Intervention within Response Division at AMSA.

In April 2018, he joined BHP's Commercial Division in Singapore as Principal Ocean Freight Sustainability; managing dry bulk vetting processes and BHP Freight's sustainability commitments. He also provides technical and operational support during BHP's external engagement and shipping incidents.

In March 2012, he completed a double degree (Bachelor in Laws and Commerce) and March 2018

Legal

Obligation To Render Assistance AT Sea

Capt Francis Lansakara Master Mariner LLM UK

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A photo taken by a passenger of a cruise ship- A fishing boat adrift with people on board waiting for rescue while his cruise ship passing-by unattended

Is the requirement to render assistance to a distress call an obligation? Legal issues relating to stranded people, seafarers, fishermen or refugees at sea have been in the debate globally. This paper intends to discuss the legality of the ship master to deviate from the normal route to render assistance to

rescue people and relevant legal protections granted to the master.

Render assistance at sea to any person found at sea in danger of being lost: The United Nations Convention of Law of The Sea 1982 (UNCLOS 1982) Article 98 establishes the duties on the two parties. "It is the duty on the flag state to require the master of the ship flying its flag to render assistance at sea to any person found at sea in danger of being lost as long as he can safely render the assistance without causing serious danger to his own ship, its cargo and crew members and to proceed with all

International Maritime Law

The shipmaster has an obligation to render assistance to those in distress at sea without regard to their nationality, status or the circumstances in which they are found. This is a longstanding maritime tradition as well as an obligation enshrined in international law. Compliance with this obligation is essential to preserve the integrity of maritime search and rescue services. It is based on, *inter alia*, two essential texts: UNCLOS and SOLAS

possible speed to the rescue of persons in distress, if informed of their need of assistance, in so far as such action may reasonably be expected of him.” As the rescue of persons at sea may not be completed by the rescue ship alone the United Nations Convention also establishes a duty on the Coastal States stating that “every coastal State shall promote the establishment, operation and maintenance of an adequate and effective search and rescue service regarding safety on and over the sea and, where circumstances so require, by way of mutual regional arrangements cooperate with neighbouring States for this purpose.” The parties who are directly responsible to render assistance at sea to any person found at sea in danger of being lost under the convention are the Flag State and the Coastal State. The United Nation Convention do not impose any direct responsibility on the ship master of the contracting state although he is directly involved in rendering assistance at sea to people in distress. The ship master’s responsibility on this arises from the the International Maritime Organization Convention known as Safety of Life Sea (SOLAS) which imposes the duty on master. (see under Obligations of the Ship Master Upon Receiving Distress Signal of Another Ship). One of the setbacks with respect to responsible authority and enforcement of the

international law could be seen in a Bermuda Flag Cruise Ship case on 10th March 2012: it was alleged the ship master despite the alerts he received failed to pick up three distress fishermen at high seas who were of Panamanian origin two of them later died. The sole survivor who was rescued about a week later by Ecuadorean Navy filed a civil suit against the ship’s owner in Florida Courts for negligence or intentional or reckless omission of Cruise Ship’s crew the case is still on going. The investigation of the cruise ship case was carried out by the flag state which is Bermuda. This investigation was required under the UNCLOS 1982 “It is the duty of the flag state to require the ship master of the ship flying its flag to render assistance at sea to any person found at sea in danger of being lost as long as he can safely render the assistance without causing serious danger to his own ship...” the report of investigation was not made public and outcome of the case and issues relating to breach of international law remain unclear. Is such deviation justifiable? If the ship master did divert his ship to pick the three distressed fishermen it will be considered as “justifiable deviation” under the contract law (see below - Established International Contract law on justifiable deviation) and the shipping liner will not be in breach of contract with respect to their contractual

obligations to any party and the damages or losses if any incurred due to diversion and rescue of distressed fishermen will be covered under the marine insurance. However, the diversion for humanitarian purpose will delay ship arrival at its next destination and subsequently will undermine the reputation of the shipping liner which cannot be compensated and considered as the primary reasoning behind ships being reluctant to divert course for humanitarian purpose.

Obligations of the Ship Master Upon Receiving Distress Signal of Another Ship.

This obligation is established under the International Maritime Organization Convention

known as Safety Of Life At Sea (SOLAS) Chapter V Regulation 33 Distress Situation obligation and procedure states *inter alia* that “the master of a ship at sea which is in a position to be able to provide assistance on receiving information from any source that persons are in distress at sea is bound to proceed with all speed to their assistance”.. and, it further states that “if the ship receiving the distress alert is unable or, consider it unnecessary the master of the distress receiving ship must enter into the log book the reason

for failing to proceed.” In the well-known Costa Concordia case on 13 January 2012 where the ship master failed to assist the distress passengers on his own ship was charged by the Italian prosecutor under the Italian law the appeal process of this case may still be in progress whereas on the Bermuda registered Cruise ship case there were no criminal charges was filed against the master of the ship.

Justifiable Deviation is Historical

Even without any statutory provisions under the common law on justifiable deviation is Historical. Deviation from the ships normal route for the purpose of rescue life and/ or property is considered a justifiable deviation therefore the ships contractual obligations with respect to carriage of goods or insurance purpose will still remain intact. The commercial law was established much earlier than the United Nations Law of The Sea Convention. The history goes back to 1880 a UK case known as *e Scaramanga v Stamp* Deviation for the purpose of saving life is protected and involves neither the forfeiture of the insurance nor liability to the goods owner in respect of loss which would otherwise be within the exceptions of perils of the sea. And as a necessary consequence of the foregoing, deviation for the purpose of

communicating with a ship in distress is allowable inasmuch as the state of the vessel in distress may involve danger to life. On the other hand, deviation for the sole purpose of saving property is not thus privileged, but entails all the usual consequences of deviation. This case firmly assured that deviation for the purpose of saving life is considered a justifiable deviation and that the ship will not breach its contractual obligations with respect to carriage of goods or insurance. It also made it clear that if the deviation has taken place to save only property then such deviation is considered unjustifiable because there was no life in danger. In such a case the ship will be in breach of its contractual obligations and there were consequences that would follow.

Protection given Under Charter Parties and Carriage of Goods by Sea Acts

The above common law later developed into International trade conventions such as Hague and Hague Visby Rules (Art. 4 rule 3) and Charter Party standard forms in general usage (eg. Gencon 1994 clause 3 , SHELLVOY 6 clause 31) provide for deviation for the purpose of saving life and free the ship from any contractual breach and losses to ship or goods that may incur due to deviation for saving life.

Hague /Hague Visby Rules Art IV rule 3:

“Any deviation in saving or attempting to save life or property at sea or any reasonable deviation shall not be deemed to be an infringement or breach of these rules or of the contract of carriage, and the carrier shall not be liable for any loss or damage resulting therefrom.”

Gencon Charter clause 3 Deviation Clause:

“The vessel has liberty to deviate for the purpose of saving life and/or property”

Whenever there is no contractual or express statement as to deviation the common law will naturally fill the gap under the English legal system which is recognized in many maritime nations including those of Sri Lanka, India & Singapore. These clauses however do not address any consequences on cases where the ship master fails to respond to a distress call. Such matters are in the hands of each flag state administrations and their legal mechanisms.



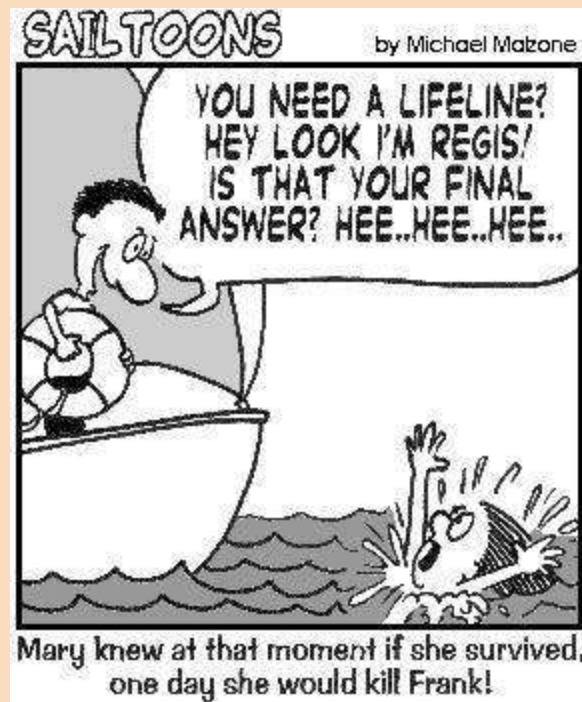
Conclusion

Although the international community has established several binding statutes the gaps in the question of assistance at sea should be filled by the principles generally accepted by civilized human society.

About the writer

Capt Francis Lansakara FNI commenced his seagoing carrier in 1974 and obtained his professional qualifications from the Maritime Academies in India and Singapore. His experience include more than four decades of industrial exposure among which includes ships' command, marine surveying, giving expert evidence in international arbitration and handling of claims. He completed post graduate law studies in 2009 from University of London where he was awarded Master of Laws (LLM) with specialization in Maritime Law and, in 2014 he was awarded a fellowship by Nautical Institute of UK.

Capt Francis Lansakara is currently working as the Managing Director of JMC NAUTICAL PTE LTD & as a Marine Consultant.



USCG INSPECTIONS

USCG preparations in depth

By Capt Mehran Wahid

Writer's notes:

The following are excerpts from advice sent to our vessels after I had attended a Hudson Marine USA oil spill preparation seminar conducted by a former experienced USCG inspector who is now 'working for this side' and assisting vessels in dealing with USCG preparation

1) Usually for vessels calling after a long time to the USA, the USCG will carry out a security check at anchor before permitting the vessel to berth. This is only a formality to make sure no one else is on board who is not been declared in the Crew List. But they also check your last ports to ensure the log entries for Marsec level 2 for ports visited which are listed in the last PSA (2-19 as per 2019) are correctly entered - if not a very expensive guard will be placed on the gangway during the stay in port at Owner's expense. In this case the Master would also receive a COTP (Captain Of The Port) letter - all such letters regardless of reason shall be immediately forwarded to the Company. This is NOT the USCG's PSC inspection which will come later.

2) Below is the system the USCG use for PSC inspections - the vessel will be

subject to a normal P II (Priority 2) inspection which doesn't mean it is easier but will be routinely detailed with no special emphasis unless they find problems and then start to dig deeper. Any minor problems should be dealt with by the Master promptly without asking the Company for approval (eg a damaged stretcher should be ordered directly from the Chandler) - this shows them the meaning of Master's Overriding Authority is understood by the Master and he will score points!

With reference to the below Targeting Matrix note that Sri Lanka is not on the list of Flags targeted, the Owners are not on the list of Ship Managers targeted and the Charterers are not on the list of Charterers targeted hence the USCG will start with only a normal PII inspection.

3) While the vessel would have been drilling firefighting and lifeboat/abandon ship, if entry into enclosed spaces has not been drilled recently then it should be. All crew should be warned that during the inspection and drills not to smile, laugh or look like they find anything funny as this will definitely

annoy the inspectors - a deadly serious expression is the very best at all times but not fear!

4) A well run gangway watch (carefully checking all IDs and faces) and reporting to the Master or C/O on the walkie-talkie will help when they arrive – doesn't have someone there who is nervous. The USCG/PSC inspection will probably start the next morning after your arrival (you normally have the right to ask the Agent before arrival what time the USCG may board for a "Foreign Freight Vessel Examination" which is their official term for a USCG PSC inspection). Therefore you can be better prepared for that exact moment– if the vessel is calling USA after over 2 years it will definitely have a PSC inspection so one might as well be prepared!

- Don't waste time asking them whether they want refreshments when they first board as they will not have anything until much later or at lunch time when they realize Master and the crew are better than the average mixed nationality crews who come on other vessels (a single Nationality is a good point for them) but until then they remain suspicious but don't worry, this is quite normal!

5) If the boarding officers are of varying ages and there are several 'youngsters' and only some older officers, they may be on a training trip and the stupid

questions they ask you really are stupid because they are inexperienced and actually want to know. You are more experienced than many of these guys who are mostly out of school where they learnt a lot of theory but have no practical experience - therefore explain to them as you would if you are a teacher and NOT as if you are an accused on the stand in courts!!!

6) A neat and tidy Bridge, files/documents, ECR and files will go a very long way.

7) If the vessel is a regular caller and not flagged, classed, owned or chartered by a targeted organization, it will normally not be inspected until 12 months after the last inspection unless it has done something to come to the notice of the USCG such as (only an example) having had any machinery failure or failure in safety procedures (the Pilots are the first ones to make trouble as they will complain to the USCG immediately hence the importance of 'looking after them'. Also putting on a good show of following proper procedures every time they board in USA such as manning forward stations during river passages and showing that you are doing so is important.

8) The Targeting Matrix allows one to work out what kind of an inspection is likely - the USCG board with information such as the vessel's history of

deficiencies (which is another reason why it is better not to have any kind of record as that will go on being looked at for the next 3 years during USA calls). There are two teams of USCG inspectors - one boards the ships while the other remains in their office to support the boarding team by checking on questions such as regulations etc which the boarding team have. The next day they switch and the boarding team stays in the office while the office team boards ships.

SEMPER PARATUS is Latin for “Always Prepared” and is the USCG motto!

USCG: PSC targeting criteria

In its latest Port State Control Annual Report for 2017, the US Coast Guard presented its Safety and Environmental Protection Compliance Targeting Matrix, which is used to decide which ships PSC Officers should board on any given day, in any given port.

Points are assessed in each of the five columns and then summed for a total point score. This numerical score, along with other performance based factors, determines a ship’s boarding priority. The Safety Targeting Matrix illustrates the priority categories and associated operational restrictions which may be

imposed on ships by US Coast Guard Captains of the Port.

I. Ship Management

- 5 Points: Listed Owner, Operator, or Charterer

II. Flag State

- 7 Points: Flag State has a detention ratio 2 or more times the overall average for all flag

states

- 2 Points: Flag State has a detention ratio between the overall average and up to 2 times the overall average for all flag states

III. Recognized Organizations

Priority I: Detention ratio equal to or greater than 2%

- 5 Points: Detention ratio less than 2% but greater than or equal to 1%
- 3 Points: Detention ratio less than 1% but greater than .5%
- No Points: Detention ratio less than .5%

IV. Vessel history

Priority II: First time to US or no port State control exam in the previous 12 months

- 5 Points each: Detention, denial of entry, or expulsion in the previous 12 months
- 1 Point each: COTP restricted the operations of the vessel for safety related issues in the previous 12 months (including LODs)
- 1 Point each: Reportable marine casualty in the previous 12 months • 1 Point each: Marine violation in the previous 12 months

V. Ship Particulars

- 4 Points:

-->General Cargo Ship

-->Ro-Ro Cargo Ship

-->Vehicle Carrier

-->Passenger Ship involved in "day trips" or ferry service

- 2 Points:

-->Bulk Carrier

-->Refrigerated Cargo

- 1 Point:

--> Oil or Chemical Tanker

- Ship Age (Use Delivery Date):

-->0-4 years - subtract 3

-->5-9 years - subtract 2

-->10-14 years - add 0

-->15-19 years - add 3

-->20-24 years - add 5

-->25+ years - add 7

*For Qualship 21 vessels only; points should not be added in this column, but points can be subtracted for age.

Total Targeting Score (Sum of Columns I-V) determines vessels priority (PI, PII, or NPV)

Priority (P)I Vessel:

17 or more points on the Matrix; ships involved in a marine casualty that may have affected seaworthiness; USCG Captain of the Port (COTP) determines a vessel to be a potential hazard to the port or the environment; ships whose Recognized Organization (classification society) has a detention ratio equal to or greater than 2%. Port entry may be restricted until the Coast Guard examines the vessel.

Priority (P)II Vessel:

7 to 16 points on the Matrix; outstanding requirements from a previous examination in this or another U.S. port that require clearing; the vessel has not been examined within the past 12 months per column IV. Cargo operations or passenger embarkation/debarkation may only be restricted if the COTP determines that the vessel poses a safety or

environmental risk to the port. Non-Priority Vessel (NPV): 6 or fewer points on the Matrix. Vessel poses a low safety and environmental risk. The Coast Guard may select and examine vessel using the PSC random selection process.

Downgrade Clause: If a vessel has scored either a PI or PII and has had a USCG PSC examination within the previous 6 months with no serious deficiencies, the COTP may downgrade the vessel to NPV. If the COTP downgrades a vessel, it will be added to the pool of random examinations.

Presently Sri Lanka is not on the list of Flags targeted, REF is not on the list of Ship Managers targeted and Zeamarine are not on the list of Charterers targeted.

About the Writer

Capt. Wahid is a regular contributor and has been an avid reader of 8 Bells. He has responded very positively to the editor's request and has sent us a detailed reminiscence article about his career. His career indeed has been eventful and this article is produced in full for the interest it would generate on members and his shipmates alike.

Capt.Wahid can be contacted at mehranw3@hotmail.com

I	II	III	IV	V
<p>SHIP MANAGEMENT</p>	<p>FLAG STATE</p>	<p>RECOGNIZED ORGANIZATIONS</p>	<p>VESSEL HISTORY</p>	<p>SHIP PARTICULARS (SEE NOTE)</p>
<p>5 POINTS Listed Owner, Operator, or Charterer</p>	<p>7 POINTS Flag State has a detention ratio 2 or more times the overall average for all flag states.</p>	<p>PRIORITY I Detention ratio equal to or greater than 2%</p>	<p>PRIORITY II First time to U.S. or no port State control exam in the previous 12 months</p>	<p>4 POINTS General Cargo Ship Ro-Ro Cargo Ship Vehicle Carrier Passenger Ship involved in "day trips" or ferry service</p>
	<p>2 POINTS Flag State has a detention ratio between the overall average and up to 2 times the overall average for all flag states</p>	<p>5 POINTS Detention ratio less than 2% but greater than or equal to 1%</p>	<p>5 POINTS EACH Detention, denial of entry, or expulsion in the previous 12 months</p>	<p>2 POINTS Bulk Carrier Refrigerated Cargo</p>
		<p>3 POINTS Detention ratio less than 1% but greater than .5%</p>	<p>1 POINT EACH COTP restricted the operations of the vessel for safety related issues in the previous 12 months (including LODs)</p>	<p>1 POINT Oil or Chemical Tanker</p>
		<p>NO POINTS Detention ratio less than .5%</p>	<p>1 POINT EACH Reportable marine casualty in the previous 12 months</p>	<p>SHIP AGE (USE DELIVERY DATE) 0-4 years - subtract 3 5-9 years - subtract 2 10-14 years - add 0 15-19 years - add 3 20-24 years - add 5 25+ years - add 7</p>
			<p>1 POINT EACH Marine violation in the previous 12 months</p>	<p><i>Note: For Qualship 21 vessels only; points should not be added in this column, but points can be subtracted for age.</i></p>

Capt Mehran Wahid – Thumb nail sketch and reminiscences

Jan 1973 – I Joined the Ceylon Shipping Corporation as part of their second batch of Cadets. The ships, (Lanka Kanthi, Lanka Rani, Lanka Keerti etc), were largely manned by foreigners such as Indians, Pakistanis, Filipinos and even a British Master due to a lack of Sri Lankan officers. The Cadets never took leave as they were racing to get through their exams and get appointed as soon as they qualified to positions immediately as CSC wanted to replace the foreigners. We would go from one ship to another without pause. At the time India required Cadets to have 3.5 years sea service to appear for 2nd Mates while the UK required 4 years therefore we went to India for our first exam and after that only spent a year at sea to appear for Mates. For this I went to the UK which was like going from black and white tv to colour! It was not the difference in technology (India had at the time a defunct radar for its radar course and like most of the courses heavily depended on theory), but the

teaching methods were so gloriously different – the students all stood up and said "Good Morning Sir!" when the lecturer walked into class in India, while in the UK the students continued to read the newspaper and do the crosswords until the lecturer pleaded to start! This was a world in which one built up more confidence being treated like a professional and gave me my first taste of living in Europe and would hold me in good stead for what was to come.

Mar 1978 – Entered the (then) Maritime & Technical College in South Shields for the Chief Mates course. This was a UK college where they taught everything from hair-dressing and O-level courses to Marine Engineering and Masters. I remember our classmates were a very rough looking lot with leather jackets having chains on them, uncombed hair, unshaven with earrings and when we walked in on a class of cadets about to finish their lesson, their teacher looked from his neatly uniformed students, (clean-shaven with short haircuts), to us, and in mock-alarm asked "Who are these, lion-tamers??" If you did not have a fairly advanced sense of humour, UK classes would otherwise be rather painful!

In addition to a grounding in weather lore from my father, I picked up a great interest in weather analysis and forecasting here as the young lady lecturer teaching us the subject treated Meteorology as a hobby and not as a job!

She had the latest synopsis chart posted outside our class every day and would compare it with the weather seen out of the window regularly before turning what is usually a boring subject into something quite exciting – Miss P Uttridge would go on to later update the bible for deck officers on the subject, “Meteorology for Seafarers”.

1981 - After a year as Chief Officer on the Lanka Keerti I headed for greener pastures and joined a Hong Kong Company, Ocean Tramping, which proved to be a game changer. In keeping with the Company name we would sail worldwide and on more than one occasion circumnavigate the world in a couple of consecutive voyages usually starting from China and then proceeding to Australia, Europe, USA and return to China. All roads led to China – when we signed off we had to return to Hong Kong for tax purposes which was very convenient as we could leave most of our shopping for then and carry it on the short flight back home!



For the next twenty or so years I served here starting as

2nd Officer and going up to Master but with in between sorties to other



companies before returning here.

In between this twenty-odd years, in 1983 I qualified as Master in Southampton in what was a milder region of the UK compared to the Arctic-like South Shields, at the College of Nautical Studies, Warsash, Southampton (now The Warsash Maritime Academy).

The sorties during my time in Ocean Tramping covered many different ship sizes from a 50m long landing-craft (in which I had to turn all my training upside down and learn to ‘run aground’ on beaches in uncharted rivers in Papua New Guinea), to self-piloting a 270m

long 150,000 DWT Cape-sized bulk-carrier in Japan (in Newcastle I was quite shocked to hear the pilots refer to this as a 'baby cape-sized' as many other vessels calling there were double the size)! This last, Lanka Manel, was also possibly the largest Sri Lankan flagged vessel at the time. The variety of vessels I sailed on also took me on the tiny 1000T Mercantile Shipping vessels which seemed, in the monsoons, to spend more time going up and down than forwards. After one such contract I heard of a vacancy for 2nd Officer on the Saudi Diriyah, at the time one of the four largest combination Ro-Ro-Container ships in the world and even though I had commanded the tiny MSCL ships, I took this job for the container experience I did not have. After the MSCL vessel which was doing 4 kts as its top speed, I joined the Diriyah in Singapore and was on watch as we came out of port doing about 21 kts – it took all my will-power not to yank the telegraph back to slow her down! But in the end such container behemoths were not for me and I went back to the bulk carriers – plodding their way halfway around the world taking for example one month to go from Gove in northern Australia to Iceland via the Cape.

Ocean Tramping took all my past training and much more to get through voyages carrying bulk cargoes to and from countries like Australia, Canada

and the USA with only a handful of Commonwealth officers and a whole lot of mainland Chinese (PRC) crew – sometimes on one year contracts! Probably the most interesting was carrying a full load out of the American Great Lakes in which we went through more than a dozen locks and making sure the maximum draught was not exceeded since we would be prevented from transiting without going back and discharging some cargo (a very expensive exercise of course). The Great Lakes temperatures would drop to 40 below (see a previous article of mine) in winter but in summer it could go up to 40 above and the sun could get so intense that we had to continuously run water on deck to keep the vessel from hogging and increasing the draught! In case you are not familiar with the Great Lakes and St Lawrence Seaway, it is like navigating vessels between sea level and the top of the Niagara Falls!

Then Hong Kong was returned by the British to China and all pretense of Ocean Tramping having nothing to do with China was dropped and it reverted to its true owners, Cosco Hong Kong, and with it the Commonwealth officers were made redundant. Thereafter I sailed with one more Chinese Company (Sino-Trans) on a one year contract including a call to the USA soon after "9/11" and met the huge expectation there that the next attack would come

from a ship together with all the suspicions they had for ships' crew.



In 2004 I joined Mercantile Marine Management and sailed on their vessels carrying rice from Kandla to Dammam, trading from South Africa to West Africa, Antwerp to West Africa and a memorable unexpected voyage from WAF to the USA. This last required all the crew to obtain US visas from Abidjan where some of the US embassy staff may not have heard of Sri Lanka or paid much attention to it before – an entire crew suddenly turning up in deepest Africa for US visas can, even to the most open minded Americans, look quite suspicious!

In 2008 I came ashore finally dropping all anchors to start off as Project Manager for new buildings in Mercantile Shipping which had two vessels being built by Bodewes of the Netherlands. The hulls were completed at Zalev near the Azov Straits in the Ukraine and then towed around to the Bodewes shipyard in Delfzijl (The Netherlands). A photo

record summarizing this from the keel to completed operational vessel can be found at -

<https://get.google.com/albumarchive/114638816278850617279/album/AF1QipMM6ii5uPWGkYJKAnkMFD03XHojG9raOTscb3s?authKey=Cly-4vYoN-9-gE>

In 2011 I went through another life-changer shifting base to work with REF in Germany, moving with my family there – not a step to be taken lightly to go to live in a non-English speaking country where even the signs on the door for “Push” and “Pull” are in German and a simple trip to the supermarket can be traumatic where the only word used for chicken is “Hähnchen” – unless your family had already qualified in basic German and daughter becoming fluent enough to take care of most of your personal official documents (which again are all in German with hardly any English)! Outside of the office learning to live would be like being born again – but that as they say is another story.

Since 2013 I have been DPA for the Mercmarine Group with vessels sailing worldwide including Europe, West Africa, China and USA among many countries including pirate infested waters of the Arabian Sea and Gulf of Guinea. After about 20 years in command including the same Company vessels where the present Masters were one's Chief Officers or Second Officers previously, one is able to communicate and assist Masters at a very basic level.

Potential of hambantota port to be maritime hub in indian ocean

Reprocued from the the article published in 'The Island' on 2nd of January 2020 By Captain Chandra Godakanda Arachchi,



Gladstone LNG, Australia

(Member of the Company of Master Mariners)

It's just over two years since China Merchant's Port Holding Company (CMPHC) leased Port of Hambantota for 99 years. China Merchant Port Holding owning eighty five per cent of the company whilst SLPA holding the remaining share of fifteen per cent. The Hambantota port under CMPHC has made significant strides during the past couple of years in terms of port utilization in imports, vehicle transshipments to various other ports. Ship repairs etc though and local exports

is yet to get off the ground. It appears that CMPHC is planning different phases of port development quite rightly. With a few ships calling Hambantota now steadily, the Port intends to commence bunkering services early this year. It might be pleasing for the locals to witness Hambantota taking carefully measured steps for the business with CMPHC slowly establishing its

credentials as a long-term player in the area which might see locals having their fair share of the pie in the business.

The Port of Colombo has come a long way from being a break bulk port until early 1980s, then starting its container loading and unloading of ships at QEQ (present SAGT) without any suitable equipment. It is a remarkable achievement when SLPA celebrated 7 million TEUS throughput in 2018 thanks to brave decisions taken by SLPA to develop South port. It is

interesting to note that the Port of Colombo took off as a transshipment hub at a time when India was somewhat a closed economy. However much water has flowed under the bridge since then with the Indian economy is entirely different, today. Colombo's strategic location played a big part in achieving what has been achieved. Even today majority of Colombo's transshipment business come from Indian cargo, but there is a risk looming in the horizon upon changes to 'cabotage' laws [which pertain to the right to operate sea, air, or other transport services within a particular territory], in India, which allows global mainliners to call Indian ports direct which were typically feeder ports from Colombo. Risk is in addition to changing shipping dynamics in the Indian Ocean in terms of emergence of regional ports other than Indian ports such as Djibouti and Gwadar. Therefore it is imperative that Colombo changes its course from a transshipment port to become the number one maritime hub in the Indian Ocean. However Colombo is restricted of further expansion beyond South port seaward or North also unavailability of

suitable land closer to the port of for additional industries and services essential for a maritime hub.

Let's see what's might be required for Maritime hub in the Indian Ocean

- * Transshipment hub for containers (Colombo might run out of capacity in the future)

- * Modern Refinery, Maritime hub for oil and gas, LNG, sufficient storage capacity for different products

- * LNG power generation including boil off gas as fuel gas from LNG tanks (associated with LNG imports)

- * Logistic hub connecting Indian coast East and West, Bangladesh, Myanmar, Pakistan, the Maldives and other islands, East African coast, Middle East, West coast Australia and rest of the world

- * Flag of opportunity for ship registration, marina and Yacht registration (Merchant shipping act needs reviewing ASAP)

- * Closer to maritime silk route

- * Bunkering including offshore bunkering (need to streamline process to simple operation, not treating bunker barges as international trading ships)

- * LNG bunkering

- * Offshore supplies and crew changes (need to get rid of red tapes to peace time operation)
- * Dry docking and heavy lifting capacity
- * Safe anchorage throughout the year for various operations (SW monsoon is not ideal for Colombo)
- * Reliable, fast safe boat service day and night
- * International airport within a reasonable distance
- * Selection of star hotels
- * Suitable training centers for service personnel
- * Most importantly no red tapes, no unnecessary holding or delays and professionalism from all stakeholders and operators

Colombo, being an established transshipment port, possesses many of aforementioned attributes, but major drawbacks are a modern refinery and storage tanks for transshipping, handling and exporting crude oil and products, LNG bunkering facilities. There isn't any suitable land available even for building aforesaid facilities closer to the Colombo Port. Another aspect is container handling capacity. Colombo runs the risk of capacity running out even during current slow growth time in maritime transport in the region and, therefore, it

is very much likely to run out of space when maritime transport really picks up in the future in the Asian region. It may not be possible to build another port north of the South port for a container terminal similar to the South port due environmental and various other operational reasons. Unless Colombo is determined to become the maritime hub in the Indian Ocean transshipment business too might drift away to the emerging maritime hub. The SLPA has been performing very well during the past three decades mainly with the transshipment business cash flow, royalties from CICT and SAGT etc, but in case the threat looming in the horizon (changes to Cabotage laws in India and emerging ports) becomes a reality, the SLPA might be struggling, also with extremely excessive employee numbers. The SLPA surely can utilize modern technology (example - Satellite technology for automated straddles for container loading on truck loading etc to minimize manpower) and divert manpower elsewhere.

In the meantime, the Port of Hambantota is in the process of transforming the business with the CMPHC—its two companies—got plans to develop the harbour in different phases yet with a minimum number of employees. There is no doubt the Port of Hambantota will receive overflow of transshipment business from Colombo,

given that the CNPHC quite rightly commenced developing the harbour, knowingly that Hambantota was not in a position to travel much distance with the current facilities. Eventually Hambantota might extend the port outward seaward similar to South port though very much in a big way, for a planned maritime hub. Hambantota is better suited for safe anchorages throughout the year as the port is somewhat sheltered from both South West and North West monsoons. Hambantota, being closer to Maritime Silk Route than Colombo, is certainly an advantage for the ships as they can save time, money and fuel. Another advantage Hambantota possesses is the extent of land available for development contracted to them—some 15,000 acres. In fact, the CMPHC has the capacity to embark on building infrastructure required for a maritime hub slowly but surely. Should it be challenged in future, perhaps Colombo shouldn't be able to hold Hambantota from developing as it might not be within rules of fair competition and equal opportunity (remains to be seen). Removing of unnecessary obstacles should help CMPHC to develop not only the port to its potential but the whole District by setting up industries, which will generate lot of job opportunities for all walks of life for the locals and others alike. The Hambantota District, upon port development, is likely have all the

facilities including top national and international schools, quality hospitals and all other needs including top quality recreational facilities. The Port of Hambantota has all that is required to be the Maritime Hub of the Indian Ocean within the next couple of decades.

Details of the writer has been included after Capt. Godakanda Arachchi's article on LNG in the developments section.

The Ship's Telegraph

By Capt.D.J.Amarasuriya

During the 2019 CMM AGM held at the Royal Palms Beach Hotel, Kalutara, on Sunday 30th June, the day after the AGM, the usual beer session took place while some members and their families, specially the children, had a whale of a time in the swimming pool.

The beers were served in a special area connected to the Cabana (see photos). On the bar was placed a small telegraph which I took the opportunity to have a close look to try and identify where it would have come from. The staff, on observing my interest, asked me what the item was as they had no idea what its purpose was. All they knew that it was something used on vessels at sea.

My explanation seemed to be understood by the staff, but for the benefit of members, I would like to

reproduce the formal explanation as printed on the 2011 New Year Greetings card of the Sri Lanka Ports Authority.



Quote

Traditional Engine Order Telegraph

An Engine Order Telegraph or E.O.T. is a communication device used on a ship (or submarine) for the marine pilot on the navigating bridge to order engineers in the engine room to power the vessel at a certain desired speed. In early vessels, from the 1800s until about 1950, the device usually consisted of a round dial about 9 inches (~ 20 centimeters) in diameter with a knob at the center attached to one or more handles, and an indicator pointer on the face of the dial.

Traditional E.O.T. required a pilot wanting to change speed to “ring” the telegraph on the bridge, moving the handle to a different position in the dial. This would ring a bell in the engine room and move their pointer to the position on the dial selected by the bridge. The engineers hear the bell and move their handle to the same position to signal their acknowledgement of the order and adjust the engine speed accordingly. On modern day ships, the engine speeds are controlled directly from the bridge,

Unquote



About Lighthouses and position fixing

Modern day navigators are totally dependent on electronic navigational aids, ECDIS and what not. There is so much of information available to the watchkeeping officer, that the question arises if all such information is necessary and is the information fully and effectively used?

This takes us back to the 70's and 80's where we had to take sights with the officers being quite proficient and professional in the process and taking pride in marking a near accurate position on the paper charts. Waiting patiently for MERPAS trying to steady oneself on a rolling ship was one thing; running around from port wing to starboard wing was quite another thing in the twilight of sunrise and sunset. As 4th Mates we took our own sights and after independent calculations using the Nories Tables, we took pride if our position was within one or two nautical miles of the Chief Officer's position! Some of us were confident that our sights were more accurate than the Mates!

There were times during the long sea passages in the Arabian Sea during SW Monsoons, doing anything from 10 - 14 knots speed, we had no means of taking accurate sights for 4-5 days or even more. I can remember as 2nd Mate on a tanker heading to the Gulf from Colombo, when we finally got a position,

we were nearly 40 miles off course! Our VHF was our savior as we called other ships which had a SATNAV and got their position and our Radar direction and distance did the rest to help us get back on course.

In all these conditions, wherever we navigated in the world, it was always lighthouses which gave the biggest comfort to navigators. One thing was the fact that we were close to land and another was that we could get an accurate bearing and then check the distance from the Radar to get an accurate position. With the advent of so many position indicating systems, the need for sextants and lighthouses seem to have disappeared.

When coming towards Singapore from the South China Sea in the stormiest of weather, it was the Horsburgh Lighthouse that gave us the hope that we are soon to enter calm waters and that we could look forward to stretching our sea legs and do some shopping in Singapore. It certainly was a great feeling of comfort and protection! But, how many of us know the history of this very famous lighthouse? I traced a leaflet I had obtained from the Maritime Museum in Sentosa in September '79 when I was a 2nd Officer and our ship, an oil tanker, was dry docked in Singapore. The description and diagram of the Horsburgh Lighthouse is as follows.

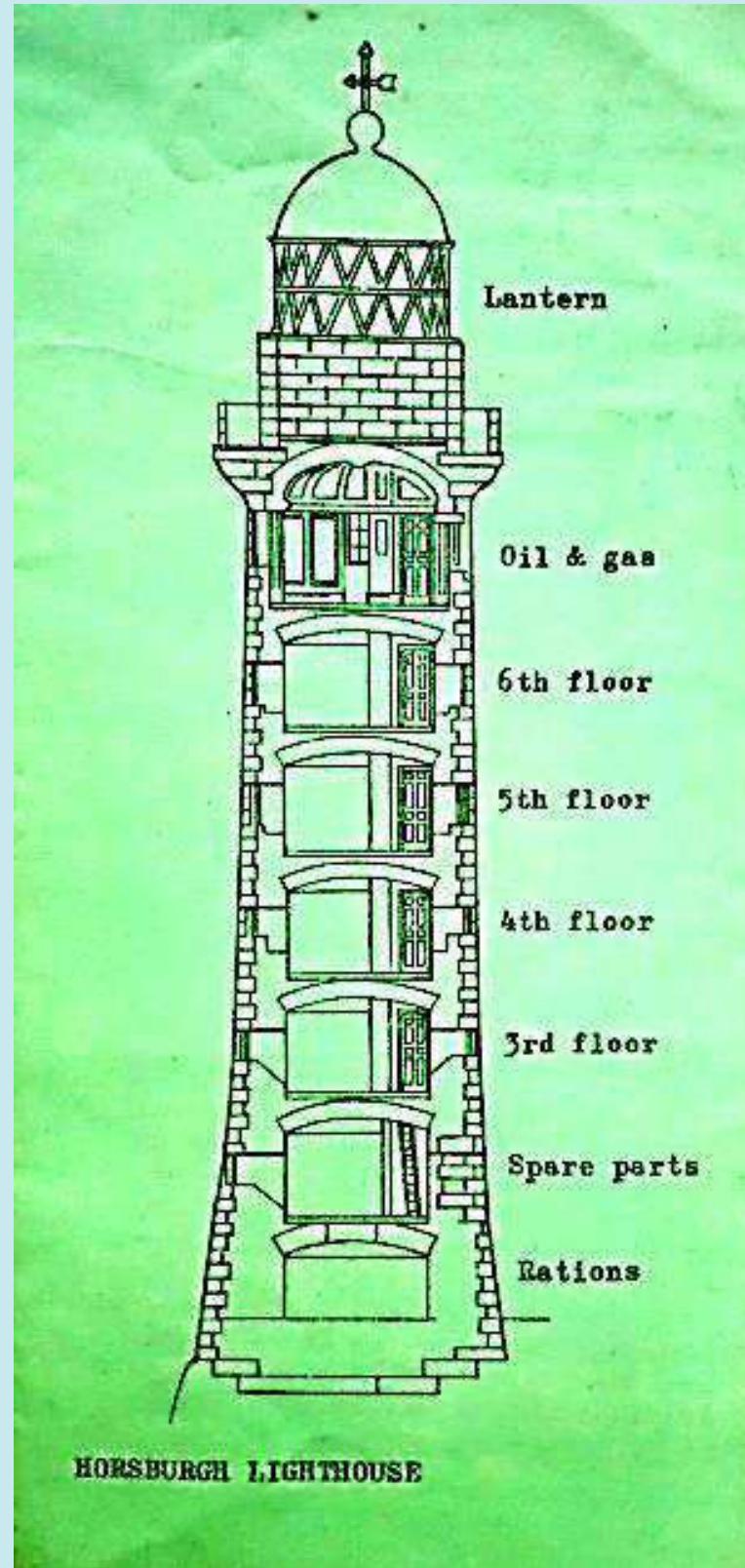
“Horsburgh Lighthouse is one of the group of six lighthouses owned by Singapore and operated by the Port of Singapore Authority

Erected on a lonely rocky outcrop known as Pedra Branca in the South China Sea about 35 miles S.E. of Singapore, the lighthouse was built in 1851 at the cost of \$23,665,57 (Spanish Dollars). It was designed by the Government Architect J.T. Thomson and named after James Horsburgh who was hydrographer to the East India Company.




















The original light source was a multi-wick oil lamp but with progressive improvements over the last 128 years there is now an electric-powered optic and light of 449,000 candle-power which is visible up to 23 miles. Mariners may recognize the lighthouse at night as it flashes a white light every 10 seconds. Located in international waters at the eastern entrance to the Singapore Straits the lighthouse is of inestimable value to the vast volume of shipping transiting the Straits or visiting Singapore which is now the 3rd busiest port in the world.

Visitors to the Port of Singapore Gallery will not fail to notice the fine series of lighthouse models on display in the section on Navigation & Pilotage which includes a model of Horsburgh Lighthouse”

Printed in September 1979, courtesy Port of Singapore Authority



FLAGS REVISED

A Alfa		Keep clear; I don't know the rules.	N November		I have a hangover; do not sound your horn.
B Bravo		I am on fire and don't have insurance.	O Oscar		I require help with my taxes.
C Charlie		Will trade rum for ice.	P Papa		I know the answer is blowing in the wind, but what's the question?
D Delta		I am aground and require bourbon.	Q Quebec		My vessel is healthy and I request free shipping.
E Echo		I am altering my lifestyle.	R Romeo		I am out of beer and require immediate assistance.
F Foxtrot		Will be back in 30 minutes.	S Sierra		Can't you see I don't know what I'm doing?
G Golf		I'll alter course if you will.	T Tango		Why do fools fall in love?
H Hotel		I have a pilot on board and can't afford him.	U Uniform		I can't dance to that music you're playing.
I India		Frigging in the rigging; stay away.	V Victor		My other boat is way nicer.
J Juliet		My jib is bigger than yours.	W Whisky		I am over-insured; please ram me now.
K Kilo		I wish to communicate by text.	X X-ray		This is not my spouse.
L Lima		I have a pre-existing condition.	Y Yankee		I am in distress and require a sedative.
M Mike		My vessel is stopped and I'm taking time to smell the seaweed.	Z Zulu		This is harder than it looks.

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Being a Merchant Navy officer's spouse is not everyone's cup of tea. You need to be ferociously independent. It is not easy but yes it is Worth it! Only those can survive as sailor who are passionate and strong. The distance will make you stronger. One thing I would never ever like to change about my life would be his uniform! I will never trade it with anything else. It fills me with immense pride when he wears it. It takes a lot of strength to be away from the only person in the whole wide world whom you chose to spend your life with, but I oblige him with utmost pride. I am madly in love with my Mariner and that is what makes it going even if the thousands of miles separates us! I am really strong in handling the distance so my extended family feels proud of me for not being a "cry baby" while blood relations doubt me to be in distress when he is not around and sometimes show their concern in such funny ways that I really laugh it out!

Reflecting on the Past

An old sea captain was sitting on a bench near the wharf when a young man walked up and sat down. The young man had spiked hair and each spike was a different color.... green, red, orange, blue, and yellow.

After a while the young man noticed that the captain was staring at him. "What's the matter old timer, never done anything wild in your life?"

The old captain replied, "Got drunk once and married a parrot. I was just wondering if you were my son!"

