# News Waves

Jul - Sept 2022 Edition 2022-03

ROXANA SHIPPING S.A.

# Contents




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Please recycle

# Message from TEK

***"In this challenging environment, undistracted, we restlessly continue working for consolidating the culture of an open and fearless organization, where all of us will be comfortable and fearless to speak up our concerns, share our ideas, our failures and success, actively consider and listen to others in our team."***

The 3rd quarter of 2022 finds the dark clouds of the war in Ukraine ever darker. Covid19 is still present for more than two consecutive years. The virus is weaker but more infectious, despite that the measures are de facto not followed ashore and despite that the coastal states keep the same routines and response for the seamen. Unless the coastal states apply the relaxation for the seamen also and unless ships are strictly applying the covid19 management plan, there will be a serious business disruption ashore and on board. The war and the covid19, enhancing the worldwide instability, are an additional burden for crew allotments and travel. All of us on board and ashore are prepared with the assumption that this crisis will last throughout 2022 at least, and we are committed and resilient for IF EffEff operations in terms of crew management, supplies of stores / spares and ship attendances, inspections and audits.

The good news is the new wage scale and the enhanced internet on board are already implemented and the e-wallet platform is now used across the fleet and is successfully coping with the Russian banks sanctions.

Committed to ensure for our seamen undistracted port operations, we continue to push through our shipping associates the concept of remote surveys, and we focus in installing the equipment and the software which will enhance the communication capabilities, video and audio.

In this challenging environment, undistracted, we restlessly continue working for consolidating the culture of an open and fearless organization, where all of us will be comfortable and fearless to speak up for our concerns, share our ideas, our failures and success, actively consider and listen to others in our team.

Last year we introduced the workshop "Physical wellbeing - exercises" to emphasize the importance of physical exercising for the health, and the workshops "Leadership and the Adair model", "Teamwork and the Belbin team roles" and related them to 3x3x3 Roxana soft skills model. We also introduced the workshop "How you respond matters", and related it to the human performance principles, humans err, humans want to do a good job, human error is opportunity for system improvement. Next in the queue is the "context drives behavior" workshop, which is planned for next Company management review and then for the officers learning engagements in Dec22 in Roxana training center in Vladivostok.

The 3rd officers ashore reflective learning engagements of 2022 were conducted in September, remotely through Zoom platform, with the participation of about 100 officers, ratings and shore employees, facilitated by myself with the assistance of Capt P. Sidorkin, Capt D. Verkhoturov and selected officers.

We continued to elaborate on human performance with the workshops on "Communication for resilience and care, Take care of myself and my team, Learner mindset, How you respond matters, while this year we introduced the Physical wellbeing – exercises workshop.

During all above sessions we had also the chance to elaborate on the concepts of "fearless ego for success", the most important "me", take care about myself and my team, Return Home Healthy all times! and the human-centric S.H.E.L.L model, the three pillars (CPAR Incident reporting and investigation, corrective and preventive actions, MoC management of change and RM risk management) and engagement, the initiation procedures simplification, the soft skills and the reflective learning.

We further concentrated on the concept of Health (physical and mental) and Competence (hard and soft) for performance, the concept of Fair and Just culture for a No Blame culture, based on the three human performance principles Humans err, Humans want to do a good job and human error is opportunity for system improvement, as prerequisites for an open and fearless organization.

The interim Management Review meeting was conducted in Aug22, where we repeated the workshops Workshop Communication for Resilience and Care, Let's talk, Take care of myself and my team, Leading my team's wellbeing and managing fatigue, and we introduced the Teamworking and the Belbin team roles $360^0$, taking the step from the self assessment to the $360^0$ assessment.

A remarkable number of projects are running in parallel to manage all changes necessary for our Company to achieve our short and long term objectives. Ships are included as project team members, and even if not, the Follow Up Notification (FUN) sent out to the Fleet facilitates crew engagement to all our projects.

We are happy to confirm once more the steady course of the Fleet and the Company towards high levels of performance. All above and other interesting topics are included in the Hot Stuff section.

The New Rules section contains updates

on the released Joint CDI-SIRE HVPQ 6th edition, SIRE2 documentation, Shanghai new rules, Biofuels IMO Regulatory Change, BWMS commissioning testing and reports from PPR9, MsC105 and MEPC78.

Update on the newbuildings and new acquisitions program is reported in the New Ladies on the block section.

The Lessons Learnt section continues to remind us wrong practices that we should refrain from.

Capt Konstantinos Anisis, having served the marine industry for more than 50 years and our company for 16 years, as fleet sup/nt, DPA and crew dept manager has now retired. We all thanked him for his contribution to our Company success. At the same time we welcome Capt Alexander Vladimirovich Kozlov and Capt. Vitali Vitalievich Bekirov, who joined Operations and crew dept respectively. Details on the above, along with the records of promotions throughout the fleet, are addressed in the Human Resources section.

Other interesting topics are addressed in the remaining sections of this edition.

Enjoy the reading!

Takis E. Koutris
Managing Director

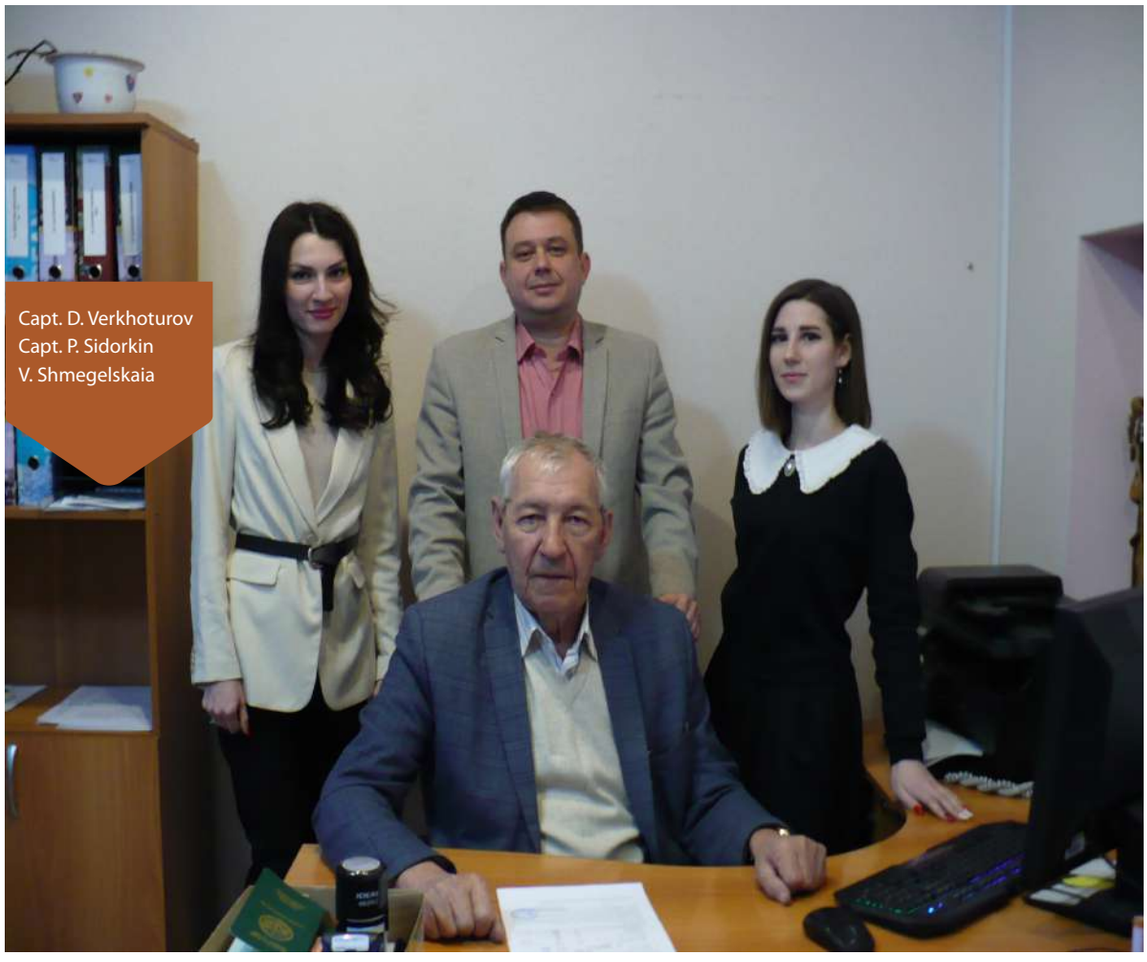
# RoKcs Activities

For the time being, end of September 2022, RoKcs pool consists of about 470 seamen, 275 of them are tanker pool and 195 bulker pool. Despite of world crisis RoKcs is effectively conducting the crew changes on tanker and bulker fleet for our customers.

In the mid of September our regular Zoom DMS learning engagements successfully took place for wet and dry pool of deck and engine officers and for deck and engine rating as well. Particular information can be found in separate section of this edition.

Capt. Verkhoturov and Capt. Sidorkin are invited by VMC Director Mr. Manko for cadets' inauguration ceremony, to be held in 30Sep22.

In a separate note Ms. Viktoriia Shmegelskaia left RoKcs Crew Coordinator position for working in the operations dept of another domestic company. She worked with us almost one and half years. The cooperation with her was pleasant and fruitful. We wish Viktoriia good luck on her new journey.



Capt. D. Verkhoturov
Capt. P. Sidorkin
V. Shmegelskaia

*"Crewing Agency Roxana Kristen Crewing Services" LLC was established in 2008 recruiting seamen on Containers, Bulkers and Chemical Tankers"*

## RoKcs external learning engagements and training activities

RoKcs in liaison with Roxana and ROKS, were active as usual in identifying useful webinars for the pool of officers and ratings. During the period 01Jul22 - 30Sep22, following learning engagements were recommended:

**Energy Institute – Toolbox project**
• The importance of just culture when managing non-compliance
• Line of fire - What can we learn from previous incidents?
• Learning from what goes right
• The role of leadership in accident investigations
• The importance of just culture when managing non compliance
Energy Institute is an association for people who work across the world of energy. The EI introduced the Toolbox project, which is a series of monthly webinars that will run throughout 2022, exploring various topics to help organizations better learn from past incidents.

**Helmepa**
• Operational Safety Hot Topics

**BIMCO**
• The BIMCO ETSA Clause for Time Charter Parties
• CII
• The importance of the BIMCO Infectious and Contagious Diseases Clause
• Russian coal – sanctioned or back in business?

Our officers ashore were given the chance to get updated on the above topics, in a more relaxing atmosphere ashore.

## Tanker Bulker senior / junior Officers and Ratings remote reflective learning engagements Sep22

The reflective learning engagements of Officers, Junior Officers and Ratings ashore were conducted remotely with the use of Zoom platform for 51 officers (38 Tanker and 13 Bulker) and 15 ratings (11 Tanker and 4 Bulker) on 14-16Sep22, and for 24 Junior officers (16 Tanker and 8 Bulker officers) on 22Sep22.
All learning engagements were facilitated by our Managing Director Takis Koutris, with the assistance of RoKcs Training Officer Capt Pavel Petrovich Sidorkin and General Manager Capt Denis Valentinovich Verkhoturov.
In particular the purpose of the learning courses, which took place in September 2022, was to refresh Officers and Ratings's knowledge on the Company's Documented Management System (DMS), Bridge Team Management (BTM) and Engine Room Team Management (ERTM).
Topics like the "fearless ego for success" concept, Company Vision, Mission and policies , the S.H.E.L.L model, the three pillars and engagement (Incident reporting investigation and CPARs / Management of Change / Risk Management), Health and competence for performance, Human performance principles, Fair and Just for no blame culture, Health and Safety aspects and management, Environmental aspects and management, Quality management, DMS reporting and document control, Ulysses Doc Manager, Danaos crewing, Career development and appraisals, emergency preparedness, , Oil Record Book, Garbage Management, Security management, Cyber security management, update on last Management Review and KPIs, Cargo Operations, Bunkering procedures, New Rules, Log Book entries, observations from 3rd party inspections and commercial issues were discussed.
Five workshops were conducted with the aim to boost the development of a Fair and Just for No Blame culture for a fearless organization, where all of us feel comfortable to speak up his concerns and his ideas and actively listen and consider the others in his team.
The five workshops, which were conducted, are listed below:

| Topic | Officers | Ratings | Jun Off |
|---|---|---|---|
| Workshop Communication for Resilience and Care - Let's talk | 15Sep22 | 14Sep22 | 22Sep22 |
| Workshop Take care of myself and my team - Leading my team's wellbeing | 15Sep22 | 14Sep22 | x |
| Workshop Learner Mindset | 15Sep22 | 14Sep22 | x |
| Workshop Physical wellbeing, building healthy habits: Exercises | 16Sep22 | 14Sep22 | 22Sep22 |
| Workshop How you respond matters | 16Sep22 | x | 22Sep22 |

## Tanker Bulker senior / junior Officers and Ratings remote reflective learning engagements Sep22

Upon completion of each workshop all attendees filled in on-line questionnaires and course evaluation forms.

Links with the responses analytics of the questionnaires were distributed to all participants for their review and a further discussion was carried out on the analytics.
Conclusions, suggestions and action plan per workshop is reported below.
Out of the workshop evaluation following is concluded:
► The vast majority of the participants were happy with the content and the duration of the workshop. The theme of the zoon conference was found very relevant, regardless of the format. In a short period of time, a very large amount of material is given - this is a big plus, which is called "I came - I saw - I won!"
► In some cases it was requested
- more timely determination and appointment of team roles, particularly facilitator, PC operator, presenter to ensure the best of their contribution
- meetings come back to physical, face to face and use of paper and e-version, as applicable

► There was a clear demand for physical meetings and opportunity to have live interactions with the facilitators and the Managing Director.

Our Managing Director T. Koutris confirmed that, all going well, we plan physical meetings for Dec22 engagements and that all issues raised this time will be considered for the next workshops.
Finally all participants were encouraged to contact their facilitator, their managers, RoKcs/ capt Pavel Petrovich Sidorkin and capt Denis Valentinovich Verkhoturov, and their managing director T. Koutris, anytime for any idea or concern.
The workshops conducted this time are analytically described below.

## Tanker Bulker senior / junior Officers and Ratings remote reflective learning engagements Sep22

### 1st Workshop: "Communication for Resilience and Care – Let's talk"

***The workshops "Communication for Resilience", renamed "Communication for Resilience and Care", supplement the "Take care of myself and my team" workshops, using incidents and everyday engagements and consolidate proposals for:***

- ***developing a culture of connection, thank you and positive communication as an evidence of care, appreciation and respect***
- ***increasing the awareness for all participants why and how EffEff communication in a team boosts the individuals and the team's mental health and resilience, hence team's HSQE IF EffFff operations.***

***The questionnaire is designed for us to***:

- ***increase the awareness and reduce the stigma of mental health***
- ***introduce the ALL ACT drive*** ***A***sk***L***ook***L***isten ***A***ct***C***heckback***T***akecareofyou (***Feel touch taste and smell is also valid ALL FACT)***
  ***as a means to approach a colleague suffering.***
- ***empower EffEff communication, particularly better conversations about mental health***

**1 Appreciation**

Thank you all, 38 Tanker officers, 13 Bulker officers, 16 Junior Tanker officers, 8 Junior Bulker officers and 15 ratings, for your reflective learning engagements in the workshop " Communication for Resilience and Care – Let's talk" and for:

► the prompt and proper fill in of the questionnaire

► your further proposals to improve the way we approach a struggling colleague and show our genuine interest

**2 Background**

2.1 The series of workshops "Communication for Resilience", renamed "Communication for Resilience and Care", delivered since Jun18, supplements the "Take care of myself and my team" series of workshops.

2.2 This workshop:

► Based on

- the 4 PnS Resilience modules of Making connections, Connection with home, Gratitude and Positive communication,
- the Shell PnS Letstalk course (as of MR20-02)

► and using incidents and everyday engagements on board, consolidates proposals for:

- developing a culture of connection, thank you and positive communication as an evidence of care, appreciation and respect
- increasing the awareness for all participants why and how EffEff communication in a team boosts the individuals and the team's mental health and resilience, hence team's HSQE IF EffFff operations.

2.3 During the "Communication for Resilience and Care, LetsTalk" workshop the facilitator and his team had the opportunity to:

► Review the Resilience Vol2 and Vol3

► Go through the PnS "Let's talk" module, available off-line and in Russian as follows:

- Module 1 Online - We all have a State of Mental Health
- Module 2 Online - Support Structures
- Module 3 Online - ALL ACT. Supporting Others
- Module 4 Online - Promoting Positive Mental Health and Reducing Stigma, along with the Stigma awareness video

Mental health is increasingly recognised within the shipping industry as an important issue. There is a growing awareness that our seafarers suffer a higher level of mental health issues and suicide compared to land-based workers. However, we may find mental health issues difficult to talk about.

## Tanker Bulker senior / junior Officers and Ratings remote reflective learning engagements Sep22

**3 Purpose**

These workshops aim to:

- ► reduce the stigma of mental health in shipping,
- ► empower seafarers to have better conversations about mental health together and
- ► help them to know how to access professional support when it is needed.
- ► and introduce the ALL ACT drive **A**sk**L**ook**L**isten **A**ct**C**heckback**T**akecareofyou (**F**eel touch taste and smell is also valid ALL FACT) as a tool of communication for resilience and care for your team and for a team performing IF EffEff.

**4 Key messages**

The key messages of the course, as passed on to the participants:

- ► We can all help each other at the human level, feeling confident to ask your colleagues: "Are you ok? What could be done to make you feel better?"
- ► Using ALL ACT is a structured way to open a conversation and support our colleagues
- ► Be aware of the help available to support our colleagues and make sure to take care of yourself too.

**5 Records**

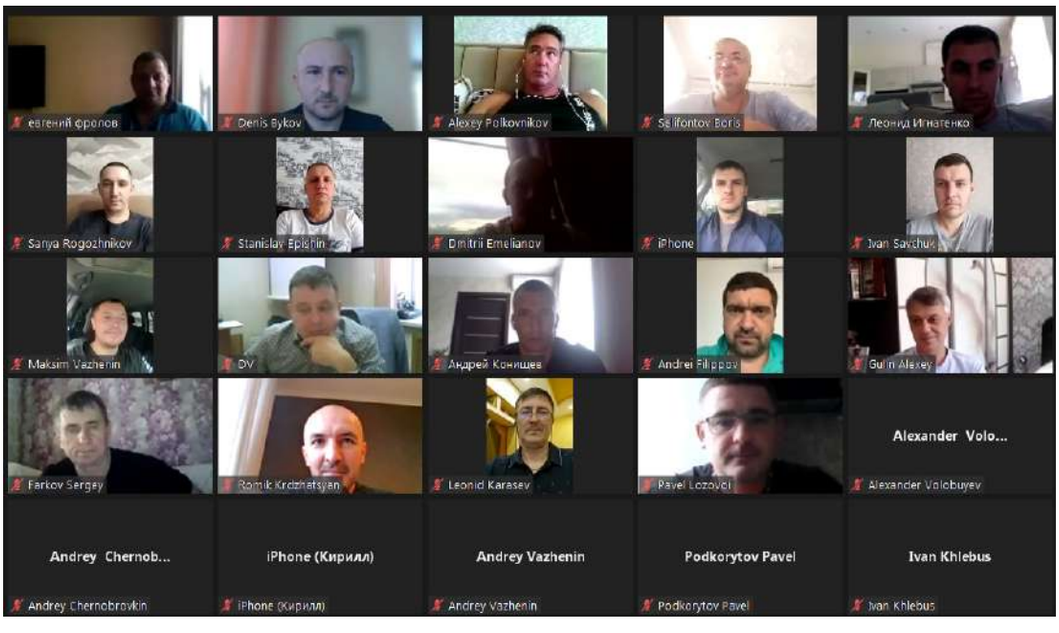
5.1 Concluding the workshop

- ► the relevant questionnaire was filled out online, verifying the knowledge obtained and keeping a record of each one's personal commitments.
- ► the evaluation questionnaire filled out online, with evaluation, topics and proposals for improvement of the workshop

5.2 A thorough list of questions and methods of approach for starting a sustainable conversation with a struggling colleague is saved in the records of the workshop.

**6 Actions and follow up**

- ► Out of the workshop questionnaire
  - The awareness of the value of approaching and colleague with mental health issue and how to do it in the proper manner was verified
  - The fact that you do not need to be a psychologist or a counselor or a doctor to apply the ALL (F)ACT approach and help a colleague with mental health issues and the value of EffEff communication was highlighted for the IF EffEff operation of a team
  - We will continue to work on these workshops and the communication and mental health concepts introduced to ensure that the equation take care about myself = take care of my team is clearly understood and is driving our behaviour to ensure IF EffEff operations for our team.



## Tanker Bulker senior / junior Officers and Ratings remote reflective learning engagements Sep22

### 2nd Workshop: Take care of myself and my team – Leading my team's wellbeing

***The "Take care of myself and my team" workshop introduced since Jun18, is elaborating on actual accidents(different scenarios), passing the message Take Care of myself = Take Care of my team, help each other to perform IF EffEff and all return Home Healthy.***
***This workshop is now further developed to the "Take care of myself and my team, Leading my team's wellbeing", with focus on the Shell Pns Leadership Skills for Crew Wellbeing module, designed for us to elaborate on the why:***

- ***a leader's, and a team's member, key priority is his team's wellbeing***
- ***a fearless organisation, where all feel comfortable to share their success and failures and are open to learn from each other, is prerequisite for a team's wellbeing***

***and relate the Roxana 3x3x3 soft skill model, and particularly EffEff communication, the human performance principles and how the qualities of a leader or a team member are applied to ensure his and his team's wellbeing and IF EffEff operations.***
**The related questionnaire is a tool for each individual, in any role, to understand:**

- ***the level of his understanding on the wellbeing topics of the workshop***
- ***how HE feels fearful and open to contribute to his team's wellbeing (self assessment)***
- ***his own perception on how his leader and his team are boosting the fearless organisation for the well beina (360$^0$ assessment) .***

**1 Appreciation**

Thank you all, about 38 Tanker officers, 13 Bulker officers, and 15 ratings, for your reflective learning engagements in the workshop "Take care of myself and my team – Leading my team's wellbeing" and for:

- ► the prompt and proper fill in of the questionnaire
- ► your further proposals to improve the way we lead our team's wellbeing.

**2 Background**

2.1 The "Take care of myself and my team" workshop is introduced since Jun18, based on the relevant PnS resilience modules and is elaborating on actual accidents(different scenarios), passing the message Take Care of myself = Take Care of my team, help each other to perform IF EffEff and all return Home Healthy.
This workshop is now further developed to the "Take care of myself and my team, Leading my team's wellbeing", with focus on the Shell Pns Leadership Skills for Crew Wellbeing module.

2.2 Based on

- ► the 4 modules of Shell PnS Resilience vol1, in Russian also, Change is a Part of Living, Looking at Situations in a Different way, Take care of yourself, Take Decisive Action
- ► Leadership Skills for Crew Wellbeing Shell PnS module
- ► the Roxana "Fearless Ego for Success" concept
- ► the Roxana 3x3x3 soft skills model

this workshop has been developed for Captains and Chief Engineers to help them develop their leadership skills in order to create a learning culture and transparency in workplace where crew feel confident to talk about health and wellbeing. However the same concepts apply for any leader or team member of any team and team's wellbeing (health, physical and mental).

2.3 During the "Take care of myself and my team, Leading my team's wellbeing" workshop the facilitator and his team had the opportunity to elaborate on the Leadership Skills for Crew Wellbeing, based on the 3 video modules in information onsite, running the videos offline as well elaborating on what sort of leader is required to best manage the well being of his team, by creating:

- ► a workplace where the well being of the team is one of the key priorities
- ► an environment of open and without fear communication

## Tanker Bulker senior / junior Officers and Ratings remote reflective learning engagements Sep22

**3 Purpose**

This workshop is designed for us to:

- ► elaborate on the fact that a leader's, and a team's member, key priority is his team's wellbeing.
- ► A fearless organisation, where all feel comfortable to share their success and failures and are open to learn from each other, is prerequisite for a team's wellbeing
- ► relate the Roxana 3x3x3 soft skill model, and particularly EffEff communication, the human performance principles and how the qualities of a leader or a team member are applied to ensure his and his team's wellbeing and IF EffEff operations.

The related questionnaire is a tool for each individual, in any role, to understand:

- ► the level of his understanding on the wellbeing topics of the workshop
- ► how HE feels fearful and open to contribute to his team's wellbeing (self assessment)
- ► his own perception on how his leader and his team are boosting the fearless organisation for the well being (360deg assessment).

**4 Key messages**

Key messages of the course were passed on to the participants a leader, even a team member, is required to:

- ► best manage the well being of his team, not by intimidation, command and control, but by creating:
  - • a workplace where the well being of the team is one of the key priorities
  - • an engaging environment for open and fearless communication
- ► be emotionally fit, his emotional fitness is pre-requisite to manage his team well being, to ensure that:
  - • state of mental health of the individuals is assessed and managed
  - • the state of the team's well being in our environment can be assessed
  - • The AllLookListen (Feel) ActCheckbackTakecareofyourself principle applies to manage the mental health
- ► The most important asset for a leader, along with himself, is his team
- ► be aware of the principles of human performance, ie:
  - • Human errors happen, but they are opportunities to learn, blame fixes nothing
  - • Humans want to do a good job, humans are not to blame although reckless conduct is not tolerated
  - • Human error reflects to system error, systems to be continually revised to be more error tolerant, and more engaging, considering that context drives behavior

**5 Records**

Concluding the workshop

- ► the relevant questionnaire was filled out online, verifying the knowledge obtained and keeping a record of each one's personal commitments.
- ► the evaluation questionnaire filled out online, with evaluation, topics and proposals for improvement of the workshop

**6 Actions and follow up**

- ► Out of the workshop questionnaire following is concluded:
  - • The vast majority of our colleagues feel comfortable to share their failures and success with their team and are ready to learn from each other
  - • EffEff communication is still a challenge, with room for improvement
  - • our organisation is in a steady course, in line with our IDEA Vision, towards a fearless organisation

  we will then restlessly work in providing the context that a fearless organisation can flourish for the sake of our wellbeing and IF EffEff operations.

It was highlighted that:

- ►The most important asset for a leader and a team member, along with himself, is his team
- ►As a leader what I say, what I prioritise, what I measure, what I do reflect on my team
- ►Fear is freezing the mind of team members, reducing their capacity to think and act IF EffEff
- ►Isolation, distraction, bad mood, anxiety, stress and depression are signs of poor mental health

We will then restlessly work in providing the context that a fearless organisation can flourish for the sake of our wellbeing and IF EffEff operations.

## Tanker Bulker senior / junior Officers and Ratings remote reflective learning engagements Sep22

### 3rd Workshop: Learner mindset

***The Learner Mindset is a skill set introduced as a tool for everyone to grow their ability to share and learn from mistakes and successes and speak up openly in a safe environment.***
***This workshop is designed for us to introduce the Learner Mindset as a tool towards the fearless organization, where all of us are open to admit failures, acknowledge success, ask, learn and improve.***
***The relevant questionnaire is developed for each one to:***

- ***Verify the awareness of the Learner mindset concept***
- ***evaluate to what extend he is performing on Learner's mindset (self evaluation)***
- ***evaluate to what extend his peers, his superiors and the organisation is performing on learner's mindset (360$^0$ assessment).***

**1 Appreciation**

Thank you all, 38 Tanker officers, 13 Bulker officers and 15 ratings, for your reflective learning engagements in the workshop " Learner mindset" and for:

- ► the prompt and proper fill in of the questionnaire
- ► your further proposals and feedback, evaluating the workshop in terms of more to learn, most impact
- ► recording your personal commitments for next day actions so that you consistently adopt the Learner's mindset in your everyday life.

**2 Background**

2.1 In the "Learner Mindset" workshop we had the chance to elaborate on:

- ► The Roxana "Fearless Ego for Success" concept, representing Company Governance, particularly , the most important ego, the 3 Human performance principles, the reflective learning engagements, the Fair and Just for no Blame culture, as boosting an environment where all of us feel comfortable to speak up and learn from failures and successes.
- ► the Company IDEA vision, as introduced since 2019, consolidating the core values when conducting business, particularly Innovation and thinking outside the box, Dialectic in respecting diversities and harmonizing opposite ideas, Excellence in reaching where you cannot, Aristocracy in modesty are some of the core values adopted.
- ► the Communication for Resilience and Care, and the Communication for success workshops, based on the Resilience and Leading my team well being modules of Shell PnS, highlighting the value of the communication skills set for a team to perform in a fearless environment
- ► our revised Communications policy and process, as introduced in Jun19, along with the Roxana 3x3x3 soft skills model, incorporating the communications skills as pre-requisite for IF EffEff performance for a team leader and a team member.
- ► the Shell Pns introduced Learner Mindset, as a tool for everyone to grow their ability, learn from mistakes and successes and speak up openly in a safe environment.

**3 Purpose**

3.1 This workshop is designed for us to introduce the Learner Mindset as a tool towards the fearless organization, where all of us are open to admit failures, acknowledge success, ask, learn and improve.

3.2 The relevant questionnaire is developed for each one to:

- ► Verify the awareness of the Learner mindset concept
- ► evaluate to what extend he is performing on Learner's mindset (self evaluation)
- ► evaluate to what extend his peers, his superiors and the organisation is performing on learner's mindset (360deg assessment).

**4 Key messages**

Key messages of the course were passed on to the participants, ie the Learner Mindset is:

- ► pre requisite for the IDEA vision values of the Company
- ► Facilitating tool for the Mission statement of the Company
- ► Going along with a fearless environment, grown in the Fair and Just for No Blame culture

## Tanker Bulker senior / junior Officers and Ratings remote reflective learning engagements Sep22

**5 Records**

5.1 Concluding the workshop

- ► the relevant questionnaire was filled out online, verifying the knowledge obtained and keeping a record of each one's personal commitments
- ► the evaluation questionnaire was filled out online, with evaluation, topics and proposals for improvement of the workshop

**6 Actions and follow up**

- ► Out of the workshop questionnaire responses:
  - the level of understanding of the topic of the workshop is very satisfactory for all participants.
  - related to adopting the Learner Mindset vs the Fixed Mindset in our working environment the Learner mindset is reported prevailing, as follows:

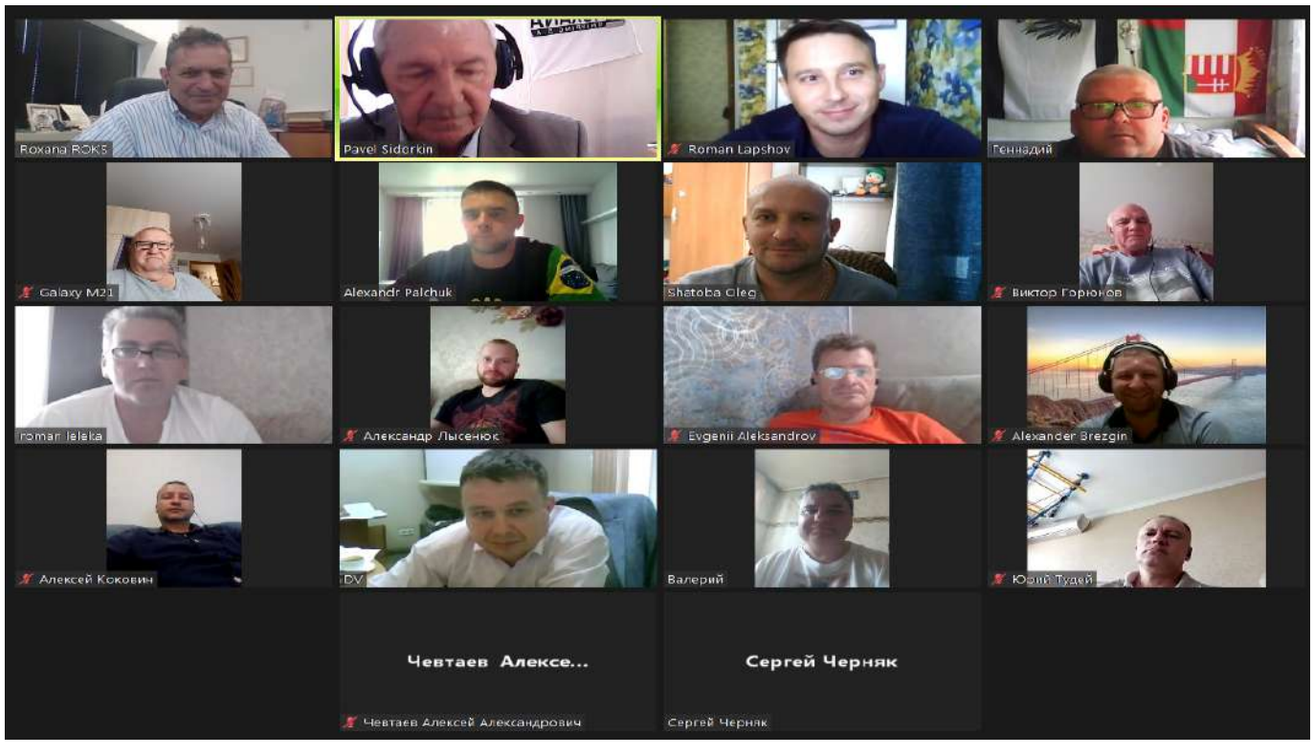
| Learner | Myself (%) | | Superior (%) | | Master (%) | | Organization (%) | |
|---|---|---|---|---|---|---|---|---|
| mindset | LM | 50/50 | LM | 50/50 | LM | 50/50 | LM | 50/50 |
| T | 63 | 31 | 43 | 40 | 54 | 28.5 | 43 | 17 |
| B | 69 | 23 | 54 | 38.5 | 54 | 23 | 54 | 15.5 |
| R | 60 | 20 | 30 | 30 | 30 | 10 | 10 | 10 |

It was highlighted that:

- in a Fair and Just for No Blame environment employees are encouraged to take greater personal responsibility for their actions, considering that reckless conduct is not tolerated.

We will continue to:

- focus on developing a fearless environment for the Learner Mindset to thrive
- advocate the Learner Mindset for the fearless organization to thrive



## Tanker Bulker senior / junior Officers and Ratings remote reflective learning engagements Sep22

### 4th Workshop: Physical wellbeing – Building Healthy Habits

- ***Our Company's principal order is "Return Home Healthy".***
- ***Working on ships or for ships, on board or ashore can be physically and mentally challenging, so it is very important to look after yourself.***
- ***Creating healthy habits during your time onboard or ashore is an easy way to make small changes that can help you stay healthy and fit for service. You can practice these habits at home too, to help build a healthier body and mind for you and your family. Being in good physical and mental health will also help you built up your resilience and perform IF EffEff, wherever you are!***

***This workshop:***

- ***Elaborates on the fact that our physical health and fitness is the basic prerequisite for our wellbeing and our IF EffEff performance.***
- ***Proposes simple and short routines for physical exercise and Identifies the barriers and catalysts for us to allocate the time that is deserved for our physical wellbeing, thus making physical exercise a weekly routine.***
- ***Prompts the commitment of each individual to improving his physical wellbeing.***

**1. Appreciation**

Thank you all, 38 Tanker officers, 13 Bulker officers, 16 Junior Tanker officers, 8 Junior Bulker officers and 15 ratings, for your reflective learning engagements in the workshop "Physical wellbeing – Building Healthy Habits".

**2. Background**

In the "Physical wellbeing – Building Healthy Habits" workshop we had the chance to elaborate on:

***Health (physical and mental) and Competence (hard and soft) are the prerequisites for IF EffEff operations***

**2.1 Physical wellbeing - Industry**

**2.1.1 Energy Institute**

Energy Institute relevant publications

- A recommended fitness standard for the oil and gas industry, was issued in 2011.
  - This publication provides an introduction to fitness standards and makes recommendations for minimum fitness standards for people who work in the oil and gas industry.
- Fitness assessment instruction manual, was issued Jun11
  - This publication is a practical instructions manual for the administration of the recommendations in the EI's A recommended fitness standard for the oil and gas industry.

**2.1.2 IOGP relevant publications**

- 384 - A roadmap to Health Risk Assessment in the oil & gas industry
- 392 - Fatigue management in the workplace (in English and Russian)

**2.1.3 The Swedish club**

- In the AGM21 a presentation was given on the importance of physical exercise for the brain fitness, based on recent neuro physical researches

**2.1.4 Partners in Safety, http://www.maritimewellbeing.com/**

- Fatigue risk management was introduced in 2020 elaborating on fatigue symptoms and best practices for sleeping and managing jet lag
- Physical wellbeing and particularly Building healthy habits - Physical exercise was introduced in 2021.
- It consists of helpful information and some useful example activities, which anyone can try anywhere, anytime.
- Building healthy habits – nutrition: Another module is expected to be released within 2022

## Tanker Bulker senior / junior Officers and Ratings remote reflective learning engagements Sep22

**2.2 Health and Performance – Roxana**

**2.2.1** Health and competence for performance
was introduced with DMS revisions Dec20, justifying the statement that health and competence are pre-requisites for IF EffEff .

**2.2.2** Take care of myself and my team - Managing fatigue
The "Take care of myself and my team" workshop is introduced since Jun18, based on the relevant PnS resilience modules, further developed to the "Take care of myself and my team, Managing fatigue" based on the Shell Pns Fatigue risk management module and is elaborating on actual accidents(different scenarios), passing the message Take Care of myself = Take Care of my team, help each other to perform IF EffEff and all return Home Healthy.

**2.2.3 Physical wellbeing: exercises**
In early Jan22 a circular on physical exercises was sent to employees ashore and on board,

► highlighting that
- in line with the "Fearless ego for Success" principle (the most important person on earth is me) it is very important for all of us to look after ourselves and our physical health in particular.
- Creating healthy habits during our time at the office and home is an easy way to make small changes that can help us stay healthy and resilient and this without the need of special instruments or equipment.
- as per CMSM par3.5 health (physical and mental) is a basic prerequisite for success, ie IF EffEff operations.

► quoting http://www.maritimewellbeing.com/category.aspx?cat_id=1033 with links to different elements of the 'Building healthy habits' program, and attaching for easy reference the:
•Building Healthy Habits booklet • Building Healthy Habits cards

► And suggesting to each one of us, his team and his family to
- print out in A4 the exercise cards.
- go through the Building Healthy Habits booklet and the links
- start applying the program, as illustrated in the booklet and the cards

***Proper physical exercise results to:***
- ***Extended life span***
- ***Reduced cancer cases***
- ***Heart, lungs and muscles fitness***
- ***Body balance and motion***

**2.3 Building Healthy Habits**

**2.3.1 Partners in Safety (PnS) "Building Healthy Habits"**
**was introduced in May21 and was distributed to the Fleet 18Nov21 and ashore 04Jan22 to increase the awareness of all on the benefits of physical exercise and the program introduced, with emphasis to the fact that exercises can be conducted anytime and anywhere, without the need of additional instruments.**
**The module is consisted of two .pdf documents.**

**► Building Healthy Habits: Exercise**
- **Elaborates on the benefits of physical exercise**
- **Offers conclusions of scientific studies on the relevance of physical exercise with:**
  - **Extended life span**
  - **Reduced cancer cases**
  - **Heart, lungs and muscles fitness**
  - **Body balance and motion control**
- **Introduces three types of exercise explaining the scope and the objective of each of them**
- **Proposes a program for beginners**
- **Shares best practices when conducting physical exercise**

► Buil**ding Healthy Habits: Exercise cards**
- **Contains illustrations of how to conduct physical exercises for the three types introduced:**
  - **Endurance**
  - **Strength**
  - **Flexibility**

## Tanker Bulker senior / junior Officers and Ratings remote reflective learning engagements Sep22

**3. Purpose**

**3.1 This workshop is designed for us to:**

► elaborate on the fact that our physical health and fitness is the basic prerequisite for our wellbeing and our IF EffEff performance, in order to apply our company's principal which is "Return Home Healthy".

► Propose simple and short routines for physical exercise and Identify the barriers and catalysts for us to allocate the time making physical exercise a weekly routine.

► Prompt the commitment of each individual to improving his physical wellbeing.

The workshop, of a 90 minutes duration, was dynamic and highly interactive, consisting of a combination of group activities and input from participants' own experience, opinions and

**3.2 The workshop questionnaire** was basically consisted of 3 sections, addressing:

► Health, physical and mental, as prerequisite for IF EffEff performance

► Verification on the awareness of:

- Benefits of the physical exercise
- Scope of the physical exercise

► Self assessment of each individual in relation to:

- his current engagement with physical exercises
- the barriers and catalysts for him to allocate the time that is deserved for his physical wellbeing and make physical exercise a weekly routine
- commitment for improving each own physical wellbeing

Most of the questions are inspired by the PnS module of "Building Healthy Habits".

**4. Key messages**

Key messages of the "How you respond matters" model were passed over to the participants as follows:

Key messages of the workshop were passed on to the participants, as follows:

► The importance to take care of themselves and create healthy habits during their time onboard or ashore, as this is an easy way to make small changes that can help them stay healthy and fit for service.

► Being in good physical and mental health will also help them built up their resilience and perform IF EffEff, wherever they are!

**5. Records**

Concluding the workshop

► the relevant questionnaire was filled out online, verifying the knowledge obtained and keeping a record of each one's personal commitments

► the evaluation questionnaire was filled out online, with evaluation, topics and proposals for improvement of the workshop

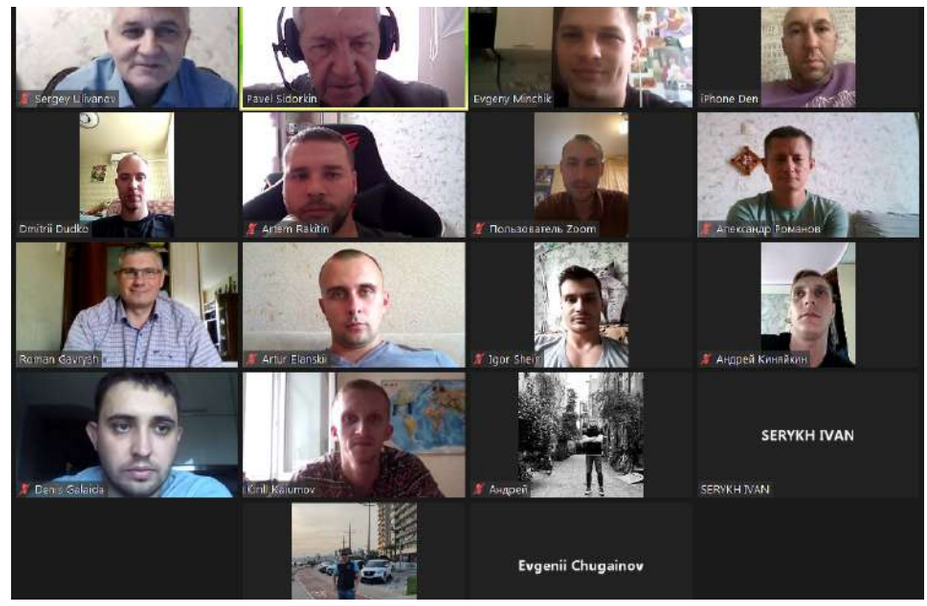
**6. Actions and follow up**

**6.1** Out of the workshop questionnaire each individual will:

► review the analytics and his commitment to improve his physical wellbeing, so as to have a better quality of life and achieve IF EffEff performance

**6.2 DMS revisions**

► CMSM ch3.5 and FOM07 par4.19 will be revised to address the concept of physical wellbeing, as introduced with this workshop.



## Tanker Bulker senior / junior Officers and Ratings remote reflective learning engagements Sep22

### 5th Workshop: How you respond matters

*All of us at some point in time perform as team leader or team member and while performing in these roles we are faced with success or failures.*
*As per Roxana 3x3x3 soft skills model:*
- *a leader will apply his leadership / managerial skills and Decision making Result focus skills*
- *a team member will apply his TeamWorking skills and Decision making Result focus skills*

*This workshop*
- *elaborates on the fact that our response, particularly as a leader, to the everyday success or failures matters for the wellbeing of our team and for the IF EffEff completion of the tasks.*
- *relates the Roxana 3x3x3 soft skill model, the human performance principles and how the qualities of a leader or a team member are applied in responding to everyday challenges, to ensure his and his team's wellbeing and IF EffEff operations.*

*The related questionnaire is a tool for each individual, in any role, to understand:*
- *how HE responds matters for his team wellbeing and IF EffEff operations*
- *his own perception on how his leader and his team respond to everyday challenges.*

**1. Appreciation**

Thank you all, 38 Tanker officers , 13 Bulker officers, 16 Junior Tanker officers and 8 Junior Bulker officers, for your reflective learning engagements in the workshop " How you respond matters" and for:
- ► the prompt and proper fill in of the questionnaire
- ► your further feedback evaluating the workshop in terms of more to learn, most impact
- ► recording your personal commitments for next day to improve your response for

**2. Background**

In the "How you respond matters" workshop we had the chance to review the latest references on:

**2.1 Industry Soft skills, behavioral competency and human performance particularly:**

**2.1.1 OCIMF - Energy Institute – Partners in Safety**
- ► OCIMF ITK Behavioral Competency Assessment and Verification for Vessel Operators was published in Nov18, introducing the 6 soft skills domains in conducting HSQE incident free operations, effectively and efficiently, IF EffEff, namely Teamworking, Communication and influencing, Situation awareness , Decision making, result focus and Leadership and managerial skills.
- ► OCIMF Human Factors Approach was released in Oct20 and outlines how human factors should be integrated into Industry activities. A set of guiding principles for human performance are introduced and one of the 8 principles is that leaders contribute in shaping conditions that influence what people do.
- ► Energy institute "Making compliance easier" was published Feb20, adopting the Todd Kronklin's 5 principles of human performance, acknowledging that everyone makes mistakes, performance may be compromised by factors like complexity of a task, distraction and repetition and that "How you respond to failure matters. How leaders act and respond counts".
- ► Partners in Safety release in Mar20 the PnS Human performance 1 and 2, adopting also the Todd Kronklin's 5 principles of human performance.

## Tanker Bulker senior / junior Officers and Ratings remote reflective learning engagements Sep22

**2.2** Roxana Soft skills, behavioral competency and human performance particularly

**2.2.1 Take care of myself and my team, Leading my team's wellbeing**

This program was introduced in our system learning engagements in Jun20 inspired by the Leadership Skills for crew wellbeing, released by Shell in Jun20.

As key messages from this workshop a leader is required to:

► best manage the well being of his team, not by intimidation, command and control, but by creating:
- a workplace where the well being of the team is one of the key priorities
- an engaging environment for open and fearless communication

►be emotionally fit, his emotional fitness is pre-requisite to manage his team well being, to ensure that:
- state of mental health of the individuals and the team is assessed and managed
- The AllLookListen (Feel) ActCheckbackTakecareofyourself principle applies to manage the mental health

► be aware of the 3 principles of human performance:
- Human errors happen, but they are opportunities to learn, blame fixes nothing
- Humans want to do a good job, humans are not to blame although reckless conduct is not tolerated
- Human error is opportunity for system improvement, systems (software, hardware, environment) to be continually revised to be more error tolerant, and more engaging, considering that context drives behavior

**2.2.2 Leadership and the Adair model**

This workshop was introduced with MR2021-02 relating the Adair model with the Roxana 3x3x3 soft skills model. Adair's concept asserts that the three needs of task, team and individual are the watchwords of leadership, as people expect their leaders to help them achieve the common task, build the synergy of teamwork, and respond to individuals' needs. The relevant questionnaire is a self assessment tool for each individual to understand his own perception on his Leadership profile and included behaviors of a leader responding to bad and good happenings.


**2.2.3 The Roxana 3x3x3 soft skils model**

Based on the OCIMF ITK Behavioral Competency Assessment and Verification for Vessel Operators, by fusing communication and influencing skills to Teamworking and Leadership and managerial skills, and by merging Decision Making and Result focus skills and fusing into the merged skills set the Situation awareness skills we launched in Dec18 the Roxana 3x3x3 soft skills model, introducing

► 3 soft skills sets domains
- Team Working
- Leadership and Managerial
- Decision making and Result focus

**2.2.4 The Human performance principles – Fair and Just for No Blame culture**

We introduced in Dec20 in CMSM ch3.5

► the Roxana three human performance principles,
- Humans err
- Humans want to do a good job
- Human error is opportunity for system improvement

► The Fair and Just for No Blame culture

***A Fair and Just culture soaked with these 3 human performance principles has to be a No Blame culture***

**2.3 Partners in Safety (PnS) "How you respond matters"**

Along with the 2021 CEO conference in Mar21 PnS introduced the "How you respond matters" module.

It consists of two videos reflecting leader behaviors and prompts participants to realize 10 tips on the proper response and 9 personal characteristics both for a great Safety Leader.

## Tanker Bulker senior / junior Officers and Ratings remote reflective learning engagements Sep22

**3. Purpose**

All of us at some point in time perform as team leader or team member and while performing in these roles we are faced with success or failures.

This workshop is designed for us, to:

- ► elaborate on the fact that our response, particularly as a leader, to the everyday success or failures matters for the wellbeing of our team and for the IF EffEff completion of the tasks.
- ► relate the Roxana 3x3x3 soft skill model, the human performance principles and how the qualities of a leader or a team member are applied in responding to everyday challenges, to ensure his and his team's wellbeing and IF EffEff operations.

The related questionnaire was a tool for each individual, in any role, to understand:

- ► the level of his understanding on the topics of the workshop
- ► how HE responds to everyday challenges (self assessment)
- ► his own perception on how his leader and his team respond to everyday challenges.

**4. Key messages**

Key messages of the "How you respond matters" model were passed over to the participants as follows:

- ► Leaders set the tone. They influence the conditions in which work takes place as well as the level of social engagement, interaction and support. Leaders that effectively manage the wellbeing of their crew will enhance the culture on board and create an environment where crew actively contribute to the safety and success of vessel operations.
- ► When responding to failures and success, particularly as a leader, we should
  - respect the 3 human performanace principles, for the wellbeing of our team and for the IF EffEff completion of the tasks.
  - relate the Roxana 3x3x3 soft skill model and how the qualities of a leader or a team member are applied in responding to everyday challenges,

to ensure our and our team's wellbeing and IF EffEff operations.

**5. Records**

**Concluding the workshop**

- ► the relevant questionnaire was filled out online, verifying the knowledge obtained and keeping a record of each one's personal commitments
- ► the evaluation questionnaire was filled out online, with evaluation, topics and proposals for improvement of the workshop

**6. Actions and follow up**

**6.1** Out of the questionnaire responses:

- ► the level of understanding of the topic of the workshop and of the 3 Roxana/ROKS human performance principles, is very satisfactory for all participants.
- ► The self assessment responses identified the that the qualities of a safety leader and his response to failure are in general met, improvement is needed for the "learning from success" and "Remember you are being watched so be sure to be seen responding to things right".
- ► The No Blame culture prevails in our system, however the shifting from the individual error to the system error still needs to be more carefully addressed.
- ► All participants were committed to apply the learnings of this workshop and improve their response to failures as team leaders or team members.
- ► Related to the feed back section of the questionnaire we will continue to focus on developing a fearless environment for IF EffEff operations for the individual and the team.

It was highlighted that:

- ► A Fair and Just culture, soaked with the human performance principles, owes to be a No Blame culture
- ► People can and do make errors, unhealthy/unsafe patterns of behaviour may develop at all levels
- ► Incidents internal investigation is taking the human error further to the related system error
- ► your reaction to failure directly impacts how your team members learn

## Tanker Bulker senior / junior Officers and Ratings remote reflective learning engagements Sep22

**BULKERS GROUPS**

| **Gr 1** | | **Gr 2** | | **Gr 3** | | |
|---|---|---|---|---|---|---|
| **Name** | **rank** | **Name** | **rank** | **Name** | **rank** | **role** |
| **Demichev Dmitrii** | **ChOff** | **Demchenko Aleksandr** | **ChOff** | **Shurlo Sergei** | **ChOff** | **Facilitator** |
| **Matveev Victor** | **ChOff** | **Arkhipov Andrey** | **ChEng** | **Lukianov Stanislav** | **ChOff** | **Flipchart** |
| **Podkorytov Pavel** | **ChEng** | **Levin Dmitry** | **2nd Eng** | **Makalich Sergey** | **ChEng** | **Presenter** |
| **Tarapaka Sergey** | **ChEng** | **Rogozhnikov Aleksandr** | **2nd Eng** | **Kashurin Igor** | **2nd Eng** | **PC operator** |
| **Mazhuga Dmitrii** | **2nd Eng** | | | | | |
| **DV** | | **DV** | | **DV** | | **ROKS** |

TANKERS GROUPS

| Gr 1 | | Gr 2 | | Gr 3 | | |
|---|---|---|---|---|---|---|
| Name | rank | Name | rank | Name | rank | role |
| Ignatenko Leonid | ChOff | Popov Artem | ChOff | Karasev Leonid | Master | Facilitator |
| Shtyrba Dmitrii | Master | Cherepanov Viacheslav | Master | Sukhodoev Oleg | Master | Flipchart |
| Verkhovskii Andrei | Master | Syrov Andrey | Master | Gulin Alexey | Master | Presenter |
| Bykov Denis | ChOff | Chernobrovkin Andrey | Master | Lozovoi Pavel | ChOff | PC operator |
| Grinko Alexander | Master | Ivanov Eduard | Master | Volobuyev Alexander | ChOff | |
| Gorbachev Vladimir | ChOff | Emelianov Dmitrii | Master | Mikhailov Iurii | ChOff | |
| Krdzhatsyan Romik | ChOff | Orevskiy Sergey | ChOff | Selifontov Boris | Ch Eng | |
| Trukhachev Evgeny | Ch Eng | Polkovnikov Alexey | Ch Eng | Epishin Stanislav | Ch Eng | |
| Vazhenin Andrey | Ch Eng | Farkov Sergey | Ch Eng | Kulik Roman | 2nd Eng | |
| Vazhenin Maksim | 2nd Eng | Evgrafov Konstantin | Ch Eng | Ivanushko Andrey | 2nd Eng | |
| Nilov Aleksandr | 2nd Eng | Filippov Andrei | Ch Eng | Ivantcov Eduard | ETO | |
| Konishchev Andrey | 2ndOff | Arkhipov Anton | 2nd Eng | Serous Igor | ETO | |
| | >ChOff | Khlebus Ivan | 2nd Eng | Savchuk Ivan | ETO | |
| PS | | PS | | PS | | Roxana |

RATINGS TANKERS GROUPS

| Gr 1 | | Gr 2 | | Gr 3 | | |
|---|---|---|---|---|---|---|
| Name | rank | Name | rank | Name | rank | role |
| Brezgin Alexander | 2nd Off | Lyseniuk Aleksandr | 3rd Off | Lapshov Roman | 3rd Off | Facilitator |
| Dantcevich Vasilii | Bosun | Goriunov Viktor | Bosun | Kokovin Alexey | A/B | Flipchart |
| Shatoba Oleg | Bosun | Timofeev Valery | A/B | Gutsu Gennady | A/B | Presenter |
| | | Chevtaev Aleksei | A/B | Aleksandrov Evgenii | A/B | PC operator |
| PS | | PS | | PS | | Roxana |

## Tanker Bulker senior / junior Officers and Ratings remote reflective learning engagements Sep22

RATINGS BULKERS GROUPS

| Gr 1 | | |
|---|---|---|
| Name | rank | rolle |
| Palchuk Aleksandr | 3rd Off | Facilitator |
| Leleka Roman | Bosun | Flipchart |
| Chernyak Sergey | A/B | Presenter |
| Tudey Yury | A/B | PC operator |
| DV | | ROKS |

JUNIOR TANKERS GROUPS

| Gr 1 | | Gr 2 | | Gr 3 | | |
|---|---|---|---|---|---|---|
| Name | rank | Name | rank | Name | rank | role |
| Fauzer Victor | 2nd Off | Snytko Ivan | 2nd Off | Ulivanov Sergey | 2Off | Facilitator |
| Lyseniuk Aleksandr | 3rd Off | Galaida Denis | 2nd Off | Strom Vladislav | 3Off | Flipchart |
| Volgin Denis | 3rd Eng | Barabanov Andrei | 3rd Eng | Sidorenko Valerii | 4th Eng | PC operator |
| Kazakov Aleksandr | 4th Eng | Kiniaikin Andrei | 4th Eng | Bodghua Ruslan | 4th Off | Presenter |
| Ianovskii Evgenii | 5th Eng | Ponomarenko Dmitrii | 5th Eng | Kaiumov Kirill | 4th Off | |
| Dudko Dmitrii | 4th Off | | | | | |
| PS | | PS | | PS | | Roxana |

JUNIOR BULKERS GROUPS

| Gr 1 | | | | |
|---|---|---|---|---|
| Name | rank | Name | rank | role |
| Elanskii Artur | 2nd Off | Romadanov Aleksandr | 2nd Off | Facilitator |
| Budenko Yury | 3rd Off Pritulin | Aleksandr | 2nd Off | Flipchart |
| Gavrysh Roman | 2nd Off | Tiutiunnik Evgenii | 3rd Off | PC operator |
| Romanov Alexander | 4th Eng | Kamenev Mikhail | 3rd Off | Presenter |
| PS | | PS | | ROKS |

## Pancoast Trading (Singapore)

**Pancoast Trading (Singapore) Pte. Ltd** is continuing its strong commercial activities in the East of Suez region. The office in Singapore is strategically located covering the vital market of Indian and Pacific Ocean.

**Pancoast's tanker activities** has successfully completed 8 years in tankers activities having a vital market presence in this region; The office representing Roxana Tanker Pool is now well known in the tanker segment. The commercial activities of the office on behalf of Roxana Tanker Pool have an exceptional increasing activity from 2014 when it started the tanker desk. The Singapore Office will continue to have a very dynamic and challenging period ahead with spot vessels in East and recently in the West too following the strong market changes.


**Vessels operated by the office** during this period included Miracle, Melody, Marvel, Magic and Malbec which are Handy Vessels in Dirty product trade.

**Fixtures:** In 2022, Q3 Period: Pancoast office under commercial operational responsibility of Capt. Karthik were spot chartered with different Charterers including Oil majors.

**Singapore** still remains the main port in the East where almost all the ships call for various repairs, surveys and bunkering ops for which our department have assisted in their preparation and planning and giving logistics support to various departments. It is also important that we have our protective Agents Leth Incargo sharing the same office with us which makes it very efficient to coordinate for all of our owners matters in Singapore.

**Weekly Meetings:** Roxana Tanker department weekly meetings are carried out every Thursday to discuss and co-ordinate vessel updates.

**Management meetings:** Capt Karthik participates in virtual meetings with Management team at Athens and discuss about the performance of the vessels managed by our our company.

**Management review:** Our office participates in Meetings/Workshops for personal/team development and as preparation for our upcoming Companys Management Review in Greece. Capt Karthik presents the Commercial, Operations and Post Fixture Departments highlights and performance.

**Employee Roles:**

- Capt. Karthik is heading the Singapore office of Pancoast Trading and is also in charge of the Commercial / operational activities of Pancoast Singapore as agent for Roxana in East of Suez market. Apart from his other diversified roles; he also is heading the fleet - Post Fixture / Claims department of Pancoast Singapore for the managed Tanker Vessels.
- Mr. Alexandros Stathopoulos; entered his 6th year as Tanker Operator; and plays vital role in day to day operational issues, assisting with Pre-Post Fixture / Claims and co-ordination with other departments.

We thank everyone for the support given to our office and the phenomenal success achieved was due to your guidance & cooperation.
We thank with all our heart our Seafarers on board during this difficult pandemic time for their strength and patience during this difficult exceptional time.

# VMC (Vladivostok Maritime College)

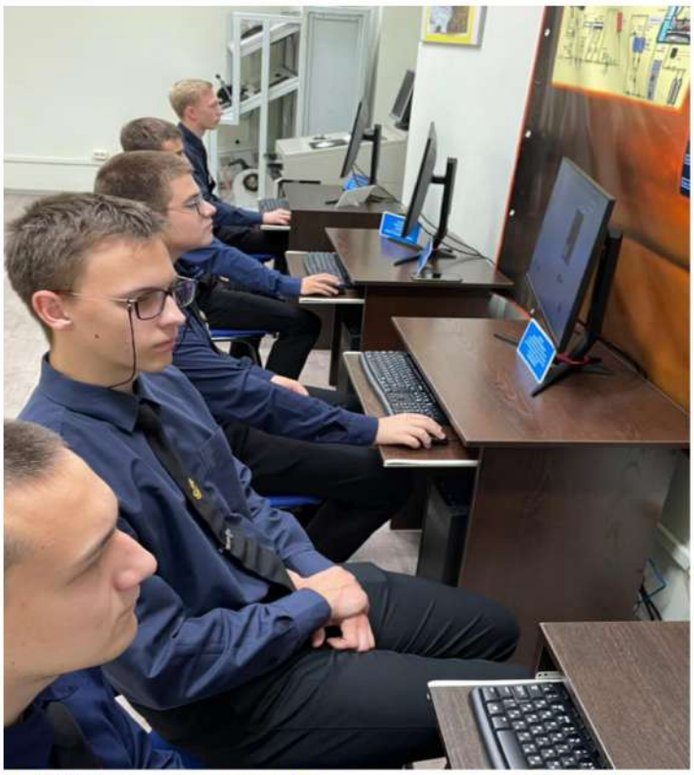
Vladivostok Maritime College, together with the Far Eastern Institute of Communications, entered into an agreement with STORM LLC for the supply of software for five virtual simulators of the ship's engine room, designed to train and develop watch keeping skills in the engine room.

This was done in accordance with the plan for the development of an educational institution and bringing the training of marine specialists to the level of modern IMO requirements, the International Convention STCW-78 as amended and the Federal State Educational Standard in the specialty 26.02.05 "Operation of ship power plants"

Five high-performance computers equipped with 24-inch monitors, powerful graphics adapters, large amounts of RAM and disk memory were purchased, installed and put into operation to ensure the work of the simulators. Computers contain the necessary software to realize any multimedia tasks. The cabinet's multimedia capabilities are complemented by a screen and a multimedia projector that can be connected to any of the five computers.

Cadets and students of VMC and FEIC have the opportunity to get the necessary competencies for the operation of the engine room:

- ships equipped with a slow-moving dual-fuel engine (liquefied gas and diesel fuel) with electronic control;
- ships equipped with a diesel-electric (with a power system with a voltage of over 1000 V) dual-fuel (liquefied gas and diesel fuel) propulsion system;
- ships with low-speed engines (with elements of high-voltage equipment over 6600V);
- ships with a medium-speed engine;
- ships from a gas turbine plant / "Gas Turbine Simulator", and get skills in the operation of a ship power plant with the simulation of emergency situations during the operation of the mechanisms of the ship's engine and boiler room.

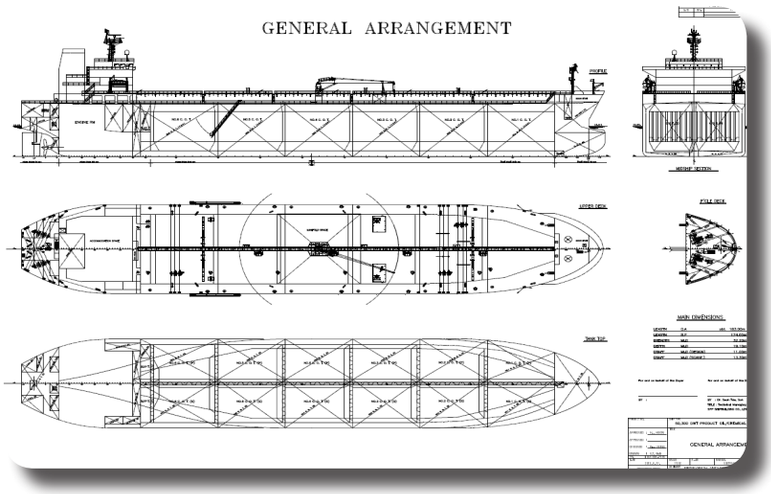


Our company is planning the next generation of newbuildings and is following closely the new rules, particularly:

- LNG as propulsion fuel technology and availability network
- Alternative fuels
- Air emissions NOx and SOx control technologies and limits
- ECO designs and options

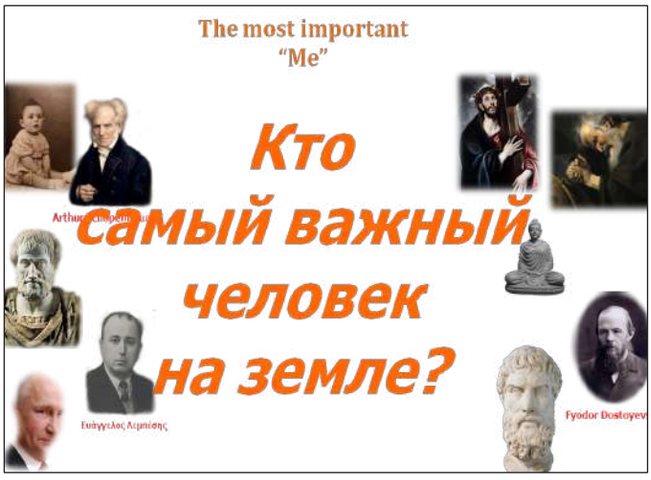
The next generation of newbuildings will be a challenge for the industry, particularly due to the evolution of LNG and alternate fuels as marine fuels and the price level of the conventional and VLS/ULS fuel oil.

Furthermore there is an increased activity evaluating options and opportunities in the second hand market.




## The fearless ego for success

Inspired by the Partners in Safety project the Roxana "Ego" tree was launched end of 2016, finally introduced after the management review of May 2019 and was further developed to the Roxana "fearless ego for success" tree.
Each one of us elaborated on a basic question who is the most important person for me on earth.

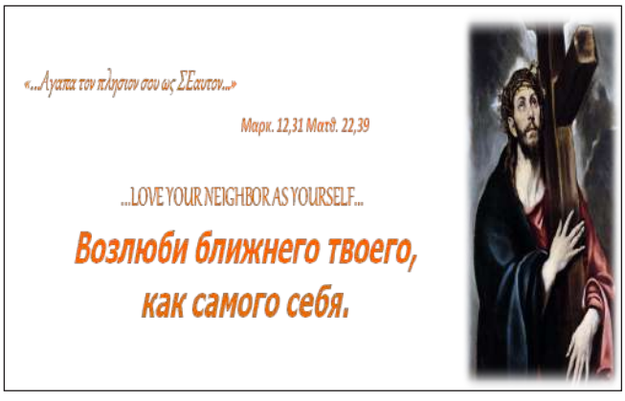




The embarrassment, even blame of "egoism", was a drawback in getting to the obvious answer.

The assistance from our God came the right moment to show us show us the obvious answer:

***I am the most important person of earth***

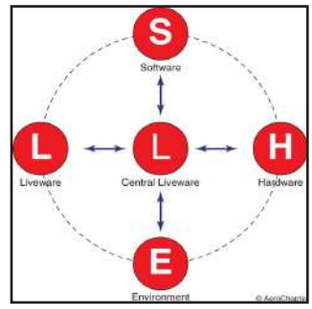

Based on this conclusion the principal order was introduced:

***Return Home always Healthy!***

God by instructing us to love our neighbor as we love ourselves also guided us to the next conclusion that care about myself means care about my team.
If I care about myself I should care about my team so that all of us return home healthy.

## The fearless ego for success (Continued)

The **SHELL** model was introduced in our system at the same period to facilitate our understanding and classifying of the factors we are in interface with, ie Software (procedures, instructions) hardware (equipment, systems, tools) environment (time and space) and Liveware (human factor).




**Human centric Applicable to: Soft skills and Resilience, Investigation** (classifying factors), **Causation analysis** (classifying causes), **Risk Management** (classifying hazards and threats)


Starting from the Roxana "fearless ego for success" concept we are developing our system in three axes of activity: the 3 Pillars and Engagement, the Human Performance and the Reflective Learning.

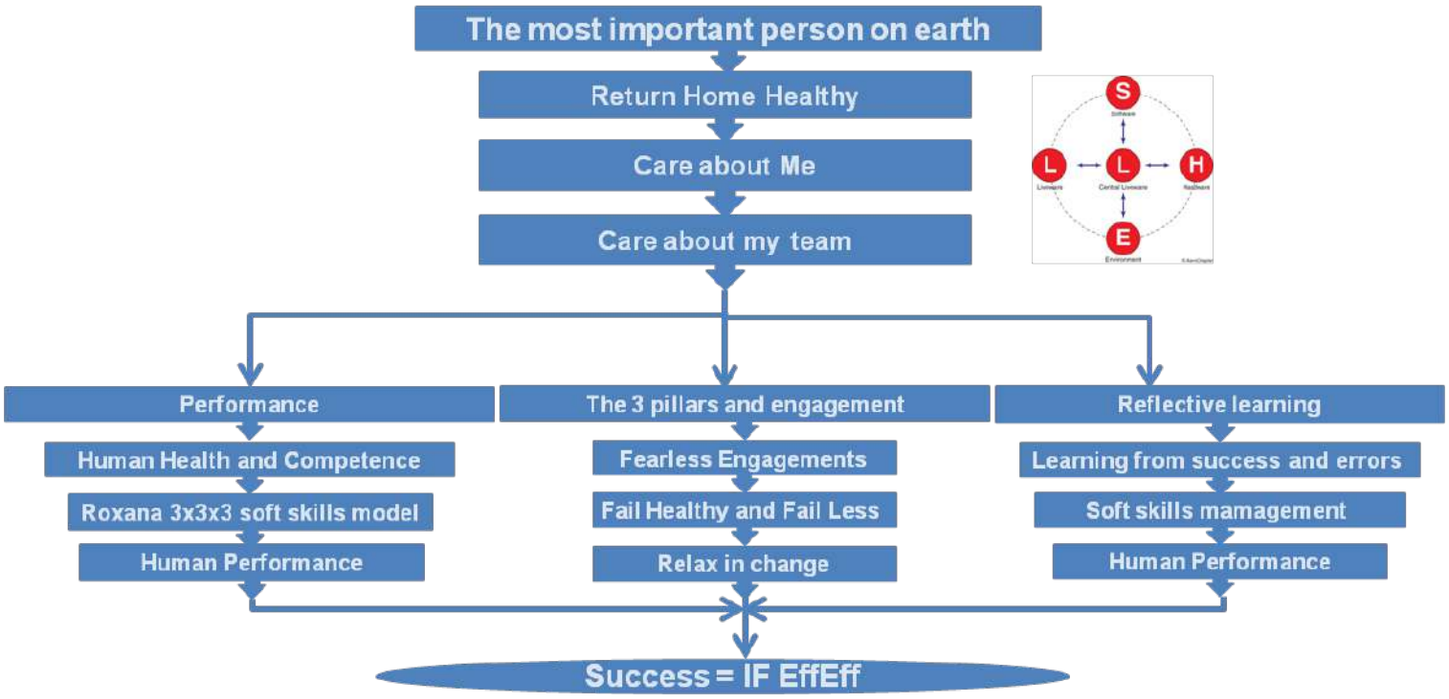
The 1st activity axis is addressing the Fearless engagements, the Risk management and the Management of Change as the three pillars, with engagement being the basement of our system, towards commitment to our Values and our policies for zero incidents.

The 2nd axis of activity elaborates with Health (physical and mental) and Competence (hard and soft) as pre-requisites for Performance, performance being the measure of Incident Free, Effective and Efficient (IF EffEff) operations.

The 3rd axis of activity is related to creating an open environment for reflective learning engagements for all levels in our organisation.

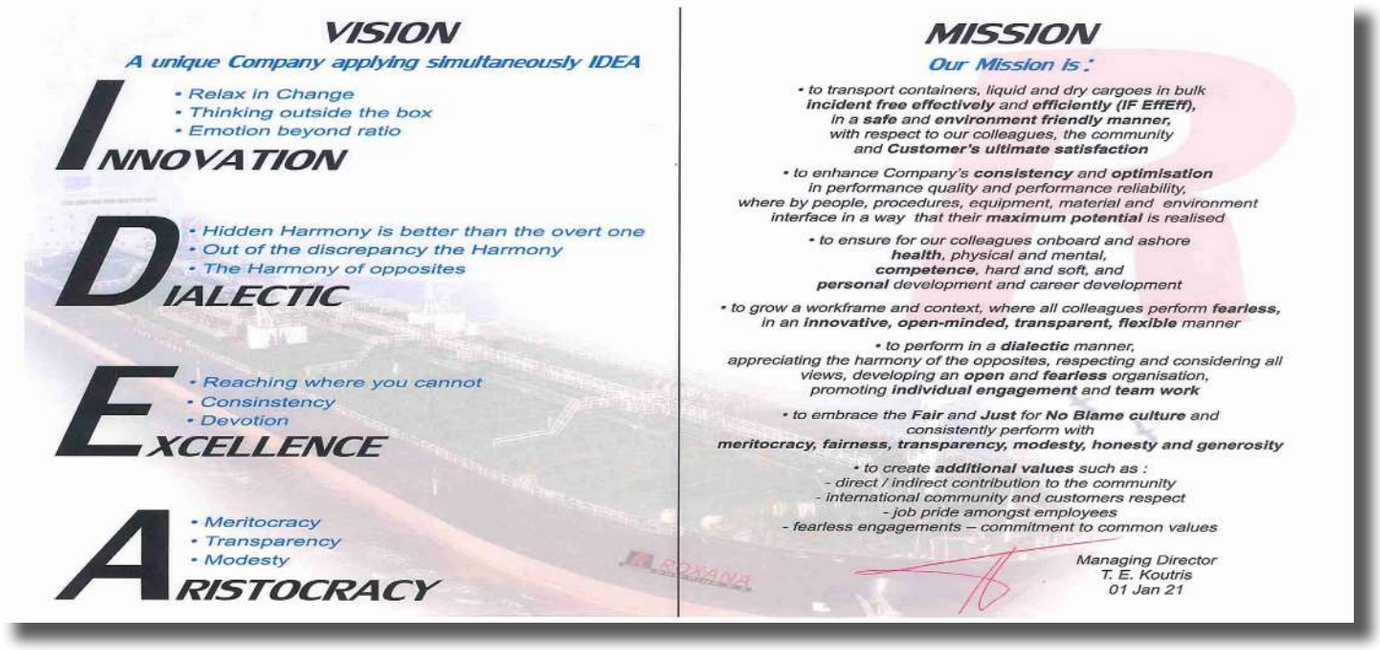
Separate articles in this magazine elaborate on the above three axes of activity, who ensure the Incident Free, Effective and Efficient (IF EffEff) operations throughout our organization ashore and on board.

### Fearless Ego for Success



## The 3 pillars and engagement

Late 2107 we introduced the three pillars and engagement principle, as the backbone of our system development to meet our Zero Incidents target, in compliance with our IDEA Vision and Mission.



**VISION**

*A unique Company applying simultaneously IDEA*

**I**NNOVATION
- Relax in Change
- Thinking outside the box
- Emotion beyond ratio

**D**IALECTIC
- Hidden Harmony is better than the overt one
- Out of the discrepancy the Harmony
- The Harmony of opposites

**E**XCELLENCE
- Reaching where you cannot
- Consinstency
- Devotion

**A**RISTOCRACY
- Meritocracy
- Transparency
- Modesty

**MISSION**

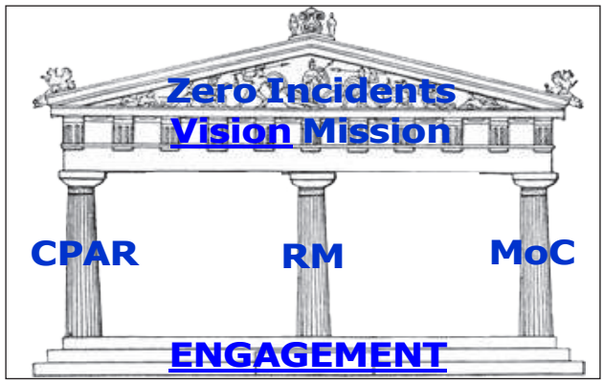
*Our Mission is :*

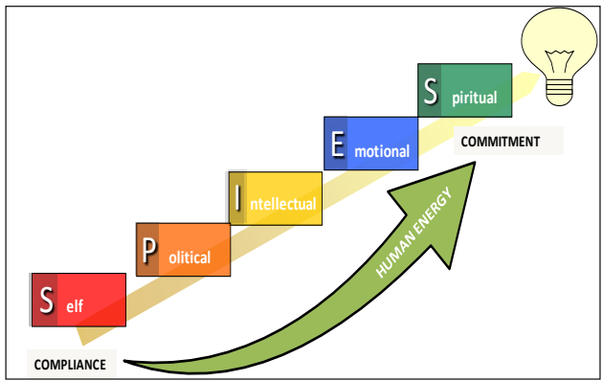
- to transport containers, liquid and dry cargoes in bulk **incident free effectively** and **efficiently (IF EffEff)**, in a **safe** and **environment friendly manner**, with respect to our colleagues, the community and **Customer's ultimate satisfaction**
- to enhance Company's **consistency** and **optimisation** in performance quality and performance reliability, where by people, procedures, equipment, material and environment interface in a way that their **maximum potential** is realised
- to ensure for our colleagues onboard and ashore **health**, physical and mental, **competence**, hard and soft, and **personal** development and career development
- to grow a workframe and context, where all colleagues perform **fearless**, in an **innovative, open-minded, transparent, flexible** manner
- to perform in a **dialectic** manner, appreciating the harmony of the opposites, respecting and considering all views, developing an **open** and **fearless** organisation, promoting **individual engagement** and **team work**
- to embrace the **Fair** and **Just** for **No Blame culture** and consistently perform with **meritocracy, fairness, transparency, modesty, honesty and generosity**
- to create **additional values** such as :
  - direct / indirect contribution to the community
  - international community and customers respect
  - job pride amongst employees
  - fearless engagements – commitment to common values

Managing Director
T. E. Koutris
01 Jan 21

**The three pillars were identified as**

- **Fearless engagements - CPAR: procedure CP08 Control of Non- Conformities, Accidents & Near Misses**
- **Failing Healthy and Less - RM: procedure CP24 Risk Management**
- **Relaxing in change - MoC: procedure CP13 Management of Change**




Engagement was introduced as the foundation in this process, as the ticket to shift mere compliance to commitment, as a ticket to Company culture
Fearless engagements is about creating a working environment where all colleagues at all levels feel comfortable to intervene and

- stop work, when an unsafe act or condition is identified
- speak out their success, mistakes, concerns or new ideas, without any fear of been blamed or disregarded
- feel an active and appreciated member of the team

An environment of open reporting, of a fair and just for no blame culture during investigation and causation analysis are the guarantees that the team will learn from its success and that mistakes are opportunities for system improvement.
Procedure CP08 is documenting the above issues.
Failing healthy and less is all about managing the risk of the identified hazards, as addressed procedure CP24.
It is our Innovation value that dictates the relax in change, change is a way of living and is addressed in procedure CP13.
We all know normal conditions are not always the case and therefore, we have to be prepared to operate also under "not normal" conditions, the so called non routine operations.
Since 2017 colleagues from all levels within the organization have been engaged in a series of workshops with the objective to incorporate, when applicable and if practical, in all critical operations the concepts of the three pillars, the reflective learning and training and non routine operations.
Procedures format, as documented in CMSM ch3, is revised to reflect the above.
Since the beginning of 2022 we have initiated a project to simplify our procedures thus boosting the engagement and facilitating the commitment to our system.

## Herakleitos team with Dostoyevsky to make 2+2=5

Dostoyevsky's hero in the *"Notes from the Underground"* is for 4 pages struggling in despair denying to accept the mathematical certainty 2+2=4, concluding in excitement that 2+2=5 is sometimes a very charmimg thing.

Fyodor Dostoyevsky

**ChIX.....**

**But yet mathematical certainty is after all, something insufferable. Twice two makes four seems to me simply a piece of insolence. Twice two makes four is a pert coxcomb who stands with arms akimbo barring your path and spitting. I admit that twice two makes four is an excellent thing, but if we are to give everything its due, twice two makes five is sometimes a very charming thing too.....**

**Записки из подполья, Глава IX**

**Но дважды два четыре — все-таки вещь пренесносная. Дважды два четыре — ведь это, по моему мнению, только нахальство-с. Дважды два четыре смотрит фертом, стоит поперек вашей дороги руки в боки и плюется. Я согласен, что дважды два четыре — превосходная вещь; но если уже все хвалить, то и дважды два пять — премилая иногда вещица.**

*«... οὐ ταύτόν ἐστι τὰ μέρη καὶ τὸ ὅλον ...» (150a15-16).*

"THE WHOLE IS NOT THE SAME AS ITS PARTS"

2000 year before Dostoyevsky a pure mathematical paradox was quoted

**The whole IS NOT the same as its parts, may be smaller or bigger than the addition of its parts!**

## Herakleitos team with Dostoyevsky to make 2+2=5 (Continued)

«...ΤΟ ΑΝΤΙΞΟΟΝ ΣΥΜΦΕΡΟΝ ΚΑΙ ΕΚ ΤΩΝ ΔΙΑΦΕΡΟΝΤΩΝ ΚΑΛΛΙΣΤΗΝ ΑΡΜΟΝΙΑΝ ...ΚΑΙ ΠΑΝΤΑ ΚΑΤ' ΕΡΙΝ ΓΙΝΕΣΘΑΙ...»
THE OPPOSITES ARE BENEFICIAL AND FROM THE DIFFERENTS THE BEST HARMONY...EVERYTHING IS DEVELOPED IN DISPUTE...

It was 2500 years before Dostoyevky's wish for 2+2=5 that one of the Humanity's greatest genius, Heraclitus, identified the added value of harmonizing the opposites, the *dialectic* value, which is included in our Company's Vision.

**A team:**

- having team members gifted with teamworking skills
- having a leader gifted with leadership and managerial skills will produce the added value

***will make the 2+2=5 possible***
***will keep Dostoyevsky satisfied!***

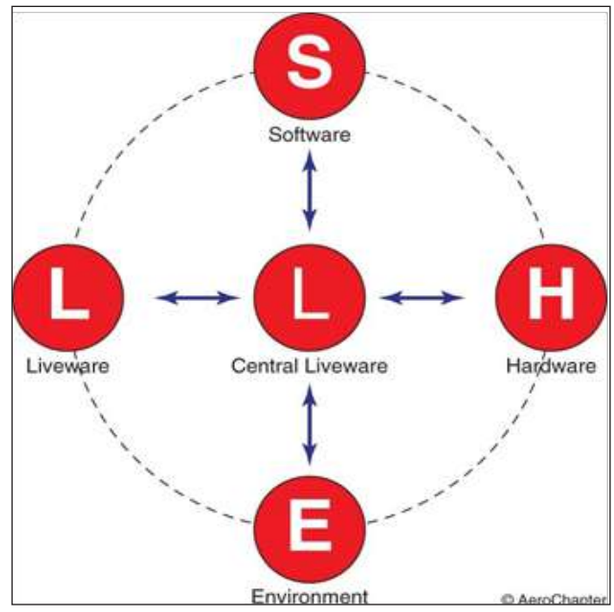
The 2+2=5 concept was developed while elaborating on the TeamWorking soft skills and facilitated our understanding of the added value of a team where differences are harmonized.
The teams concept is introduced

- **There is no operation or even task on board or ashore that can be completed Incident Free, Effectively and Efficiently by one individual alone.**
- **There is no individual who can complete alone any operation ashore or on board Incident Free, Effectively and Efficiently.**

## The S.H.E.L.L. model

The S.H.E.L.L. model was first developed for the aviation by Elwyn Edwards (1972) and later modified into a 'building block' structure by Frank Hawkins (1984). The model is named after the initial letters of its components (software, hardware, environment, liveware) and places emphasis on the human being and human interfaces with other components of the aviation system.

**The S.H.E.L.L. model** is a conceptual model of human factors that clarifies the scope of aviation human factors and assists in understanding the human factor relationships between aviation system resources / environment (the flying subsystem) and the human component in the aviation system (the human subsystem).




The S.H.E.L.L. model adopts a systems perspective that suggests the human is rarely, if ever, the sole cause of an accident. The systems perspective considers a variety of contextual and task-related factors that interact with the human operator within the aviation system to affect operator performance. As a result, the S.H.E.L.L. model considers both active and latent failures in the aviation system.

The anthropocentric principle of the S.H.E.L.L. model pretty much fits into the Company commitment to place and engage the human in the centre of activities.

The S.H.E.L.L. model is adapted to the Company DMS CMSM par3.6, and S.H.E.L.L. factors are extensively used when applying processes, amongst others, like the:

1 interview (interrelation of the candidate with S.H.E.L.L.)

► investigation (classification of factors to investigate in S.H.E.L.L.)

► causation analysis (classification of causes in S.H.E.L.L.)

► hazards and threats identification (classification of hazards and threats in S.H.E.L.L.)

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## The holy three and Roxana 3x3x3 soft skills model

**OCIMF ITK Behavioral Competency Assessment and Verification for Vessel Operators** was released in Nov18, introducing the 6 soft skills domains in conducting HSQE incident free operations, effectively and efficiently, IF EffEff, namely Teamworking, Communication and influencing, Situation awareness , Decision making, result focus and Leadership and managerial.

**During the relevant workshops in 2018 and 2019 we considered the *holy three concept*:**

- the simpler the process the more engaging for the stakeholders it is
- the human brain is geared to think the dialectic way, 3 issues at a time
- key findings of recent Harvard university studies (N. Cowan -2010) suggests the limit of working memory capacity between 3 and 5 chunks of information.

During the previous workshops as above par2 we realized that:

- Teamworking, Leadership and managerial, Communication and influencing soft skills sets are meaningful only in a team environment (interpersonal skills)
- Decision making, result focus, Situation awareness soft skills sets apply for an individual, even not within a team (intrapersonal skills)
- Communication skills are prerequisites for Teamwork and for Leadership skills
- Situation awareness is prerequisite to proper Decision making and result focus skills

**Considering the above we decided to modify the 6 soft skill domains to 3, by:**

- Fusing communication and influencing to team working and leadership/managerial
- Fusing situation awareness to decision making and result focus
- Merging decision making and result focus

## The holy three and Roxana 3x3x3 soft skills model (Continued)

**Ending up to *3 soft skills sets***

- Team working
- Leadership and managerial
- Decision making and Result focus

We further considered 3 categories to each of the 3 soft skills domains and three sets of behavioral indicators per category, as per Roxana's 3x3x3 soft skills model below.

Since 2017 colleagues from all levels within the organization have been engaged in a series of workshops with the objective to incorporate, when applicable and if practical, in all critical operations the dimension of the soft competence, the soft skills.

Procedures format, as documented in CMSM ch3, as well as CP05 recruitment and appraisal process are revised to reflect the above.

| | |
|---|---|
| **1. Team Working** | |
| Works effectively in a team, clearly and precisely and gives and receives communication in a convincing manner to both, groups as well as individuals at all levels, including senior/line managers, colleagues and subordinates, building productive working relationships through cooperation with colleagues, treating others with respect, facilitates resolving conflicts among team members and balancing individual and team goals, interacting with others in a sensitive and effective way in a risk- and time-sensitive environment. | |
| **1.1.** | **Participation and supporting others** |
| 1.1.1. | **Actively participates in team tasks:**<br>- Helps other crew members in demanding situations<br>- Actively seeks and acts upon feedback. |
| 1.1.2. | **Establishes an atmosphere for open communication and participation**:<br>- Clearly puts forward views and personal position while listening to others.<br>- Encourages input and feedback from others.<br>- Builds rapport and establishes a common bond with others.<br>- Encourages idea generation.<br>- Shares expertise with others. |
| 1.1.3. | Communicates effectively<br>- Uses the right mode, time and medium to deliver the message (spoken, written, body signals, sentence structure, terminology and speed of delivery etc) to suit the message and the intended recipients.<br>- Clearly discusses plans, expectations and roles with each fellow team member, ensuring that all understand them the same way<br>- The amount of communication is appropriate and clear for the situation in hand. |
| **1.2.** | **Inclusiveness and consideration of others** |
| 1.2.1. | Helps people feel valued and appreciated.<br>- Welcomes and includes others<br>- Receives feedback constructively and acts accordingly.<br>- Notices the suggestions of other crewmembers.<br>- Gives clear, detailed and constructive personal feedback.<br>- Gives clear and concise briefings and updates at appropriate times. |
| 1.2.2. | Demonstrates respect for people and their differences.<br>- Shows understanding of others' perspectives and personal situations.<br>- Acknowledges cultural diversity when communicating. |
| 1.2.3. | Communicates in a way that elicits appropriate action from others.<br>- Asks questions and observes others to confirm their common understanding |
| **1.3.** | **Conflict resolution** |
| 1.3.1. | Keeps calm in conflicts and suggests solutions to resolve conflicts. |
| 1.3.2. | Receives feedback constructively and expresses disagreement constructively by giving alternative or different perspectives. |
| 1.3.3. | Influences others resulting in acceptance, agreement and/or behaviour change. |

## The holy three and Roxana 3x3x3 soft skills model (Continued)

| | |
|---|---|
| **2. Leadership and Managerial skills** | |
| Clearly and precisely gives and receives communication in a convincing manner to both, groups as well as individuals at all levels, Inspiring, motivating and empowering his colleagues to perform at their best to achieve goals.<br>Adjusts leadership style to situations, including those which develop suddenly and change rapidly, Interacting with others in a sensitive and effective way in a risk and time-sensitive environment. | |
| **2.1.** | **Setting directions, providing and maintaining standards** |
| 2.1.1. | Communicates clear expectations.<br>- Considers the bigger picture and longer term needs prior committing to a course of action.<br>- Translates the vision into clear strategies and work programmes.<br>- Uses the right medium to deliver the message (face-to-face, radio, email, telephone, etc).<br>- Uses language appropriately (e.g. in sentence structure, terminology and speed of delivery).<br>- Uses a range of communication methods (e.g. spoken, written, hand signals, etc) to suit the message and the intended recipients.<br>- The amount of communication is appropriate and clear for the situation in hand.<br>- Communicates in a way that elicits appropriate action from others. |
| 2.1.2. | Demonstrates commitment to Company values, ethical and moral standards, setting a personal example of what is expected from others. |
| 2.1.3. | Ensures compliance with Company system and standards and intervenes in case of deviations by other crew members |
| **2.2.** | **Authority, assertiveness and empowerment** |
| 2.2.1. | Creates a culture that enables challenge and participation of crew members while maintaining the given command authority<br>- Encourages crew members to review, raise concerns or challenge plans of actions.<br>- Creates a safe and trusting environment for crew members of open and frequent communication with clear and direct flow of information, supporting them to openly share lack of knowledge and/or to speak up without hesitation.<br>- Recognises, appreciates, and supports contributions of people.<br>- Receives feedback constructively. |
| 2.2.2. | Takes command if the situation requires.<br>- Takes decisive actions as required.<br>- Advocates own position.<br>- Clearly puts forward views and personal position whilst listening to others.<br>- Influences others resulting in acceptance, agreement and/or behaviour change. |
| 2.2.3. | Supports people to have a level of independence in how they do their work<br>- Develops cooperative and respectful relationships with people.<br>- Understands the needs of crew members and cares about their welfare<br>- Acknowledges cultural diversity when communicating.<br>- Creates a feeling among the crew members of achieving results together as one team<br>- Asks questions and observes others to confirm their understanding.<br>- Actively seeks and acts upon feedback.<br>- Encourages people to acquire new skills and develop themselves. |
| **2.3.** | **Planning, co-ordination and Workload management** |
| 2.3.1. | Organises tasks, activities and resources.<br>- Sets achievable goals, makes concrete plans, and establishes measurable milestones with timescales and quality standards.<br>- Encourages shared understanding and participation among crew members in planning and task completion.<br>- Clearly explains plans, expectations, and roles to each person, ensuring that they understand them<br>- Defines clear roles and responsibilities for crew members for both normal and non-normal situations, including workload assignments.<br>- Prioritises and manages primary and secondary operational tasks.<br>- Distributes tasks appropriately among the crew, balancing the needs of every team member. |
| 2.3.2. | Challenges current processes to find new and innovative ways to improve work of the team and the vessel<br>- Uses appropriate tools and notifications when dealing with non-routine operations.<br>- Uses available external and internal resources (including automation) to accomplish timely task completion. |
| 2.3.3. | Monitors plans for the achievement of targets.<br>- Gives and asks for clear and concise briefings and updates at appropriate times.<br>- Recognises work overload, signs of stress and fatigue in self and others, acting promptly to deal with it.<br>- Delegates in order to achieve top performance and to avoid workload peaks and troughs.<br>- Reviews and communicates plans and intentions clearly to the whole crew, changing plans if necessary.<br>- |

## The holy three and Roxana 3x3x3 soft skills model (Continued)

| 3. Decision making and Result focus | |
|---|---|
| Accurately perceives all SHELL factors on-board, at sea and ashore and projects their status in the future, reaching systematic and rational judgements or chooses an option based on relevant information by analysing issues and by developing effective strategies to manage HSQE threats.<br>Demonstrates a readiness to make decisions and originate action, focusing on achieving desired results and how best to achieve them by taking conscientious action, using initiative, energy and demonstrating flexibility and resilience. | |
| **3.1.** | **Awareness of SHELL factors and their risks for problem definition and options generation** |
| 3.1.1. | Maintains awareness of SHELL factors.<br>- Monitors, cross-checks, acknowledges and reports changes in all SHELL factrors<br>- Gathers information and identifies the problem and its causal factors in the 3 dimensions of time.<br>- Consults and shares information with specialist expertise or local knowledge on all SHELL factors when required, environment included. |
| 3.1.2. | Problem definition<br>- Encourages idea generation and challenges existing norms, accepted risks, processes or measurements<br>- Generates multiple responses to a problem or alternative courses of action. |
| 3.1.3. | Risk assessment for option selection<br>- Uses all available resources to manage threats.<br>- Considers options generated by external advisors (e.g. pilot) and retains decision making responsibility and accountability.<br>- Considers and shares the risks of alternative courses of action.<br>- Anticipates present and future threats and their consequences.<br>- Assesses risks and benefits of different responses to a problem through discussion. |
| **3.2.** | **Outcome implementation and review** |
| 3.2.1. | Selects and implements timely the best response to the problem.<br>- Checks the outcome of a solution against the predefined goal or plan, reviews the quality of the decision made.<br>- Takes timely and mindful actions. |
| 3.2.2. | Confirms selected course of action and implements in a timely manner.<br>- Stays focused on tasks and meets productivity standards, deadlines, and work schedules.<br>- Shows up to work on time, and follows instructions, policies, and procedures.<br>- Goes the "extra mile" beyond job requirements in order to achieve objectives.<br>- Takes personal responsibility for the quality and timeliness of work, and achieves results with little need for supervision. |
| 3.2.3. | Has a sense of urgency about solving problems and getting work done, and pushes self and others to reach milestones.<br>- Effectively manages the time and resources to accomplish tasks, prioritising the most important ones<br>- identifies what needs to be done and initiates appropriate actions<br>- Looks for opportunities to help achieve team objectives. |
| **3.3.** | **Determination and emotional toughness** |
| 3.3.1. | Recovers quickly from setbacks and responds with renewed and increased efforts.<br>- Persists in the face of difficulty, finds alternative ways to complete tasks and goals.<br>- Exerts renewed and increased effort to achieve goals, persisting even in the face of problems.<br>- Handles high workloads, competing demands, vague assignments, interruptions, and distractions with composure.<br>- Willingly puts in extra time and effort in crisis situations.<br>- Stays calm and maintains focus in emergency situations. |
| 3.3.2. | Adapts to changing business needs, conditions, and work responsibilities.<br>- Shows others the benefits of change.<br>- Adapts approach, goals, and methods to achieve solutions and results in a changing environment.<br>- Responds positively to change, embracing new ideas and/or practices to accomplish goals and solve problems. |
| 3.3.3. | Discusses contingency strategies and takes timely and mindful actions.<br>- Acknowledges and corrects mistakes, taking personal responsibility as appropriate.<br>- States alternative courses of action, Implements new ideas, and/or better ways to do things and/or implements potential solutions to problems |

## Cognitive Behavioral Therapy: Benefits for people onboard

Cognitive behavioral therapy (CBT) is a talking therapy that can help you manage your problems by changing the way you think and behave. It's most commonly used to treat anxiety and depression, but can be useful for other mental and physical health problems, as well as to improve our every day life in general.

CBT is based on the concept that your thoughts, feelings, physical sensations and actions are interconnected, and that negative thoughts and feelings can trap you in a vicious cycle. Specifically, it aims to help you deal with overwhelming problems in a more positive way by breaking them down into smaller parts.

Unlike some other talking treatments, CBT deals with your current problems, rather than focusing on issues from your past. While this technique has been criticized by some, it looks for practical ways to improve your state of mind on a daily basis.

**Types of Cognitive Behavioral Therapy**

CBT encompasses a range of techniques and approaches that address thoughts, emotions, and behaviors. These can vary from structured psychotherapies to self-help materials. Today, there are a number of specific types of therapeutic approaches that involve CBT, including:

- Cognitive therapy centers on identifying and changing inaccurate or distorted thinking patterns, emotional responses, and behaviors.
- Dialectical behavior therapy (DBT) addresses thoughts and behaviors while incorporating strategies such as emotional regulation and mindfulness.
- Multimodal therapy suggests that psychological issues must be treated by addressing seven different modalities: behavior, affect, sensation, imagery, cognition, interpersonal factors, and drug/biological considerations.
- Rational emotive behavior therapy (REBT) involves identifying irrational beliefs, actively challenging these beliefs, and finally learning to recognize and change these thought patterns.

While each type of cognitive behavioral therapy takes a different approach, all work to address the underlying thought patterns that contribute to psychological distress.

**How can CBT help seafarers**

CBT is about more than identifying thought patterns, as it is focused on using a wide range of strategies to help people overcome these thoughts, and improve their every day life. With the following techniques, seafarers will be able to identify problems that may keep them distracted from their work onboard, and find ways to deal with them.

**#1 Identifying negative thoughts**

Seafarers should learn how their thoughts, feelings, and situations can contribute to negative behaviors. While the process can be difficult, especially for people who struggle with introspection, but it can ultimately lead to self-discovery and insights that are an essential part of the treatment process.

**#2 Practicing new skills**

For every seaman it is important to start practicing new skills that can then be put in to use onboard. For example, a seafarer that has difficulty connecting with others, might start practicing new coping skills and rehearsing ways to try and express their feelings more, and thus communicate with others better.

**#3 Goal-setting**

Goal setting is a very important step in recovery from mental illness and helping you make changes to improve your health and life. This is very important considering the fact that research shows an increase in suicide attempts among seafarers since the beginning of 2020, in a time when COVID-19 pandemic left thousands of seafarers stranded onboard for prolonged periods away from family, adding to the already emerging issue of crew mental health.

During CBT, a therapist can help with goal-setting skills by teaching you how to identify your goal, distinguish between short- and long-term goals, set SMART (specific, measurable, attainable, relevant, time-based) goals, and focus on the process as much as the end outcome.

**#4 Problem-solving**

Learning problem solving skills is a crucial ability that crew should have. In a fast pace and many times dangerous environment that can be found onboard, seafarers should be able to identify and solve problems that arise, both big and small, and at the same time reduce the negative impact of psychological stressors.

## Cognitive Behavioral Therapy: Benefits for people onboard (continued)

Problem solving in CBT often involves five steps:
- Identifying a problem
- Generating a list of possible solutions
- Evaluating the strengths and weaknesses of each possible solution
- Choosing a solution to implement
- Implementing the solution

**#5 Self-monitoring**

Also known as diary work, self-monitoring is an important part of CBT that involves tracking behaviors, symptoms, or experiences over time and sharing them with your therapist. Self-monitoring can help provide your therapist with the information needed to provide the best treatment.

For example, for people coping with eating disorders, self-monitoring may involve keeping track of eating habits as well as any thoughts or feelings that went along with consuming that meal or snack. As a matter of fact, unhealthy eating can reduce productivity levels among seafarers by 20%, highlighting the need for shipping companies to ensure seafarers are eating nutritious food.

**Potential challenges of CBT**

There are several challenges that people may run into during the course of cognitive behavioral therapy.

**#1 Change can be difficult**

At first, some patients suggest that while they recognize that certain thoughts are not rational or healthy, simply becoming aware of these thoughts does not make it easy to change them.

**#2 CBT is structured**

Cognitive behavioral therapy is often best-suited for clients who are more comfortable with a structured and focused approach in which the therapist often takes an instructional role.

**#3 People must be open to change**

For cognitive behavioral therapy to be effective, the individual must be ready and willing to spend time and effort analyzing their thoughts and feelings. Such self-analysis and homework can be difficult, but it is a great way to learn more about yourself.

**#4 Progress Is gradual**

CBT is a gradual process that helps a person take small steps toward a behavior change. For example, someone with social anxiety might start by simply imagining anxiety-provoking social situations. Next, they might start practicing conversations with friends, family, and acquaintances. By progressively working toward a larger goal, the process seems less frightening.

CBT is often known for the following key benefits:
- It allows you to engage in healthier thinking patterns by becoming aware of the negative and often unrealistic thoughts that dampen your feelings and moods.
- It is an effective short-term treatment option; for example, improvements can be seen in five to 20 sessions.
- It has been found effective for a wide variety of maladaptive behaviors.
- It is often more affordable than some other types of therapy.
- It has been found to be effective online as well as face-to-face.
- It can be used for those who don't require psychotropic medication.

## New shipping route under the Black Sea Grain Initiative

The Joint Coordination Centre (JCC) announced a new route for merchant vessels going in and departing from the three Ukrainian ports of Odesa, Chornomorsk, Pivdennyi/Yuzhny under the Black Sea Grain Initiative. The new route is 320 nautical miles long and connects the three Ukrainian ports with the inspection areas inside Turkish territorial waters.

The maritime humanitarian corridor, which makes part of this route, extends from the boundary of Ukrainian territorial seas to a southern waypoin. The route came into effect as of 26 August.

This route has been adjusted following an initial three weeks of operations. It allows for shorter transit in the maritime humanitarian corridor and easier planning for the shipping industry.

The route provides that while transiting the maritime humanitarian corridor, no military ship, aircraft or unmanned aerial vehicle may approach within a radius of 10 nautical miles of any vessel engaged in the Initiative and transiting the corridor.

The new coordinates have been disseminated through the international navigation system NAVTEX.

The JCC's procedures state that any commercial vessel encountering provocations or threats while transiting the corridor should report immediately to the JCC.

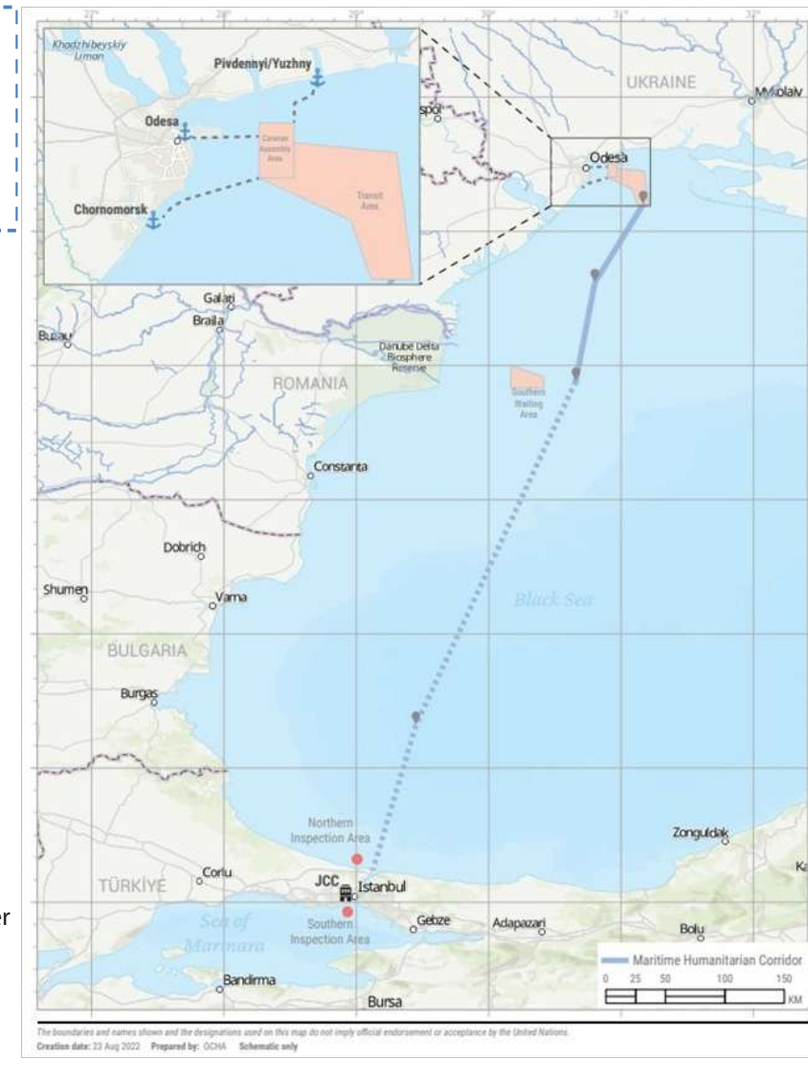

**"BIMCO highly recommend ships employed under the Black Sea Grain Initiative to make use of the new route"**

During July, Russia and Ukraine signed a landmark deal to reopen Ukrainian Black Sea ports for grain exports, increasing hopes that an international food crisis aggravated by the Russian invasion can be eased.

Safe passage into and out of the ports would be guaranteed in what one official called a "de facto ceasefire" for the ships and facilities covered, they said, although the word "ceasefire" was not in the agreement text.

Monitored by a Joint Coordination Center based in Istanbul, the ships would then transit the Black Sea to Turkey's Bosphorus strait and proceed to world markets.

The aim is to help avert famine among tens of millions of people in poorer nations by injecting more wheat, sunflower oil, fertilizer and other products into world markets including for humanitarian needs, partly at lower prices.



# Insights into onboard Carbon Capture

**Extract from ABS article**

## OVERVIEW

The International Maritime Organization (IMO) has proposed requirements for international shipping to reduce carbon intensity by at least 40 percent by 2030 and 70 percent by 2050 from the 2008 values.

These major reduction goals are driving the maritime industry to pursue various feasibility pathways for zero- and low-carbon fuels together with decarbonization technologies including carbon capture and the supporting systems required to store, transport and utilize or permanently sequester captured carbon.

While the topic of carbon capture, utilization and storage (CCUS) encompasses many industries and technologies, this document highlights insights into onboard carbon capture systems in more detail, focusing on post-combustion capture technologies, the storage of captured carbon on board and the energy requirements to operate the additional equipment for carbon capture.

For more information about CCUS activities in general, see the 2021 ABS publication Carbon Capture, Utilization and Storage. For more information on global carbon capture efforts to support net-zero carbon goals, see the 2022 ABS publication Setting the Course to Low Carbon Shipping: Zero Carbon Outlook.

## REGULATIONS AND CARBON POLICY

While onboard carbon capture may not yet be mandated by national or international policy, shipowners and charterers may see market or regulatory forces drive the adoption of onboard carbon capture solutions and the development of mechanisms to facilitate the trade of captured carbon.

Typically, when the adoption and implementation of new technologies or applications increases, the regulatory environment lags behind technology standardization.

## IMO DRIVERS FOR ONBOARD CARBON CAPTURE

Current research projects that onboard carbon capture will play an important role in the decarbonization efforts of the shipping industry. So far, the IMO has focused on improving vessel efficiencies and the use of alternative fuels; however, carbon reduction may require onboard carbon capture as one of several tools to decarbonize shipping.

Onboard carbon capture and storage (CCS) may require significant additional capital and operating expenditure, especially where regulations and technologies are still developing, and the economic feasibility is still not fully understood. Onboard carbon capture is only one part of a multi-step process for atmospheric carbon reduction involving land-based and offshore carbon capture technology, temporary storage, offloading and discharging infrastructure, transportation by pipeline or vessel and utilization or geological sequestration. For onboard carbon capture to be considered viable, an economic feasibility case must be built.

## MECHANISMS FOR IMPLEMENTING A GLOBAL CARBON MARKET

### THE LONDON PROTOCOL AND LONDON CONVENTION

In the 41st consultative meeting of contracting parties to the London Convention, transboundary exports of carbon dioxide ($CO_2$) for the purpose of carbon sequestration were provisionally allowed under certain circumstances. Since 2006, the London Protocol has provided a basis for international environmental law allowing carbon storage beneath the seabed. The London Protocol prohibits the export of wastes, including $CO_2$, however in 2009 an amendment allowed sequestration projects to be shared across national boundaries. This amendment is not yet in force but a further amendment in 2019 allows provisional application of the 2009 amendment by flag Administrations indicating their intent to provisionally apply the 2009 amendment, before entry into force. The London Protocol and London Convention can facilitate the international transport of $CO_2$ by ship, increase availability of portside infrastructure for $CO_2$ loading, unloading and subsequent discharge of carbon captured on board vessels.

The growth of the sequestration market can spur ship-based carbon capture offloading solutions. Storing $CO_2$ on board in tanks and offloading at port is a technical challenge that needs to be resolved, as current regulations and infrastructure are in the nascent stage.

### ISO TECHNICAL COMMITTEE FOR CARBON DIOXIDE CAPTURE, TRANSPORTATION, AND GEOLOGICAL STORAGE

The ISO Technical Committee ISO/TC 265 "Carbon dioxide capture, transportation and geological storage" publishes standards which historically have focused on industrial sectors such as power, cement, iron and steel production, where carbon capture is more mature than offshore applications. While onboard carbon capture may not be specifically referenced in the standards, they may apply to any post-combustion $CO_2$ capture system, for example:

## Insights into onboard Carbon Capture (continued)

• ISO 27919-1:2018 Carbon Dioxide Capture — Part 1: Performance evaluation methods for post-combustion CO2 capture integrated with a power plant
• ISO/TR 27912:2016 Carbon Dioxide Capture Systems, Technologies and Processes

IMO SUPPORT FOR RECEPTION FACILITIES

IMO recognizes that reception facilities are crucial for MARPOL implementation. In March 2018, the IMO Maritime Environmental Protection Committee (MEPC) adopted the consolidation guidance for port reception facility providers and users. Currently, the regulation does not specify CO2 handling from ship-based capture, which should be addressed in future versions of the regulation as greater deployment of the technology occurs. Additionally, custody transfer of CO2 from the ship to the final onshore handler, i.e., measuring and recognizing collected and transferred CO2, needs to be addressed in future monitoring, reporting and verification standards and regulations.

OTHER MARKET DRIVERS

Captured CO2 can also be a commodity for sale. Currently, captured CO2 is used in the food and beverage industry, in the oil and gas industry for enhanced oil recovery (EOR) and other commercial applications. Further development of the CO2 value chain can help push the case for carbon capture. For example, the captured CO2 can be used to create renewable fuels. As the CO2 commodity market grows, onboard carbon capture may be incentivized.

To create an incentive for greater deployment of onboard carbon capture, the new technology return on investment should be evaluated. Furthermore, from an industry perspective, the regulatory and policy framework for carbon trading needs to mature. Some of the policy levers that can be used effectively to stimulate the application of onboard carbon capture include:

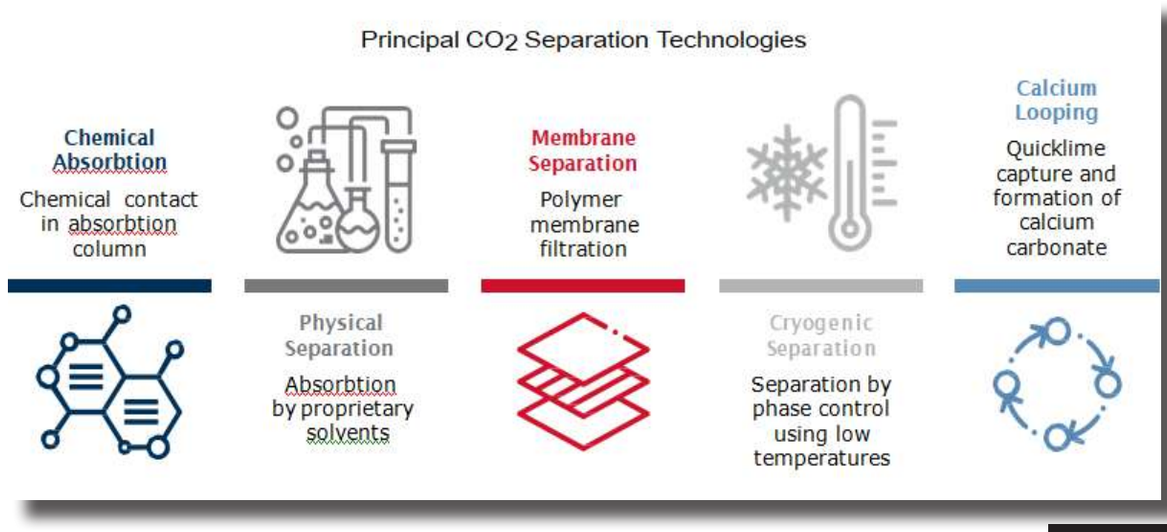
1. A carbon tax on the amount of CO2 emitted from vessels; in such a scenario, every operator would be incentivized to reduce their carbon footprint.
2. The creation of carbon credits and trading such as the EU Emission Trading Scheme (ETS); when there is a cap-and-trade program. Carbon credits could be valuable tradeable commodities. With greater credit value comes higher incentives for the operator to capture CO2 for sale in the market.
3. The U.S. 45Q Tax Credit system for sequestered carbon includes possible tax credits of:
   a. $35 per ton for EOR
   b. $50 per ton for geologically sequestered carbon without EOR activity

**METHODS OF CARBON CAPTURE**

There are many potential methods for the removal of carbon, shown in below Figure. For onboard applications, pre-combustion and oxy-combustion carbon capture methods may be applied or considered to improve the effectiveness of post-combustion carbon capture methods. Further information on pre-combustion and oxy- combustion is available in the 2021 ABS publication Carbon Capture, Utilization and Storage.

Post-combustion carbon capture on board ships involves cleaning exhaust gases before release, typically by installing equipment within or near the vessel exhaust stack.

The methods for post-combustion shipboard carbon capture being considered by the maritime industry include chemical absorption, membrane separation and cryogenic carbon capture technologies. These can either be retrofitted on existing ships or fully integrated into new ship designs.



## Insights into onboard Carbon Capture (continued)

While above Figure shows various types of carbon capture systems, the unique criteria for operating on ships may allow only a few types to be feasible. In addition to cost considerations, when installed on board ships, the systems are also sensitive to size, weight and power limitations. The optimization of various onboard system architectures can result in more effective solutions. Carbon capture methods specifically discussed here include chemical absorption, membrane separation and cryogenic separation.

**SCRUBBERS**

Following the IMO regulations and goals for addressing carbon emissions, investigations are ongoing to apply or adapt scrubber technology for part of the CO2 capture process.

Scrubbers can be characterized by functional categories: wet scrubbers, dry scrubbers or hybrid scrubbers. The majority of marine sulfur oxide (SOx) scrubbers are wet scrubbers using an open loop process and are regulated under MARPOL Annex VI Regulation 4 as equivalent technologies for low sulfur fuel. There are dedicated IMO Exhaust Gas Cleaning System guidelines for the design, certification and approval of SOx scrubbers including discharges to air and water. This technology may be adapted for the cleaning and cooling of exhaust gases prior to passing to the absorber and desorber parts of a chemical absorption carbon capture system.

For general information about the installation of exhaust gas cleaning systems, see the ABS publication Practical Considerations for the Installations of Exhaust Gas Cleaning Systems.

**CARBON CAPTURE USING SOLVENTS**

Depending on the fuel type and exhaust quality, the first step in many exhaust gas purifying systems for carbon capture is to reduce the impurities and gas species including SOx, Particulate Matter (PM), heavy metals, ash and nitrogen oxides (NOx) that may be present in the exhaust gas. Onboard carbon capture systems may utilize wet scrubbing in the exhaust gas quenching/cooling stage and then be arranged using an absorber unit where the solvent extracts CO2 from the exhaust stream. The CO2-rich solvent is then sent to a desorber, or stripping, unit to both separate CO2 from the solvent and recover the solvent for reuse. Depending on the type of solvent used, they may degrade over time at various rates and require replenishment or replacement, while the spent solvent or residue requires proper handling and disposal.

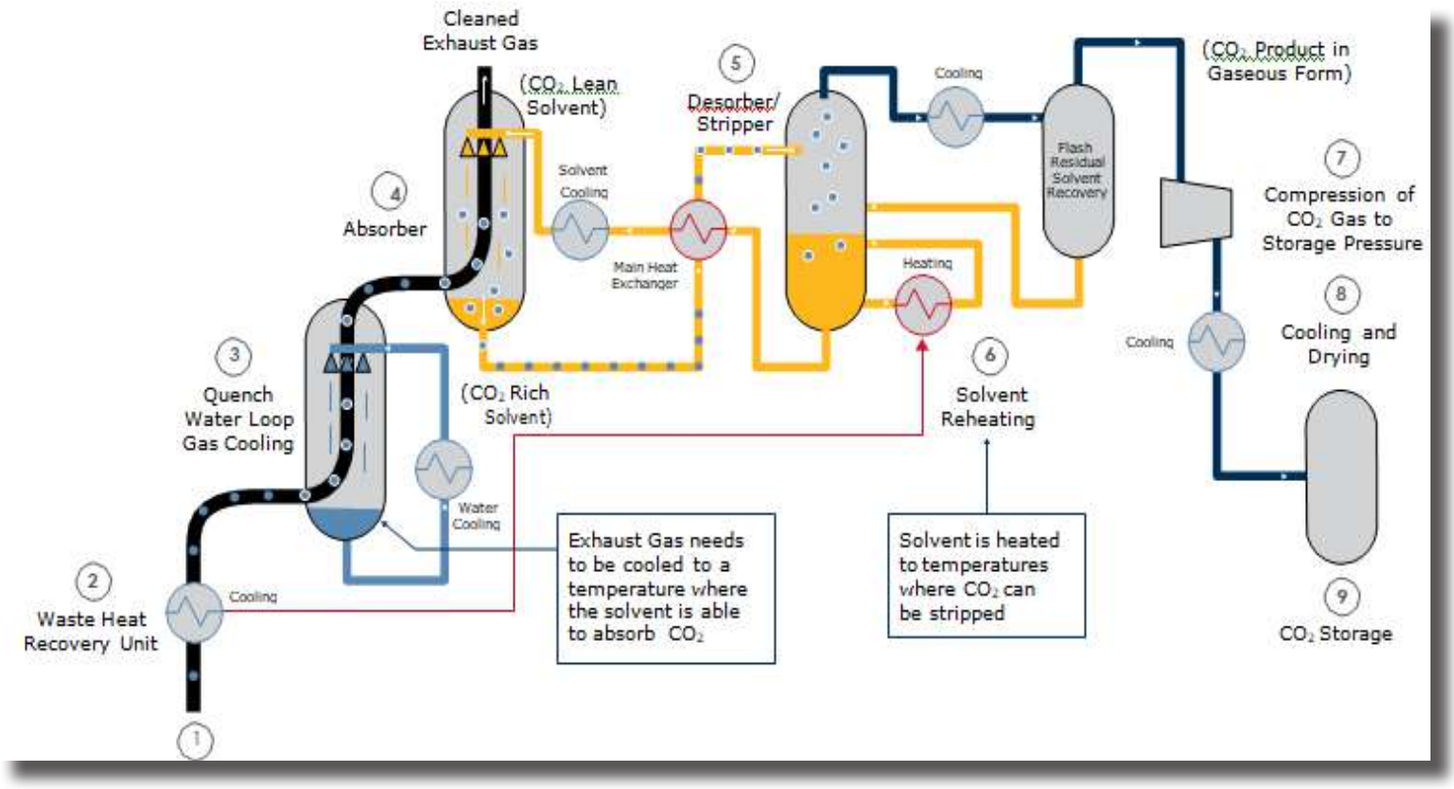
Supporting systems for the main process stages include water vapor removal, heat exchangers for temperature and constituent phase control, blowers or pumps for circulation, or other systems to achieve the desired quality of captured CO2.

See below Figure for a generic onboard carbon capture and storage system using solvents. The 2022 ABS publication Setting the Course to Low Carbon Shipping
– Zero Carbon Outlook includes various concept design arrangements of onboard carbon capture using monoethanolamine (MEA) solvent systems for 50 percent and 90 percent carbon capture on a bulk carrier, tanker and a containership, respectively. The arrangements conceptually show the estimated sizes of the carbon capture systems with explanatory information regarding ship routing, power requirements and system capacities.

**General Considerations for Retrofitting Carbon Capture Systems**

- Capture system retrofit planning, including space constraints and power availability
- Procurement and suitability for vessel
- Engineering, including material compatibility, system configuration and vessel integration, and class and statutory approval
- Installation, including onboard or onshore (in construction) preparation, supporting structures, electrical equipment, piping, ship stability/ equipment weight
- Management and unloading arrangements for stored carbon/CO2
- Storage and handling of solvent/sorbent chemical
- Commissioning, including calibration of monitoring and control systems, functional testing, and performance evaluations for the complete system
- Operation, including manning and crew intervention, safety function, and maintenance and repair of the system.
- Design and construction to recognized standards and engineering fundamentals
- Procedures and training for crew, including onboard operations, offloading and maintenance
- Control systems design and operation, including cyber safety

## Insights into onboard Carbon Capture (continued)




Solvents work as aqueous carriers that absorb excess CO2 molecules from the gas stream and can be composed of a combination of liquefied chemicals. Already used in land-based applications, the technical aspects of carbon absorption using solvents such as MEA, diethanolamine (DEA) and methyldiethanolamine (MDEA), commonly referred to as amines, are mature and well understood.
These three amines exhibit similar characteristics and are generally referred to here simply as MEA. Although handling MEA on land is well understood, it can present a new challenge for handling and storing on board ships. Other solvents introduced here for chemical carbon absorption or direct carbon separation are aqueous ammonia, potassium hydroxide (KOH), sterically hindered amines, piperazine and ionic liquids.
Based on the criteria for the system or operational constraints, various system architectures and solvent types can be used to achieve different carbon capture and energy efficiencies or size/ weight system optimizations. Typically for solvent systems, energy requirements are highest for the energy needed (heat of reaction) for CO2 absorption, heating the CO2-rich amine solution to the regenerator temperature, or producing steam needed for solvent regeneration.

All solvent-based carbon capture systems may require careful consideration of amine or chemical handling needed for operations. For example, solvents that need periodic replenishment or replacement may have specific requirements for the volumes or supply of extra solvent, spent chemical or residue handling and discharge procedures.

**Considerations for Amine or Chemical Solvent Systems**

- Required energy for solvent regeneration
- Available power supply and footprint for supporting systems
- Energy optimization for system integration
- Proper supply and disposal or recycling of chemicals for CO2 capture
- Procedures and crew training for the carriage, handling, loading and discharge of hazardous chemicals
- Ammonia hazards
  – Toxicity, acute
- MEA hazards
  – Toxicity, skin irritant
  – Flammability
  – Corrosiveness
- KOH hazards
  – Corrosiveness
  – Reactiveness

## Insights into onboard Carbon Capture (continued)

**MONOETHANOLAMINE (MEA)**
MEA-based gas cleaning is a well-proven and commercially available method used in land-based applications. Studies have shown that MEA solvent blends were more effective at carbon capture than other solvent blends. However, it should be considered that high efficiency solvents may require high energy input for regeneration.

MEA-based solvents may require a high amount of thermal energy for regeneration (i.e., energy input for the solvent recovery process in the desorber/stripping unit). MEA can also be corrosive to materials and degrade over time. However, the extensive industry experience using MEA allows it to often be used as a benchmark comparison for various alternative carbon capture solvent options.

MEA exists in a liquid state inside the closed loop absorber and desorber solvent systems and must be periodically replenished or replaced. It is hazardous when in contact with the eyes or ingested and is also a skin and inhalant irritator. It is combustible and corrosive, so it is recommended to be stored in a closed container with storage temperature below the known flash point of 86° C. MEA storage containers must be kept dry and away from heat sources. It is classified as a corrosive material, so local and international regulations may provide guidance on proper storage and handling.

**AQUEOUS AMMONIA**
Aqueous ammonia has alternatively been considered a feasible solvent for carbon capture systems due to lower energy requirements. However, ammonia is in high demand in the fertilizer industry, and therefore can be more expensive than other solvents. It is classified as a hazardous chemical, with the disadvantages of using ammonia- based systems including risk of human exposure and environmental pollution.

**POTASSIUM HYDROXIDE (KOH)**
An alternative solvent to MEA and ammonia is KOH, which has comparable performance to other solvents, but may require additional considerations for chemical handling. KOH can be stored as a powdered solid or dissolved in an aqueous solution. Inside the carbon absorption and desorption units, KOH is used as an aqueous solution. In the liquid state, the solution must be stored in a dry, closed container that is resistant to corrosion. This chemical is classified as non-combustible but should be protected from release or exposure to other substances it may react with.

**STERICALLY HINDERED AMINES**
Water-soluble amines known as sterically hindered amines or formulated amines (characterized by a molecular shape where the nitrogen atom of the amine is partially shielded and thus more difficult for large molecules to react with) can show potential for reducing energy expenditure when used as a solvent for carbon capture systems. The use of these chemicals could reduce regeneration costs, but they may require larger absorption and desorption units.

**PIPERAZINE**
Another chemical compound, piperazine, has been investigated as an option for carbon capture due to its strong CO2 affinity and high absorption rate. However, this molecule has limited solubility in water, so its use is limited to blends with other compounds.

**IONIC LIQUIDS**
Research into the solubility and absorption potential of ionic liquids (chemical salt solutions that are liquid at room temperature) shows an ability to improve the efficiency of existing carbon absorption systems. Ionic liquid research is related to molecular electrostatic interactions. Ionic liquids were found to be effective in electrochemical reduction of CO2, and therefore may be able to capture carbon at a high uptake efficiency.

**CARBON CAPTURE USING SORBENTS IN DRY SCRUBBERS**
Sorbents are used in dry scrubber systems to purify exhaust gas streams. Sorbents are solid carriers that are either suspended or scattered within the scrubber. There are many chemicals that can be used in a dry scrubber system, and it is also possible to integrate them with wet scrubber systems for post-processing of the exhaust gas stream. The use of dry scrubbers is not common in the marine environment. This is most likely due to low technical maturity, non-regenerative sorbent characteristics and outperformance by wet scrubbers when comparing efficiency, cost and maintenance requirements.

Although dry scrubbers are not fully industry-ready at this time, further research on solid carriers and dry scrubbers could address the efficiencies of existing technologies.

## Insights into onboard Carbon Capture (continued)

**CARBON CAPTURE USING MEMBRANES**

Membranes can be implemented as a physical filtration system to absorb various impurities, including carbon gas. Conventional membrane technology consists of filters specific to molecule sizes and can require significant input pressure.

Gaseous membrane CO2 filters are made of a semi-permeable fabric that allows selected molecules to pass through while restricting the flow of others. The efficiency of these systems is negatively affected by the presence of other gasses such as NOx and SOx groups, and moisture.

Advanced membrane technology may also use solid carriers (sorbents) bonded to the surface of a filter to encourage chemical or electrical CO2 separation. These are novel and emerging technologies which involve less commercially available systems but may show potential for the future of carbon capture on board ships.

When used in an exhaust gas stream, effective membrane filtration often relies on the use of chemicals with an affinity to carbon to separate the particles in the stream. Effective membranes should have high CO2 permeability, high selectivity of CO2 to nitrogen (i.e., high ratio of CO2 to nitrogen permeability) and be stable at high temperatures and various chemical states.

Some available membranes with these characteristics are polymer- based, with membrane materials consisting of cellulose acetate, polymides, polysulphone and polycarbides. Polymeric coatings may be more cost efficient but can be less effective at separating carbon than cellulose acetate or polycarbonate coatings. Testing of various membrane materials for carbon capture produced promising results but found membranes can be unstable over long periods and may require frequent maintenance, treatment or replacement.

Emerging membrane technologies for carbon capture are investigating the use of electrochemical interactions to enhance their effectiveness, known as electrochemically mediated carbon capture. This process uses a chemical known as benzoquinone to increase membrane carbon affinity when exposed to an electric potential. The capital expenditure for this method can be high due to its novelty and the lack of commercial availability. However, it shows potential to reduce the space requirements for carbon capture technology and limit the operational expenses.

**Considerations for Membranes**

- Membrane filter replacement and maintenance
- Membrane CO2 permeability and efficiency
- Exhaust gas stream impurities and partial concentrations
- If applicable, required power input for electrochemical modulation
- Required power for gas pressure control

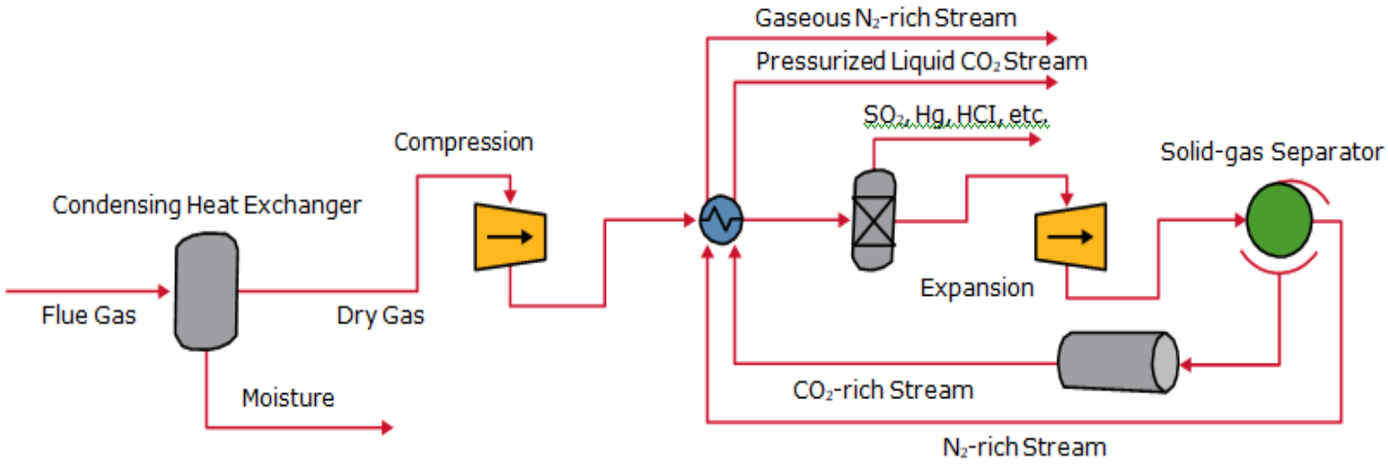
**CRYOGENIC CARBON CAPTURE**

Cryogenic carbon capture is a process in which carbon is separated from exhaust gas by controlling phase changes via temperature and pressure (thermodynamic) modulations. The effectiveness of cryogenic carbon capture relies on the various chemicals found in the gas stream. The process involves cooling exhaust gas to the solidification point of CO2 (-100 to -135° C). Where conventional distillation processes may prefer liquid products for ease of handling, it has been shown in various studies that vapor-to-solid separation can be more energy-effective. Using the CO2 solidification extraction method to extract gases, including NOx and SOx, results in two exhaust gas streams; one consisting of pressurized pure CO2 (99 percent or higher), and another comprised of the remaining contents in the original exhaust at ambient pressure, as shown in below Figure. This system can be installed on existing ships with a relatively small footprint connected to an exhaust gas input and a power source. The extreme temperatures necessary for the cryogenic carbon capture process require the integration with other systems on board to optimize the heat exchange process.

This method is achieved primarily by a network of heat exchangers, the specific architecture of which can significantly improve the energy efficiency of the installed system. It is estimated that this process can reduce the energy consumption of carbon capture by 50 percent when compared to solvent-based carbon capture systems. While cryogenic carbon capture systems appear to have promising advantages over other systems, research is still ongoing to develop, optimize and implement for application onboard ships.

Due to the low temperature requirements for cryogenic carbon capture, they may be of interest to vessels carrying liquefied natural gas (LNG) (which is stored at temperatures as low as -163° C). There may be opportunities for the LNG cryogenic systems to work harmoniously with the cryogenic carbon capture systems to gain additional efficiencies.

## Insights into onboard Carbon Capture (continued)




**CARBON CAPTURE SYSTEM EFFECTIVENESS**

Typically, carbon capture systems may not effectively capture all carbon from the exhaust stream. While it is possible to capture higher percentages of carbon from the exhaust, more input energy and/or additional equipment may be disproportionately required. Operators must therefore decide the quantity of carbon intended to be captured based on emission reduction goals and the feasibility of additional equipment, storage space and supporting systems for onboard capture systems.

The effectiveness of carbon capture systems to purify exhaust gas varies widely, depending on the type of capture system, rate of absorption, capture system size, fuel type, fuel consumption rate and the amount of CO2 concentration in the exhaust gas.

**Considerations for Cryogenic Carbon Capture**

- Available power on board for heat exchange network and compression
- Opportunities to integrate with existing heat exchange systems (especially for low temperatures such as LNG)
- Implications of pure (up to 99 percent) CO2 supply depending on the end-quality needed or desired (e.g., storage requirements or opportunity for resale)

**CHARACTERISTICS OF EXHAUST GAS**

The primary use of CO2 in the marine industry is for EOR. It is also transported as cargo for use in the food and beverage industry, which requires the CO2 to be free of impurities. The type and level of impurities that originate from the exhaust gas that may be present alongside captured carbon needs to be considered within the system design, particularly for the impact of impurities on process equipment and storage tank materials. The contents of exhaust gas from the combustion reaction varies depending on numerous parameters, including the type of fuel, type of engine, combustion process, engine load, steady state or transient loads, ambient conditions and installed emission control technologies.

Due to fuel chemical composition, lighter fuel oils tend to result in an exhaust gas with a higher concentration of CO2 and less SOx and PM when compared to heavy fuel oil (HFO). The consumption of diesel/marine gas oil (MGO), liquefied petroleum gas (LPG), ethane and LNG may offer some benefits of reduced emissions or pollutants, but all hydrocarbon fuels emit CO2 when combusted. In all cases, the actual exhaust emissions depend on a variety of factors. For simplicity, the amount of CO2 emitted is often based on default values linked to the fuel's carbon content (in nondimensional units of m/m), energy content (lower calorific value in kJ/kg) and typical engine fuel consumption data. These parameters are represented by the CF carbon factor value (in units of tons of CO2 per ton of fuel) used in the IMO's Energy Efficiency Design Index (EEDI) and other regulations, including the Energy Efficiency Existing Ship Index (EEXI) and fuel oil Data Collection System (DCS).

The following Table shows some of the principal fuel characteristics for marine fuels and cargoes used as fuel:

## Insights into onboard Carbon Capture (continued)

| Type of Fuel | Identification | Description | Lower Calorific Value (kJ/kg) | Carbon Content m/m | CF (tCO2/ t fuel) |
|---|---|---|---|---|---|
| **Diesel/Marine Gas Oil** | ISO 8217 Grades DMX through DMB | Distillate petroleum marine fuels of various specified characteristics | 42,700 | 0.8744 | 3.206 |
| **Light Fuel Oil** | ISO 8217 Grades RMA through RMD | Residual petroleum marine fuels with kinematic viscosities (at 50° C) equal to or lower than 80 $mm^2/s$ | 41,200 | 0.8594 | 3.151 |
| **Heavy Fuel Oil (HFO)** | ISO 8217 Grades RME through RMK | Residual petroleum marine fuels with kinematic viscosities (at 50° C) higher than 80 $mm^2/s$ | 40,200 | 0.8493 | 3.114 |
| **Liquefied Petroleum Gas (LPG)** | | Gaseous fuel primarily composed of propane ($C_3H_8$) or butane ($C_4H_{10}$) | 46,300 (propane) | 0.8182 | 3.000 |
| | | | 45,700 (butane) | 0.8264 | 3.030 |
| **Ethane** | | Gaseous fuel primarily composed of ethane ($C_2H_6$) | 46,400 | 0.7989 | 2.927 |
| **Liquefied Natural Gas (LNG)** | | Gaseous fuel primarily composed of methane ($CH_4$) | 48,000 | 0.7500 | 2.750 |
| **Ethanol** | | Liquid fuel primarily composed of ethyl alcohol ($C_2H_5OH$) | 26,800 | 0.5217 | 1.913 |
| **Methanol** | | Liquid fuel primarily composed of methyl alcohol ($CH_3OH$) | 19,900 | 0.3750 | 1.375 |

## Insights into onboard Carbon Capture (continued)

### CAPTURED CARBON HANDLING AND STORAGE

As vessel size, speed and consequently fuel consumption increase, carbon stack emissions can also increase. Total carbon emissions (and therefore total captured carbon) from a vessel over one voyage therefore can depend on the type of fuel consumed, vessel size, weight, engine rating and performance, voyage speeds, environmental conditions and route length. For example, highly effective carbon capture systems would require more storage capacity and handling equipment, however, frequent discharges or shorter routes may not require as much carbon storage capacity or handling equipment.

As technology develops to support carbon capture requirements, additional considerations for the application of various equipment in a marine environment is necessary. When planning to capture carbon and store it onboard, ship designers, owners and operators should consider system operation and maintenance, available space, required power, availability of auxiliary systems, necessary controls and any potential economic tradeoff can impact the feasibility of technology on different ships.

More information about the conditioning processes of CO2 purification, dehydration or liquefication is provided in the ABS publication Carbon Capture, Utilization and Storage applicable to the onboard handling and storage of CO2.

Once captured, there are several options to store carbon until it is ready to be discharged. In general, CO2 can be stored in gaseous or liquid forms by compressing or liquefying the gas to cryogenic conditions or can be chemically transformed through a reaction process to a product that is easier to handle.

### LIQUEFIED CO2

To maximize the capacity of CO2 storage in limited space, liquefaction on ships may be the most appropriate solution considering space requirements as well as the ease of handling a liquid cargo.

Liquefied CO2 can be stored in pressurized and insulated tanks while on board to maintain cryogenic conditions. Pressurized tanks can handle boil-off from liquid CO2 up to certain design pressures, where pressure relief and boil-off gas reliquefaction has typically then been implemented. Type C liquefied gas tanks, as detailed by the IMO's International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code), are the current marine standard for pressurized CO2 storage.

Although research is currently underway for the use of other classes of tanks, using Type C is common industry practice due to the relatively high pressures required for storage of liquefied CO2. Care should be given to the purity of stored CO2 within Type C tanks, as impurities can cause corrosion in the storage system. More information on tanks for gaseous cargoes can be found in the ABS Advisory on Gas and Other Low Flashpoint Fuels and the ABS Guidance Notes on Strength Assessment of Independent Type-C Tanks.

### CHEMICAL TRANSFORMATION

Methods of onboard storage that involve absorption or chemical transformation can produce a substance that is easier to manage and store than gaseous or liquefied CO2. This may involve the production of a solid substance which could increase market value. However, vessel stakeholders considering these methods of onboard storage should keep in mind additional reactant chemical supply, handling and storage, reactor equipment, as well as the processing rates and storage capacity on board for the produced chemical.

One method of chemical transformation uses chemical absorption and subsequent reactions to produce calcium carbonate from the captured gas. In this process, CO2 is absorbed by sodium hydroxide (NaOH, i.e., caustic soda) to form sodium carbonate. This product is then treated with a calcium oxide (CaO, or quicklime) solution to form solid calcium carbonate (CaCO3) and regenerate the NaOH. CaCO3 is commonly known as soda ash, and forms a powder or small pellets, depending on the concentration of the reactants.

NaOH is a solid at room temperature, so pressurized and climate-controlled storage containers may not be necessary. However, it is corrosive to metal and damages skin on contact. Safety measures should be taken when handling the chemical.
CaCO3 is a white powder of small crystals and is not considered hazardous by the Occupational Health and Safety Association (OSHA). It is not flammable or corrosive, but it is a strong oxidizing agent and acid.

## Insights into onboard Carbon Capture (continued)

This method to extract CO2 from the exhaust gas allows sodium hydroxide to be recirculated and for the captured CO2 to be stored as a solid soda ash product. NOx, SOx and other acidic gases are also absorbed by NaOH. This may offer small reductions in the cost of solution degradation and space required for temporary storage while underway. The cost of this additional precipitate can be offset by marketing produced CaCO3 to the paper, construction or plastic industries. CaCO3 typically has greater commercial value than CO2, which could significantly offset the operational expenditures of this system.

**ENERGY REQUIREMENT ON BOARD**

The onboard energy requirements for carbon capture systems depend on the type and size of the system, the flow rate of exhaust gas into the system and the target efficiency for carbon removal. The energy requirements for carbon capture can increase immensely as the target capture rate rises.

Energy for carbon capture is required for various purposes, including electrical or thermal inputs to manage CO2 or other product processing. Heat exchangers, chemical regeneration activities, steam generation, pumps, compressors, condensers, evaporators, reactors and liquefaction systems may be required for various carbon capture and handling architectures.

It is also critically important to consider that as more energy is required in addition to typical vessel loads, onboard engines and auxiliary generators may also need to increase power generation, resulting in an increased amount of exhaust emissions. For this reason, system power consumption is directly related to carbon capture effectiveness and is an essential consideration for the overall feasibility of the carbon capture system on board.

Consideration is also to be given to the energy requirements of the carbon storage systems, as applicable. For example, CO2 liquefaction equipment can significantly increase the required energy supply. This could be a drawback for liquefaction of captured CO2 on board. However, energy and space requirements are closely tied and often inversely proportional. If liquefaction is not available, the space requirement for temporary onboard storage of gaseous CO2 can increase prohibitively.

**Considerations for Storing Captured CO2 On Board**

- Moisture content and contaminants in captured CO2 stream and corrosive effects on system
- Requirements to maintain pressure and temperature of captured CO2 (i.e., compressed, liquefied) within specified limits
- Sufficient power and capacity available for handling and storage systems on board
- Volume and mass of captured CO2 per route or voyage for storage space requirements
  – Foundational support for added equipment
  – Vessel strength and stability with added equipment
- Measuring and verifying amounts captured, stored and offloaded
- Locations, frequency and rate of discharge or transfer
- Additional chemical supply systems and equipment for onboard generation of calcium carbonate (if applicable)
- Potential leakage or release of CO2; the dense gas does not readily disperse in the same way lighter gases do
  – CO2 Detection and alarms
  – Minimizing non-welded connections for leak protection
  – Emergency procedures and training for storing CO2 on board and related incidents

**Considerations for Required Onboard Energy**

- Impact of capture and storage system on operational power loads
- Required captured CO2 purity and capture rate
- Handling additional emissions generated due to higher energy requirement from CO2 capture system
- Opportunity for energy efficiency improvements through heat exchangers or integration with existing onboard systems

**DOWNSTREAM CONSIDERATIONS**

While not discussed in detail herein, downstream considerations are critical to support the global impact of local carbon capture efforts. For example, the choice of arranging long-term carbon sequestration versus selling the captured carbon may influence the long-term intent of capturing carbon.

The economic drivers for carbon capture could offer opportunities to resell captured products and avoid potential carbon taxes. Additional infrastructure may be necessary to offl ad CO2, evaluate delivered CO2 properties, measure delivered amounts of CO2 and purify or process the delivered CO2 if necessary. Land-based or offshore infrastructure for carbon storage and transportation may have an impact on the scale of carbon capture efforts and will also be necessary to support the eventual sequestration or utilization of the captured carbon.

## Insights into onboard Carbon Capture (continued)

Pipelines for CO2 transport currently exist to support EOR operations. Alternatively, gas carriers can be used to transport CO2. The choice involves understanding the economic and technical feasibility of gas carriers and pipelines, depending on the expected distance transported, volumes and international export requirements.

The processing of CO2 is supported by technologies developed in coal fired plants and other land-based operations. One option is to resell a pure CO2 stream to support the production of other fuels (e.g., the production of synthetic fuels such as e-methanol, e-LNG or other e-fuels), use for EOR or processed as various solids used in other manufacturing industries. These market options have the potential to mitigate operating expenses (OPEX) of onboard carbon capture. Not only does this make the IMO carbon capture goals more achievable, but it makes research and development of new and efficient technologies more attractive.

**Downstream Considerations for CO2**

- Offloading arrangement procedures and training for crew
- Available offload and storage facilities at ports and terminals
- Metering for carbon trade efforts
- Market value of captured CO2
- Opportunities for carbon taxes, levies or trading schemes
- Life-cycle impact of captured CO2
  - Permanent sequestration can reduce atmospheric greenhouse gas (GHG)
  - Resale and use of captured CO2 in industry may result in re-emission into atmosphere

**ONGOING ACTIVITIES**

The development of carbon capture technologies is actively ongoing, with emerging efforts focusing on the feasibility of carbon capture on board ships for a wider range of operations.

Some efforts focus on modifying existing onboard systems for carbon capture. For example, Langh Tech, a sister company of Langh Ships, is researching and testing modifications to SOx scrubbers to capture carbon from exhaust gas streams. While the presence of more CO2 in the process water was expected to be higher, the process was found to be reasonable and operating expenses were not significantly impacted. Research continues at Langh Tech to optimize the scrubber efficiency and the effort needed for process water regeneration.

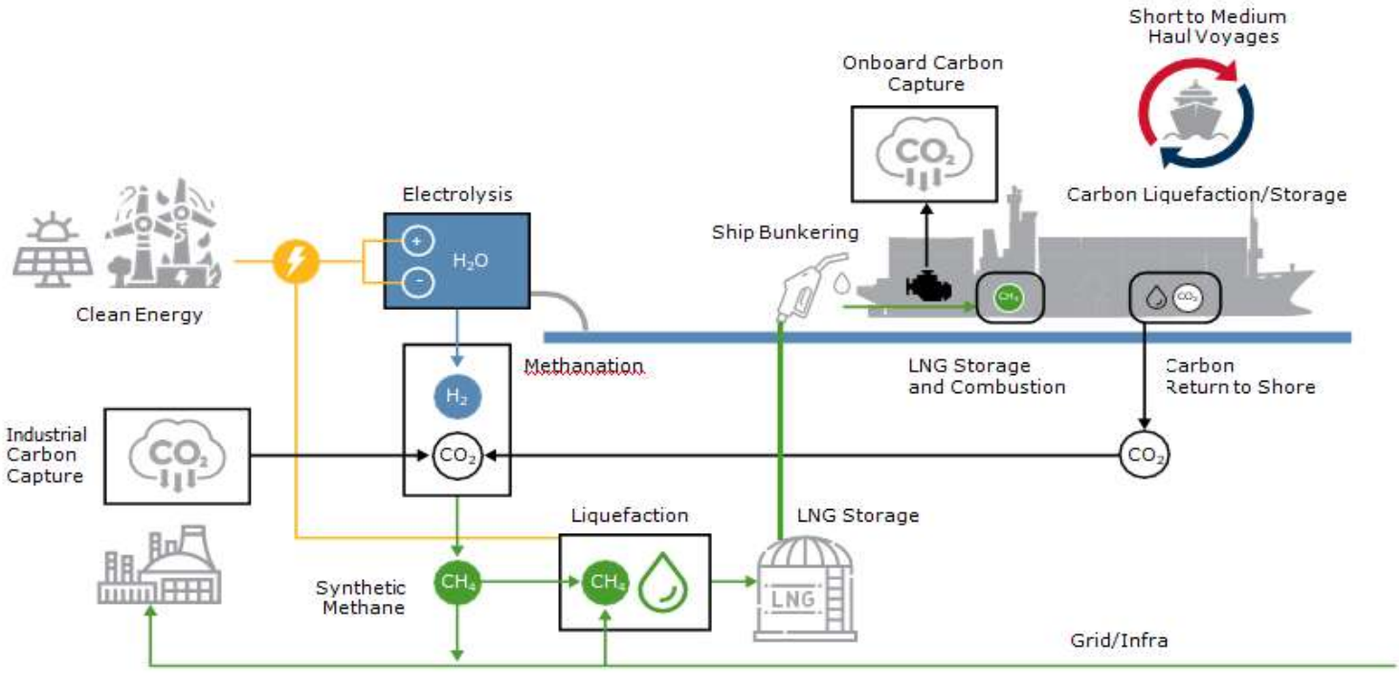
Other ongoing activities involve implementing new technologies on board.

A memorandum of understanding (MOU) was signed in 2021 by TECO 2030 ASA, Chart Industries and PMW Technologies to develop carbon capture technologies for ships and store liquefied captured carbon. The system uses cryogenic carbon capture methods and expects to achieve a highly pure liquefied CO2 cargo. The continual research into this method further offers the potential that cryogenic carbon capture will play a role in onboard technologies in the future.

Deltamarin, a Finland-based ship designer, completed a case study in 2021 for carbon capture using a solvent scrubber system incorporated with LNG fueling arrangements on a roll-on/roll-off passenger (ro/pax) ferry. The design incorporated a Wärtsilä exhaust treatment to capture CO2. The LNG ferry was chosen for the study because they operate on fixed routes and captured carbon can be frequently discharged onshore, as shown in below Figure. This can provide benefits such as less carbon storage required as well as inherent benefits of heat exchange, heat recovery, and heat sinks when incorporated with the LNG fuel management systems.

Value Maritime is in collaboration with Carbon Collectors to create a conceptual design study for a fleet of carbon neutral tug vessels fueled by MGO. The project is described by Value Maritime as a true 100 percent recycling operation that will capture all the CO2 exhaust from the ship and will investigate solutions for unloading and permanent sequestration. The design plan includes construction in 2024, and fleet operations in 2026 using the carbon capture systems.

## Insights into onboard Carbon Capture (continued)




## Management Review Meeting Interim 2022-02

1. Thank you all 24 participants for your engagements in the Management Review Meeting Interim MR22-02, which was conducted virtual on 13Sep22 .

2. The meeting was not recorded this time.

3. During the meeting following topics were particularly addressed:

- update and report of actions plan follow up, DMS refresh with latest DMS revisions, the fearless ego for success concept, including the 3 pillars ( incident reporting and investigation, Management of Change and Risk Management) and engagement, Roxana 3x3x3 soft skills model and communications policy, health (mental and Physical) and competence (soft and hard) for performance, Health and Safety aspects and management, Environmental aspects and management, Quality management, cyber security and ISPS, last Management Review and KPIs.
- An introduction to the workshop "Teamworking: Belbin team roles 360" was given.
- review of the responses of the recent workshops of MR22-02 interim, ie CPARS intro, Communication for resilience and care-Let's talk, Take care of myself and my team-Leading my team's wellbeing and Take care of myself (my team) - Managing fatigue which were conducted hybrid, virtual and physical, for the period 06-12Sep22. Thank you all for the prompt and proper fill in of the tasks and the questionnaire and your further feedback evaluating the workshop in terms of more to learn, most impact and for recording your personal commitments for next day to improve your response for your team's well being.

Based on the questionnaire responses following is highlighted:

- The level of understanding of the topic of the workshop is very satisfactory for all participants.
- The self assessment responses identified that the qualities of a safety leader and his response to failure are in general met, improvement is needed for the ''learning from success" and ''Remember you are being watched so be sure to be seen responding to things right".
- The No Blame culture prevails in our system, however the shifting from the individual error to the system error still needs to be more carefully addressed.
- All participants were committed to apply the learnings of this workshop and improve their response to failures as team leaders or team members.

Records and analytics of the workshops, as well as Draft Minutes of the meeting, along with the updated corrective preventive actions of Corrective Preventive Actions Plan, have been made available to all participants.

All participants welcome the event and are looking forward for the next Management Review meeting in November.

## TEK attendance M/T Mavrouda 05Sep22

Our Managing Director Mr. T. Koutris boarded M/T Mavrouda on 05Sep22 at Piraeus during her berthing at Nafsi shiprepairs in Perama, Piraeus for installing the stern line crane.
Security watch on board headed by ChOff Sergei Niukin was very polite, helpful and effective.
Tour of the vessel was conducted, in the presence of

- Master German Dimov and 3rd officer Danila Dribas for deck and accommodation
- Chief Engineer Aleksei Sergeichev and 2nd engineer Roman Andeev for Engine room

The following follow up message was sent to Master German Dimov:
qt
Dear Capt German,
Thank you, the Chief Engineer Aleksei Sergeichev, the Chief Officer Anastasiadi Andrei and your crew for the co-operation and hospitality extended throughout our attendance on board on the 05Sep22.
We have noted with interest that no particular personal issues for your crew were reported to be resolved.
During this attendance we had the chance to:

- express our appreciation for:
  - the excellent team you are privileged to manage and work with, and the efforts done to improve the overall condition of your Ship
  - achieving the 0 injuries target

  with the will to keep up doing a good job
  - 3rd party inspections performance, meeting the targets and particularly for vetting 3.5 dpi
  - PSC inspections, meeting the target of 1 def/inspection
  - your crew resilience and understanding for crew changes delays during the covid19 pandemic and the war sanctions, which will most likely last beyond the 22
- discuss the Company Vision the IDEA values, the TAB Safe and PALI principle
- elaborate on the Roxana "Fearless ego for success" tree , highlighting:
  - the Principal Order for all to" Return Home Healthy", with the related "care about myself and my team" and the "communication for resilience" workshops
  - the three pillars of our system, CPAR MoC and RM
  - the engagement as ticket to commitment and culture and how engagement is boosted on board with the active participation of HSQE committee members, through Master's review and response to Company project FUNs and the application on board of reflective LFI, LET, debate on board and resilience modules
- introduce the new concepts of:
  - the Roxana 3x3x3 soft skills model and the health (Physical and mental) and competence (soft and hard), as pre-requisites for success in human performance
  - the principles of human performance:
  - Humans err
  - Humans want to do a good job
  - All systems can be more human error tolerant

  which are the basement for developing a fair and just culture, which at the same time is a no blame culture, success, meaning Incident Free Effective Efficient (IF EffEff)

We had also the opportunity to discuss

- The covid19 and the war sanctions and how to manage crew changes and crew allotments in such a challenging environment
- the campaigns we are up to this period ie:
  - Return Home Healthy and PALI principle
  - The training on board for promotion, the reflective LFIs/LETs and resilience modules
- All company projects FUNs and action plans from ship's side

## TEK attendance M/T Mavrouda 05Sep22 (continued)

We had also the opportunity to discuss over a new workshop "physical wellbeing, exercises", now incorporating the Shell partners in Safety module for Physical well being.

Thank you again, stay healthy and pls convey our thanks to your crew.
uqt

## Emodiversity better than happiness

**Extract from Safety4Sea**

What is the end goal of life? "Happiness" Captain Obvious may say and indeed, the idea of feeling constantly happy sounds great. However, science has come to question again what can be characterized as "common knowledge", by proving that feeling a variety of emotions is much more beneficial than feeling only positive emotions.
The association of positive emotions with both mental and physical health is not big news; We already know that happier people, not only tend to be more productive, but also live longer, and that stress can have adverse effects on our health. For instance, feeling joy will probably lead someone to feel that they had a better day than someone who experienced joy and stress.
However, studies of the last few years have shown that what can be considered as "bad" feelings are also beneficial for making us feel more fulfilled human beings, and that experiencing an abundance of emotions is a better predictor of mental and physical health. Described as 'emotional diversity' or 'emodiversity', this concept is gaining attention for balancing mental state and improving quality of life.

**What is emodiversity?**
As the name suggests, emodiversity describes the experience of a variety of emotions, both positive and negative. Humans have the unique ability to experience 34,000 different emotions; happiness, joy, pride, gratitude, amusement, admiration, satisfaction, excitement, surprise, nostalgia, sadness, anxiety, embarrassment, fear, guilt, disgust, anger, boredom and horror are only a few of them. Anthony Ong, professor of human development, has associated the concept of emodiversity with biodiversity; in the same way that each and every species in the world serves a particular cause for the world to keep existing, each and every emotion serves a role for people to be able to adapt in different conditions of life. Accordingly, in the same way that the environment loses its balance when one species becomes overabundant, an individual may be more challenged to regulate their behavior when limited feelings dominate their everyday life.

## Emodiversity better than happiness (continued)

**Why is it important?**

A great deal of research has proven the importance of emodiversity for mental and physical health. A 2015 study to over 35,000 participants in France revealed that those with greater emodiversity—i.e., those who experienced a broader range of emotions—were less likely to experience symptoms of depression. Meanwhile, low emodiversity — even if it is on the positive spectrum — might actually be damaging. The example is classic, we have all seen it or discussed it at some point of our lives: "They have everything, why can't they be content?"

Furthermore, a study led by Ong asked 175 participants aged 40-65 to keep a log of their daily emotions for 30 days, rating the extent to which they had experienced 16 positive and 16 negative emotions that day. Participants also had their blood tested twice; one at the beginning of the study and another six months later. Results showed that the people with the lowest rates of inflammation were the same ones who reported a wide range of positive emotions.

And while these two studies proved the significance of only positive diverse emotions, a study by Harvard Business School to over 37,000 respondents revealed that either positive or negative, emodiversity is associated with better mental and physical health.

**What does emodiversity contribute to the workplace?**

**#1 Progress:** When diving deeper into the concept, it makes more sense. Have you thought about it? When feeling happy, the last thing you want is to do something that could change things, but this is where scholars come again to show that people may be less likely to get creative or innovate when happy. For instance, research from the University of Hong Kong to 400 Filipino high school students showed that emotional diversity was linked to better students' engagement. And this is where the association of emodiversity with personal development enters the game. Ashamed because you failed at something? This embarrassment is probably fruitful for you, especially when it results from trying something new.

**#2 More efficient interactions:** There have only been a few decades that the importance of human emotions has found its way in today's business world vastly dependent on negotiation, compromise, collaboration and mutual understanding for efficient outcomes. Describing the ability to monitor and recognize our own and other people's emotions, the concept of emotional intelligence (EQ) has emerged as an equally vital skill to the conventional measurement of cognitive intelligence (IQ) and paved the way for people to conceive how empathy can make a difference in corporate life. But being able to spot reactions and triggers to other people requires that you are in tune with your own reactions and triggers first.

**#3 Self-awareness and appreciation:** Cheesy social media memes makers say, "you can't have a rainbow without a little rain first" and we have to agree. When we are open to feelings like sadness and anger, we are more likely to appreciate and make the most of the happy moments. In addition, when we pay attention to our full range of emotions, and what causes them, we actually learn more about ourselves.

So, the next time you will feel frustrated for having bad feedback from your manager or for exchanging heavy words with that colleague, take your time and think better. Change is mother of progress, nothing exciting has ever come from leaving things as they are. Stop trying to be happier -toxic positivity left the chat- and start focusing on becoming more emodiverse. Unless your workplace is toxic, where you have a different guide to follow.

## Geopolitical Conflic - Ukraine, Black Sea & Sea of Azov - Updated 01Sep22

Following the Initiative on the safe export of grain, foodstuffs and fertilizers, including ammonia, from the Ukrainian ports signed by the Russian Federation, Ukraine and the United Nations , a circular was released on 02Sep22 to our Masters, giving them an insight as follows:

QT

On 22Jul22 the Republic of Marshall Islands (RMI), the Russian Federation, Ukraine and the United Nations signed the Initiative on the safe export of grain, foodstuffs and fertilizers, including ammonia, from the Ukrainian ports.
The Initiative is based on agreements of parties of the International Convention for the SOLAS 1974, as amended, Regulations XI-2/11 and the International Ship and Port Facility Security Code (ISPS Code), Part B, paragraph 4.26; as a condition for entry to and departure from Ukrainian ports.
The purpose of this Initiative is to facilitate the safe navigation for the export of grain, foodstuffs and fertilizers, including ammonia from the Ukrainian the Ports stated in the Initiative as the Ports of Odessa, Chernomorsk and Yuzhny, geographically named in Ukraine as the Ports of Odesa, Chornomorsk and Pivdennyi respectively (the Ukrainian ports). The Initiative can only authorize the export of cargo from the Ukrainian ports but not the import of cargo into the Ukrainian Ports.
The operations within the Initiative will be coordinated by the Joint Coordination Centre (JCC) in Istanbul, by representatives of the three parties and the United Nations.

In reference to our circular ID/CIR-ISM-22-1894 - Geopolitical Conflict - Ukraine, Black Sea & Sea of Azov dated 28Feb22, the Republic of the Marshall Islands (RMI) Maritime Administrator (the "Administrator") has issued their latest circular SSAdvisory 22-02 rev 10 - Geopolitical conflict (Ukraine, Black Sea, Sea of Azov) which is attached for your future reference and highlights are stated below.

Masters should ensure that following precautions are efficiently implemented at all the times:
1. All vessels shall transmit on Automatic Information System (AIS) at all times whilst participating in the Initiative.

2. Vessels must be at Maritime Security (MARSEC) level 3 in compliance with the requirements of the government of Ukraine by the time they arrive at the Turkish Inspection Area (see below) and to be prepared for inspection.
Crew should not attempt to disembark the ship unless instructed to do so by the Ukrainian military

3. Vessels in the Black Sea EEZ of Russia are required to operate at SHIP SECURITY LEVEL II (or equivalent security measures). Commercial vessels should not attempt to enter the Sea of Azov since access will be denied by Russian military forces. This requirement is temporary and subject to change as the situation progresses.

4. As a vessel moves through the Maritime Humanitarian Corridor, it is additionally protected by a buffer zone.
The buffer zone is a circle, 10 nautical miles in radius based on the centreline of the corridor and moves along with the vessel but does not extend past either terminus of the Maritime Humanitarian Corridor.
No military ships, aircraft or UAV will close to within 10 nautical miles of a merchant vessel transiting the Maritime Humanitarian Corridor.
In case that, vessels encountering provocations or threats while transiting the Maritime Humanitarian Corridor should report immediately to the JCC using the form in Appendix E of Annex B of the attachments.

5. Vessels encountering provocations or threats while transiting the Maritime Humanitarian Corridor should report immediately to the JCC using the form in Appendix E of Annex B.

6. The JCC will provide vessel movement information in the Maritime Humanitarian Corridor to all the Parties, including the military authorities, to prevent incidents.
If the military authorities have no objection, the JCC representatives from each Party will acknowledge that all military ships, aircraft and units in the area have been notified, and that the vessel can move safely.
If a JCC representative informs the JCC of a threat to the merchant vessel (such as military action in the area), the JCC may take action to ensure the safety of the vessel.

## Geopolitical Conflic - Ukraine, Black Sea & Sea of Azov - Updated 01Sep22 (continued)

7. In the case of receiving information regarding a change in the time or date of approach of vessels to the Turkish Inspection Area, the Ukrainian authorities will notify the JCC. If adverse weather does not allow for inspections in one of the Turkish Inspection Areas, vessels will receive instruction on inspection from the Istanbul Port Authority.

8. Detailed instructions and related procedure has been developed by the parties and shall be followed by all merchant vessels planning to export grain, foodstuffs and fertilizers, including ammonia from the Ukrainian Ports.

As stated above, please review the RMI circular SSA 22-02, the latest JCC procedures, mainly para 4 & 31 and IMO Circular Letter 4611, as attached, for your kind reference and necessary actions

Kindly discuss all the above with your crew and keep the records in the next HSQE CMM, form CP06-10 Section 4.2 of September 2022 and revert confirming compliance/ readiness.

Attachments
1. 2022 - JCC - Black Sea Grain Initiative procedures for merchand ships
2. 2022 - IMO Circular No.4611-Add.1 - Communication from the United Nations Office for the Coordination of Humanitarian Affairs
3. 2022 - SSAdvisory 22-02 rev 10 - Geopolitical conflick (Ukraine Black Sea Sea of Azov)

UNQT

## Outstanding 3rd Party Inspections Performance

As we all know 3rd party inspections KPIs and particularly PSC and Vetting KPIs are vital for the tradability of our Fleet.

For PSC inspections absolute target for 2022 is 0 detentions and then 0.9 deficiencies per inspection, the combination of which will keep Roxana in the high performance companies, as per the Paris MOU NIR ranking.

For the Vetting inspections the absolute target for 2022 is 100% successful inspections, ie inspections without rejection, and then 3.5 deficiencies per inspection.

Thanks to the effective efforts of our Fleet we are proud for the outstanding performance of the vessels in terms 3rd party inspections as indicated in following table:

| VESSEL | MASTER | CHENG | FLEET SUPNT | INSPECTION | PORT | DATE | DPI | Target |
|---|---|---|---|---|---|---|---|---|
| M/T Asprouda | A. Chernobrovkin | E. Svistunov | - | Vetting | KAZ | 14Jan22 | 2 | 3,5 |
| M/T Asprouda | A. Chernobrovkin | M. Iurii | - | PSC | Rio Grande | 08Mar22 | 0 | 0,9 |
| M/T Asprouda | A. Chernobrovkin | M. Iurii | - | PSC | Bandar Abbas | 05Jul22 | 0 | 0,9 |
| M/T Asprouda | A. Okolo-Kulak | O. Krill | - | FSI | Jebel Ali | 18Aug22 | 0 | 0,9 |
| M/T Aligote | E. Ivanov | A. Potyanikhin | - | Vetting | Tenerife | 28Jan22 | 4 | 3,5 |
| M/T Aligote | T. Kristovich | A. Potyanikhin | - | FSI | New York | 24Jun22 | 0 | 0,9 |
| M/T Aligote | T. Kristovich | A. Potyanikhin | - | PSC | New York | 25Jun22 | 0 | 0,9 |
| M/T Aramon | A. Verkhovskii | S. Farkov | - | FSI | Fujairah | 01Jan22 | 0 | 0,9 |
| M/T Altesse | O. Sukhodoev | A. Polkovnikov | - | PSC | Ras Tanura | 30Mar22 | 0 | 0,9 |
| M/T Altesse | O. Sukhodoev | I. Dolkopolov | - | Vetting | Sohar | 17May22 | 3 | 3,5 |
| M/T Magic Star | A. Gulin | S. Oreskiy | - | FSI | Mumbai | 26Jan22 | 0 | 0,9 |
| M/T Magic Star | A. Gulin | S. Oreskiy | - | PSC | Tuapse | 19Jul22 | 0 | 0,9 |
| M/T Magic Star | V. Sheludko | A. Arsentyev | - | Vetting | Dortyol | 01Sep22 | 3 | 3,5 |
| M/T Malbec | D. Maltcev | O. Valeriy | NDK | Vetting | Yanbu | 03Jul22 | 4 | 3,5 |
| M/T Marvel | O. Mikhalev | A. Shumkov | - | PSC | Chittagong | 28Sep22 | 0 | 0,9 |
| M/T Miracle | V. Sheludko | K. Evgrafov | - | FSI | Singapore | 21Feb22 | 0 | 0,9 |
| M/T Miracle | S. Simonov | K. Evgrafov | - | Vetting | Mundra | 05Mar22 | 4 | 3,5 |
| M/T Miracle | S. Simonov | K. Evgrafov | - | Vetting | Hamriyah | 28Jun22 | 3 | 3,5 |
| M/V Discoverer | V. Bekirov | Y. Kabakov | - | PSC | La Plata | 25Feb22 | 0 | 0,9 |
| M/V Discoverer | V. Bekirov | Y. Kabakov | - | PSC | Lagos | 24Jan22 | 0 | 0,9 |

# Lessons Learnt

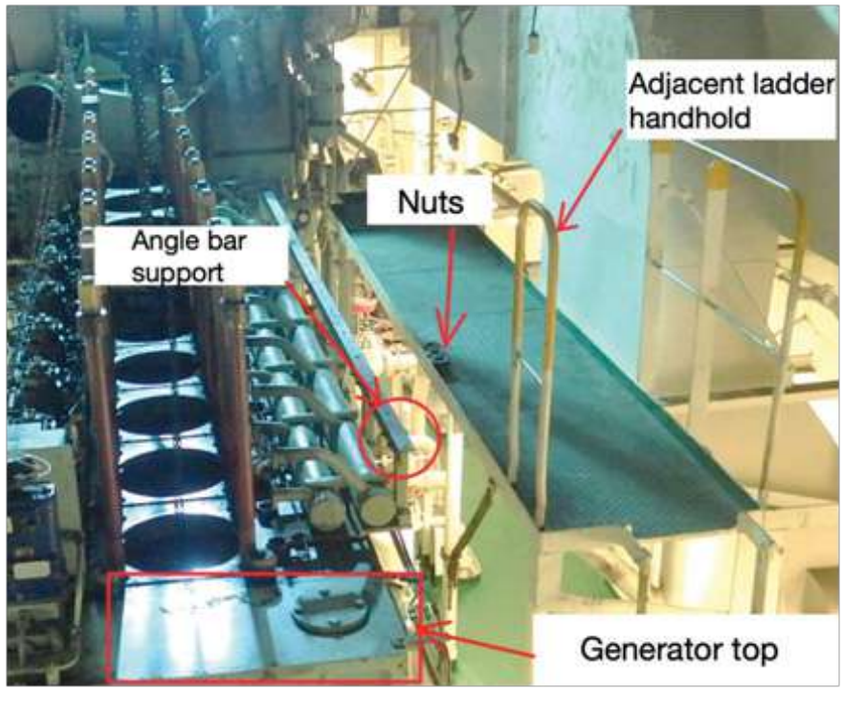
## Eye injury from high pressure air release

A deck officer was tasked to escort an accredited technician to inspect the free fall lifeboat air cylinders while the vessel was in port. The technician requested that the officer assist him by opening the air cylinder valves one by one to check the pressure. The first valve was opened without incident but when the second valve was opened, the high-pressure hose burst near the officer's face. Compressed air, dust and particles from the damaged hose hit his eyes, causing irritation.
First aid was quickly provided and the victim was then taken ashore for medical attention. After two days rest the crewmember was considered fit for duty.

Lessons learned
This incident is a good example of why protective eyewear should be in common use on board, much as hard hats and steel-toed boots already are.

***Source: MARS***

## A gap – a slip – an injury
## As edited from FEBIMA (Belgium) report 2020/007561




An LNG tanker was moored at an offshore terminal. Work was to be done in the engine room dismantling the auxiliary generator. A permit to work was issued and a workplace inspection was carried out before work began.
As the work progressed, one of the engineers was standing on top of the generator. There was a walking platform adjacent to the generator top, at the same height but separated by a gap of 40 cm. The engineer required some nuts that were lying on the platform, but were out of
his reach. He attempted to step onto the platform from the top of the generator. He steadied himself with his right hand on the adjacent ladder handhold and stepped onto the platform with his right foot.
As he brought his left leg forward he slipped. His leg struck the edge of an angle bar supporting the exhaust manifold with some force.
The blow resulted in a cut 15 cm long and 3 to 5 cm deep on the calf of his left leg. He was given first aid and later disembarked for shore treatment. He was declared fit for work about three weeks later.

Lessons learned
- We are often tempted to overreach when accomplishing a job. Better to have help.
- Proper PPE is important. In this case, the engineer was wearing only a light cloth coverall. It is likely a more robust coverall would have afforded better protection.
- Permits to work and workplace inspections before beginning work are good risk reduction measures but they cannot remove all risks. Careful attention to our actions and common sense are needed throughout the task.

***Source: MARS***

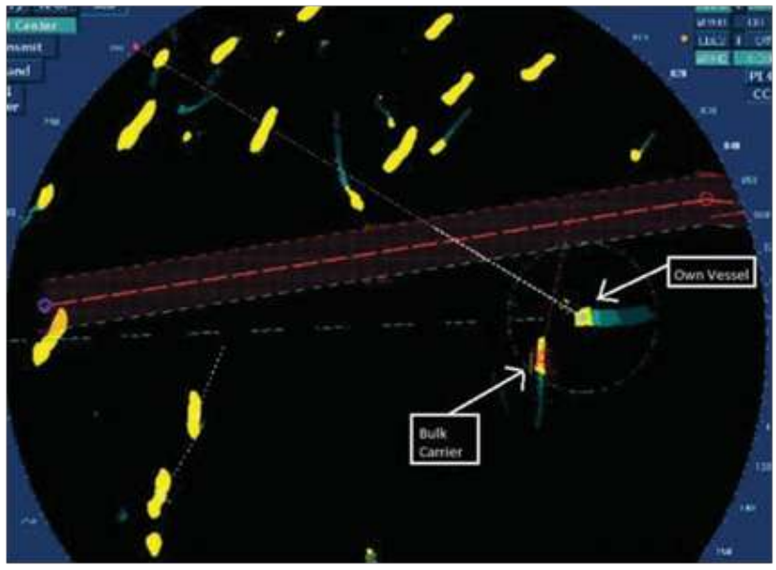
## Berthing lines – embedded hazards

During berthing operations at a loading terminal, the line-handling crew were surprised to find metal rings and tags entwined within the yarns and strands of a vessel's lines. These objects present a potential catch point and/or finger entrapment hazard for anyone handling the lines. There is also a risk that these objects could detach and become projectiles when lines are under load or when lines are being run. This was the fourth vessel in six months to have lines with such hazards. The terminal authorities grew concerned and made a MARS report.
It is likely that the rings and tags are items associated with materials used to pack the lines themselves. It is also possible that these objects could have become embedded within the lines during usage.

Lessons learned
- When bringing a new line into service, ensure all packing and extraneous materials are removed from the line before use.
- It is good practice to observe and inspect berthing lines at every use; as they go out and when they come on board. The inspection should cover the general state of the line, but be aware of any objects that may embed themselves into the fibre of the rope during usage.

***Source: MARS***

## Near collision – vessels pass at 35 metres




In darkness, a vessel was proceeding to a busy anchorage under the con of a pilot who had just boarded. The pilot and the Master engaged in small talk as they proceeded and there was also an OOW and a lookout on the bridge. Another vessel underway in the vicinity
had recently altered course to port and, unknown to the bridge team or pilot, was now in a potential close quarters situation. Almost 10 minutes passed before the potential close quarters situation was observed by local VTS and the bridge team alerted to the danger by VHF radio.
Only now, with the other vessel just 0.3 nm away, was it plotted. There was initially some confusion as to the speed of the other vessel as the value was changing; but this was be expected in the first minute after plotting as the ARPA target acquisition algorithm needs to refine the calculations.
Emergency course alterations were made and the bridge team tried to communicate with the other vessel by VHF radio. As the distance decreased between the two vessels, the bridge team, now under some stress, sounded a long blast on the fog horn. Finally, the other vessel passed astern only 35 metres away.

Lessons learned

- A common mistake when a pilot boards is for the bridge team to relax; the unstated assumption is that the pilot has everything under control. Not so! The bridge team must continue to do their jobs in full support of the pilot and visa versa.
- As part of a bridge team, never assume that someone else will see it. It is possible for any member of the bridge team to make an error or miss a cue. YOU may be the only one that identifies a potentially hazardous situation, and for this reason, every bridge team member should be alert.
- The danger signal is at least five short blasts.

***Source: MARS***

## Check your steering gear

A Seaways reader, member of The Nautical Institute and experienced navigation assessor, has sent the following note of interest. It is well worth reviewing:
One of the most frequent failures I find during navigation assessments is the testing of steering gear prior to departure from port. The ways in which tests are conducted are an eye opener, and range from (simply) turning on the steering motors and turning the rudder a few degrees each side of amidships through to the full test of all equipment. Often, no engineer is present in the steering flat to observe the mechanical operation and hence many elements of the test are not carried out.
Most of the pre-departure tests take place within one hour of sailing
– a time when the Master and Chief Officer are busy with administration tasks and hence no supervision is provided.
I have witnessed occasions where these tests could have resulted in serious incidents had a failure occurred during departure. In the most recent example, a failure did occur but thanks to tugs still in attendance and made fast, a disaster was avoided.
Here is an example of the items to be checked:

- Test of main steering gear;
- Steering positions on the bridge;
- All rudder angle indicators;
- Automatic isolating equipment;
- Remote steering gear control systems;
- Emergency power supply;
- Steering gear power failure alarms;
- Visual inspection of steering gear and linkages for damage and hydraulic leaks.

The regulations governing steering gear are covered in SOLAS Chapter II-I Regulation 29 & 30.
The key issue is a that minimum of two people are required to carry out these checks; a deck officer and an engineer officer.

**Editor's note:** Diligent readers of Seaways magazine may recall an article that appeared in the December 2007 edition under this editor's byline that suggests bringing the steering gear regulations into line with developing technology. Interested readers can peruse that article, archived here: http://www.safeship.ca/uploads/3/4/4/9/34499158/steering_gear_ performance.pdf
or in the Seaways archive online (NI members only)

***Source: MARS***

## Hold access fatality/lack of oxygen
## As edited from the Marshall Islands' Maritime Administrator report issued 6 January 2020

A bulk carrier loaded with coal was at berth and crew were preparing to discharge. The bosun, fitter, and deck cadet were to open all the cargo hold hatch covers. After the hatch cover for cargo hold 1 was opened, the fitter told the bosun that he needed to enter the access way to hold 1 to retrieve an air nozzle which he had dropped while clearing the hatch coaming at the previous port.

The bosun and fitter opened the aft access hatch to cargo hold 1 but the bosun told the fitter to wait at least 20 minutes before entering.

Some time later, the deck cadet walked by the cargo hold and looked into the open hatch. He saw the fitter lying motionless below on the coal close to the access ladder. He immediately notified the bosun using his portable radio.

The bosun quickly arrived on scene and, without raising the alarm, went directly down the access ladder in an attempt to rescue the fitter. Shortly after entering the cargo hold, the bosun lost consciousness.

The Chief Officer heard the deck cadet's radio transmission and went to the access hatch. He immediately recognised the need to carry out an enclosed space rescue. The alarm was raised and crewmembers assembled and donned breathing gear. The two victims were extricated; the bosun regained consciousness after being brought on deck but the fitter was not breathing and had no pulse. Despite resuscitation efforts the fitter was pronounced deceased at a local hospital.

Among other things, the investigation found that:

The Company's enclosed space entry procedures were not followed. In particular, the ship's officers had not been notified of the need or intention to enter the hold. The first, failed, attempt to rescue the fitter without initiating enclosed space rescue procedures was a grave errorthat not only delayed the recovery of the fitter but put the bosun's own life in danger.

There was a distinct lack of awareness on the part of certain crewmembers on the hazards of entering a cargo hold containing coal without first complying with the Company's enclosed space entry procedures.

**Initiatives taken after the investigation:**

Locking devices were fitted to the access hatches for all cargo holds and other enclosed spaces on board the vessel.

The Company's SMS was updated to require permanent signs at the entrance to enclosed spaces warning of the risk of asphyxiation if entered without taking proper precautions.

A training initiative was implemented to increase awareness of the hazards of entering enclosed spaces without taking proper precautions.

Lessons learned

- Identifying all enclosed spaces on a vessel and posting a reminder at the entrance to each space can be considered a best practice.
- Signs are not enough! Many vessels now routinely have signage posted at the cargo hold access hatches that prohibit entry unless the enclosed space entry procedure is followed. Yet, year after year, crew are still dying in cargo holds with less than adequate oxygen or the presence of other gases that do not support life.
- Locking devices on cargo hold access hatches are one way to mitigate risks of unauthorised entry but the best protection is training and awareness of the risks. A cargo hold and its associated access ways are enclosed spaces.

***Source: MARS***

## Contact with a buoy and near collision

A VLCC in ballast was approaching port for anchoring. The pilot was confirmed for 10:00. Weather conditions were good with a northerly wind of about 10 knots, good visibility and slight sea conditions. A tidal stream was running WSW at about 1.8 knots. The engine was put to dead slow ahead to drop off speed and adjust the vessel's arrival at the pilot boarding area for the agreed time.

At 09:37, the Master asked the OOW if he had established a visual contact with the pilot boat. The OOW responded positively. The bridge team was confident that the pilot boat would be at the designated position before their vessel, so no action to further slow or stop the vessel was taken. Several minutes later, with the vessel steering 300 degrees and with a speed of 5.8 knots, the remaining distance to the pilot station was about 1.2nm.

At 09:50, the vessel was heading 315 degrees at a speed of about 5.3 knots. The distance from the pilot station was now only about 0.7nm. The Master stopped the engine. The vessel continued to slow and the heading now increased slowly to starboard. The vessel was closing on a buoy. At 10:00 the speed was about 4 knots and the pilot boat had not yet arrived. The Master ordered hard starboard and set the main engine to dead slow ahead in order to avoid the buoy but to no avail; they struck the buoy about four minutes later on the port side near midships. The buoy slid down the vessel's port side and cleared the stern with only minor damage.

The vessel was now drifting with a Speed Over Ground (SOG) of 3.4 knots, on a trajectory towards a nearby anchored vessel. The Master attempted to stop the vessel, but the distance to the anchored vessel was now only 0.5 nm. The Master quickly concluded that it was not feasible to stop the vessel. Instead, by putting 'Full Ahead' on the engine in combination with a succession of wheel alterations (hard to starboard and then hard to port) they managed to avoid contact with the anchored vessel (images 1-4, below). About 20 minutes later, the pilot boarded and subsequently safely anchored the vessel in the anchorage area.

The company report found, among others, that:

- The passage plan lacked the appropriate precautions and contingency arrangements. Specifically, the speed of approach and the waiting area for the approach were not adequately planned.
- The large drift angle and the proximity of navigational hazards was not determined at an early stage.
- The effect of the current on the vessel's drift was not effectively monitored and assessed. As a result, the bridge team did not adjust the vessel's course and speed in a timely manner when approaching the pilot boarding station.
- Bridge Resource Management (BRM) was less than adequate. The Master did not explicitly inform the ship's bridge team about his intentions related to approaching and manoeuvring. As the ship progressed, the OOW's comprehension of the situation did not trigger any actions for clarification or corrective action.
- The OOW did not provide sufficient information related to the pilot boat approaching. Instead, he confirmed that the pilot boat was approaching without informing the Master of the actual distance from the vessel and the time needed to arrive alongside. As a result, the Master wrongly assumed that the pilot boat was closer than it actually was, so he continued on instead of stopping.

### Lessons learned

• Effective BRM should be a working culture – a safety habit that is embraced and practised by all navigating officers. Closed-loop communications should always be used to eliminate any doubt or ambiguity.

***Source: MARS***




## Launch of the 6th Edition of the Joint CDI-SIRE Harmonised Vessel Particulars Questionnaire 05Jul22

Since 16Oct20 we have launched the SIRE2 and TIARE project to facilitate the smooth transition to the new SIRE 2 system, a basic challenge been the prompt familiarisation of all on board and ashore and the revision of TIARE, form CP09-01.
Further to our circular 07Jun22, please be informed that, following close cooperation between SIRE & CDI, the new 6th Edition 'Harmonised Vessel Particular Questionnaire' (HVPQ6), is now available.
Until 09Jan23, the industry have to shift from HVPQ5 to HVPQ6 and the following actions for SIRE will take place during this period:
i. The HVPQ6 document is available to Operators as from 04 July 2022 on the SIRE database.
ii. As from 04 July 2022, HVPQ6 documents will be available to Operators via the web-based Online Editor only.
iii. The HVPQ6 Offline Desktop Editor will be made available at a later date, which will be communicated once confirmed.
iv. HVPQ5 will continue to be available on SIRE database until 09 January 2023 and Ship operators will have the choice to submit HVPQ5 reports with the existing software.
v. Operators will be able to transpose data from all existing HVPQ5 documents to HVPQ6 in the SIRE database in accordance with the mapping document provided.
vi. All published HVPQ5 documents will be withdrawn on 09 January 2023, and thereafter, ship operators will only have the ability to update and publish HVPQ6 documents. Ship operators will be able to access, review, update and publish any HVPQ6 document in SIRE database that have not been released before this date.
vii. Ship operators will remain responsible for ensuring the accuracy of the data that has been transposed from HVPQ5 to HVPQ6 and for the decision to publish any HVPQ6 documents for their vessels.
viii. Ship operators will only be able to update HVPQ6 documents from 09 January 2023 onwards.

On 09Jan23 the transition of HVPQ5 to HVPQ6 will be complete and submissions of HVPQ5 to either CDI or SIRE databases will no longer be possible.
Based on the above by 15Aug22 we will revert with a separate message containing the new HVPQ6 for your ship, in order to review it and revert with your comments by 15Sep22, prior uploading it to the SIRE database with deadline 30Sep22.
Meantime pls take the time to review the documentation in full and discuss the above with your crew and keep the records in HSQE CMM, form CP06-10.

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## SIRE 2.0 Programme
## Inspection Process Rollout Documentation Timetable of release – update April 2022

### Initial release

The initial SIRE 2.0 Programme rollout documentation consisted of the following:
• SIRE 2.0 Programme: Introduction and Guidance – Version 1.0 (January 2022)
• SIRE 2.0 Question Library: Part 1 – Chapters 1 to 7 – Version 1.0 (January 2022)
• SIRE 2.0 Question Library: Part 2 – Chapters 8 to 12 – Version 1.0 (January 2022)
• SIRE 2.0 Question Library: Question Programming Attributes – Version 1.0 (January 2022)
• SIRE 2.0 – VIQ7 Comparative Analysis – Version 1.0 (January 2022)
SIRE 2.0 Question Library: Question Programming Attributes: This spreadsheet helps users understand how questions are assigned in the SIRE 2.0 Programme. Attributes may be adjusted over time to ensure that inspections are compiled in accordance with the objectives of the SIRE 2.0 Programme.
SIRE 2.0 – VIQ7 Comparative Analysis: In most cases, there is no direct correlation between VIQ7 and SIRE 2.0 questions. This comparative analysis spreadsheet will help a SIRE 2.0 user understand where aspects of VIQ7 questions are addressed in the SIRE 2.0 Question Library.

### April release

The April 2022 release of SIRE 2.0 Programme documentation:
For vessel operators:
• SIRE 2.0 Instructions for Completing the Pre-Inspection Questionnaire (PIQ) – Version 1.0 (April 2022)
• SIRE 2.0 Instructions for Uploading Photographs to the Photograph Repository – Version 1.0 (April 2022)
• SIRE 2.0 Instructions for Uploading Certificates to the Certificate Repository – Version 1.0 (April 2022).

Please note – access to the SIRE 2.0 area of vessel operator SIRE user accounts will be made available in the run up to SIRE 2.0 go-live. The detailed timeline for go-live will be communicated in Q3 2022.

## SIRE 2.0 Programme (Continued)
## Inspection Process Rollout Documentation Timetable of release – update April 2022

For inspectors and vessel operators:
• SIRE 2.0 Inspection Opening Meeting checklist – Version 1.0 (April 2022)
• SIRE 2.0 Inspection Closing Meeting checklist – Version 1.0 (April 2022)
For all participants:
• SIRE 2.0 Negative Observation Module Explanation – Version 1.0 (April 2022)

### Information releases before SIRE 2.0 implementation

To ensure the industry is prepared for SIRE 2.0 implementation, further documentation on the inspection process will be released as follows:
June 2022
For vessel operators:
• SIRE 2.0 Instruction for Submitting Operator Comments to Inspection Reports – Version 1.0
For Submitting Companies:
• SIRE 2.0 Paper-Based Contingency Process – Instructions for Submitting Companies – Version 1.0
• SIRE 2.0 Inspection Resubmission Process – Instructions for Submitting Companies – Version 1.0
For Inspectors:
• SIRE 2.0 Paper-Based Contingency process – Instructions for Inspectors – Version 1.0
• SIRE 2.0 The Inspection Resubmission Process – Instructions for Inspectors – Version 1.0
Impact of the introduction of HVPQ6 on SIRE 2.0
The assignment of many SIRE 2.0 questions to a compiled vessel inspection questionnaire (CVIQ) is linked to a vessel's HVPQ5.
SIRE 2.0 Question Library: Question Programming Attributes – Version 1.0, provides details of all SIRE 2.0 questions which may be assigned to a CVIQ based on a link to a vessel's HVPQ5 or PIQ.
HVPQ6 is scheduled for release in 2022. The programming within the SIRE 2.0 Question Library database will be updated to accommodate both HVPQ5 and HVPQ6 during the industry transition to HVPQ6.
SIRE 2.0 Question Library: Question Programming Attributes – Version 1.1 will be published in Q3 2022 to provide details of all questions with links to the HVPQ5, HVPQ6 and PIQ.

**Source: OCINF**

## SIRE 2.0 Question Library and Supporting Documentation update 22Jun

Since 16Oct20 we have launched a VIQ SIRE2 project to facilitate the smooth transition to the new SIRE 2 system, a basic challenge been the prompt familiarisation of all on board and ashore and the revision of TIARE, form CP09-01.
Further to our circular of outgoing Message 1036356 of 09May22, where we attached the available at the time documentation,, please be informed that the SIRE 2.0 Question Library and Supporting Documentation is on track for delivery in Q4 this year.
Particular attention should be paid to the SIRE 2.0 Question Library and all supporting documentation on the inspection process, as attached in our circulars on the matter.
This summer, additional documentation on the inspection process will be released as follows:
For Ship Operators:
SIRE 2.0 Instruction for Submitting Operator Comments on Inspection Reports - Version 1.0
For Submitting Companies:
SIRE 2.0 Paper-Based Contingency Process - Instructions for Submitting Companies - Version 1.0
SIRE 2.0 Inspection Resubmission Process - Instructions for Submitting Companies - Version 1.0
For Inspectors:
SIRE 2.0 Paper-Based Contingency Process - Instructions for Inspectors - Version 1.0
SIRE 2.0 Inspection Resubmission Process - Instructions for Inspectors - Version 1.0
In addition to the above, documentation on policies and procedures will be released in due course, alongside a comprehensive package of familiarisation materials which can be used as internal training materials.
Familiarisation material will be provided for all users of the SIRE 2.0 program and is designed to be specific to each user group. In addition to documentation on policies and procedures, a full set of videos covering all aspects of the SIRE 2.0 program.
Based on the above we will revert with the further scheduling of our actions to facilitate the smooth transition to SIRE2.
Meantime pls take the time to review the documentation that was attached to our circulars, as above, discuss them with your crew and keep the records in HSQE CMM, form CP06-10.

## SIRE 2.0 Question Library and Supporting Documentation update 22May

Since 16Oct20 we have launched a VIQ SIRE2 project to facilitate the smooth transition to the new SIRE 2 system, a basic challenge been the prompt familiarisation of all on board and ashore and the revision of TIARE, form CP09-01.
Further to our circular of outgoing Message 1019132 of 20Jan22, please be informed that the SIRE 2.0 Question Library and Supporting Documentation has been updated in Apr22, giving specific guidance for SIRE Programme Participants and Inspectors. All users of the program are strongly encouraged to take the time to review the documentation in full and follow the necessary Management of Change (MOC) actions detailed within.
To this extend, and in order to facilitate the familiarisation of all stakeholders, attached herewith (2 parts) is the April 2022 release of SIRE 2.0 Program documentation, as follows:

For Ship Operators:
SIRE 2.0 Instructions for Completing the Pre-Inspections Questionnaire (PIQ) - Version 1.0 (April 2022)
SIRE 2.0 Instructions for Uploading Photographs to the Photograph Repository - Version 1.0 (April 2022)
SIRE 2.0 Instructions for Uploading Certificates to the Certificate Repository - Version 1.0 (April 2022)

For Inspectors and Ship Operators:
SIRE 2.0 Inspection Opening Meeting checklist - Version 1.0 (April 2022)
SIRE 2.0 Inspection Closing Meeting checklist - Version 1.0 (April 2022)

For all Programme Participants:
SIRE 2.0 Negative Observation Module Explanation - Version 1.0 (April 2022)

Please note:
- The detailed timeline for go-live will be communicated in Q3 2022.
- When an updated version of a document is published the latest version will be available on the OCIMF website and the previous version should be considered obsolete.
- A comprehensive programme of communications and engagements will be delivered throughout 2022 to support industry in preparing for and adjusting to SIRE 2.0, and further information will be shared as appropriate.
It is important to stress that while OCIMF develops SIRE 2.0, the existing SIRE programme will continue to be supported and improved, ensuring SIRE incorporates the latest industry standards, best practice and regulation.
Based on the above we will revert with the further scheduling of our actions to facilitate the smooth transition to SIRE2.
Meantime pls take the time to review the documentation in full and discuss the above with your crew and keep the records in HSQE CMM, form CP06-10.

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## IMO Regulatory Change - A Boost for Biofuels!

Biofuels can play an important part in helping to lower carbon intensity for shipping. However, MARPOL Annex VI's rules on bunker emissions which apply also to biofuels and biofuel blends, impose a challenge to the wider use of biofuels. Apart from limits on sulphur content, Regulation 18.3.2.2 also requires that such fuels shall not "… cause an engine to exceed the applicable NOx emission limit…". Whilst it is not a challenge for biofuels to meet applicable sulphur limits, it has been more challenging to demonstrate that biofuels do not cause engines to exceed the applicable NOx emission limit.
A new "Unified Interpretation (UI)" on the application of Regulation 18.3 MARPOL Annex VI in relation to biofuels was approved by the IMO's MEPC in June 2022. According to the International Bunker Industry Association (IBIA), the UI means that biofuel blends up to 30% (B30) will be regarded in the same way as regular oil-based fuels. The UI also allows the use of B30 to B100 biofuels for "engines certified in accordance with regulation 13 of MARPOL Annex VI which can operate on a biofuel or a biofuel blend without changes to its NOx critical components or settings/operating values outside those as given by that engine's approved Technical File".
The UI has been issued as MEPC.1/Circ.795/Rev.6, replacing MEPC.1/Circ.795/Rev.5.
Members are directed to the UK P&I Club's webinar: UK P&I Club Live Webinar (Series 14): Biofuels - Benefits and Barriers (ukpandi.com), and Q&A Biofuel: Benefits and Barriers webinar - Q&A (ukpandi.com) for additional information on this subject.

**Source: UK Club Weekly**

## BALLAST WATER MANAGEMENT SYSTEMS COMMISSIONING Testing

### 1. INTRODUCTION

The 2020 amendments to the Ballast Water Management (BWM) Convention Regulation E-1 (adopted in November 2020 at MEPC 75 and entered into force on 1 June 2022) mandate a commissioning testing of the Ballast Water Management System (BWMS) to be carried out during the installation survey to validate that its mechanical, physical, chemical and biological processes are working properly.
The commissioning testing is not intended to validate the design of type approved BWMS that are approved by the Administration.

### 2. APPLICATION

The commissioning testing applies to any new installation survey of BWMS
carried out on or after 1 June 2022, as follows:
1. initial survey for new ships; and
2. additional survey for new BWMS to be installed on existing ships.

This testing is required also for system installed or partly installed before 1 June 2022 for which the installation survey (initial or additional) has not been completed within such date.
The commissioning testing is also mandatory for the additional commissioning survey required after a change, replacement or significant repair of the BWMS necessary to achieve full compliance with the D-2 standard.
According to the IMO Unified Interpretation for the date to be used for determining the implementation of mandatory commissioning testing (BWM.2/Circ.66/Rev.2), the commissioning testing of individual BWMS should be conducted if the initial or additional survey is completed on or after 1 June 2022.
The commissioning testing is not applicable to ships that had already installed a BWMS before 1 June 2022 and were certified for compliance with regulation D-2 (MEPC 74/18 para. 4.55).

### 3. GUIDANCE FOR THE COMMISSIONING TESTING OF BALLAST WATER MANAGEMENT SYSTEMS (BWM.2/Circ.70/Rev.1)

The commissioning testing shall be performed taking into account the "2020 Guidance for the commissioning testing of ballast water management systems" (BWM.2/Circ.70/Rev.1) and the "2020 Guidance on ballast water sampling and analysis for trial use in accordance with the BWM Convention and Guidelines (G2)" (BWM.2/Circ.42/Rev.2).

Local ambient water should be used for testing regardless of the level of challenge it poses to the BWMS. If the ambient water is not appropriate for the commissioning testing, alternative testing should be carried out to the satisfaction of the Flag Administration (e.g. another port may be chosen).

The following steps should be undertaken following installation of the BWMS on board the ship, and after all ballasting equipment (e.g. pumps and piping) has been fully installed and tested, as appropriate:
1. a sample may be collected during ballast water uptake to characterize the ambient water, by any means practical (e.g. in-line sample port or direct harbour sample). Characterization of the ambient water does not require detailed analysis of the uptake water, however an indicative analysis may be undertaken;
2. a representative sample should be collected during the corresponding ballast water discharge after the full treatment has been applied. Samples should be collected from the sampling point as described in the Guidelines on ballast water sampling (G2). The total sample volume should be at least 1 m3. If a smaller volume is validated to ensure representative sampling of organisms, it may be used
3. the representative samples should be analyzed for the two size classes of organisms, namely ≥ 50 µm and ≥ 10 µm to < 50 µm, as specified in the D-2 standard, using indicative analysis methods listed in BWM.2/Circ.42/Rev.2, as may be amended; and
4. the applicable self-monitoring parameters (e.g. flow rate, pressure, TRO concentration, UV transmittance/intensity, etc.) of the BWMS should also be assessed, taking into account the system design limitations of the BWMS, and the correct operation of all sensors and related equipment should be confirmed.
The commissioning test is successful if the indicative analysis indicates that the discharge samples do not exceed the D-2 standard for the size classes analyzed (see item 3 above) and the self-monitoring equipment indicates correct operation. Indicative analysis equipment used should be to the satisfaction of the Administration. Indicative analysis is defined in BWM.2/Circ.42/Rev.2, as may be amended.

## BALLAST WATER MANAGEMENT SYSTEMS COMMISSIONING Testing (Continued)

In the case that the ambient water is not appropriate for the commissioning testing (e.g. salinity of ambient water is outside the system design limitations of the BWMS), testing should be evaluated to the satisfaction of the Administration.
A written report, including the methods used, results (including raw data) and information on the self-monitoring parameters, should be provided to the surveyor and, if required by Flag, to the Flag Administration.

### 4. RESPONSIBLE ENTITY FOR THE COMMISSIONING TESTING

The collection and analysis of the representative samples should beindependent of the BWMS manufacturer or supplier and to the satisfaction of the Administration (BWM.2/Circ.70/Rev.1 para.7). For that purpose, sampling and analysis of ballast water and verification of the self-monitoring equipment have to be conducted by a RINA Service Supplierapproved in accordance with the requirements of IACS Unified Requirement UR Z17.
In case an approved RINA service supplier is not available in the port of attendance, the appointment of another service supplier approved directly by the Flag Administration or by another Flag Administration's RO may be considered.

### 5. REPORT NOT COMPLETED BEFORE VESSEL DEPARTURE OR SERVICE SUPPLIER NOT AVAILABLE

If the vessel's D-2 compliance date has been met but the report is not completed before departure, the Flag Administration's advice should be followed.
In addition, in case a Service Supplier is not available, the Flag Administration may allow the test to be postponed on a case-by-case basis. In such a case, the BWM certificate for D-2 is to be issued or endorsed as advised by the Flag Administrationand a statutory condition may be issued in addition.
In all the above-mentioned cases, RINA surveyor or Flag liaison should approach the Flag on request.

### 6. COMMISSIONING TESTING NOT SUCCESSFUL

As mentioned in paragraph 3, the commissioning test is successful if the indicative analysis indicates that the discharge samples do not exceed the D-2 standard for the two size classes of organisms ≥ 50 μm and ≥ 10 to < 50 μm and the self-monitoring equipment indicates correct operation.
If the test is not successful, the possible reasons for non-compliance need to be investigated, and the commissioning test must be repeated. If a
successful repetition of the commissioning test is not possible before the D-2 compliance date of the vessel, the Flag Administration needs to be informed and its advice followed.

### 7. APPROVED SERVICE SUPPLIERS

The list of the Service Suppliers approved by class societies are provided in their site.

**Source: RINACube**

## IMO Sub-Committee On Pollution Prevention And Response (PPR 9)

The 9th session of the IMO's Sub-Committee on Pollution Prevention and Response (PPR 9) was held remotely from 4 to 8 April 2022. A wide range of topics was on the agenda, including biofouling, ballast water management, black carbon, sewage treatment and marine plastic litter. PPR agreed on draft guidelines on risk and impact assessments of the discharge water from exhaust gas cleaning systems when considering local or regional regulations.

**Meeting highlights**

· Draft guidelines supporting the implementation of control of cybutryne in the Anti-Fouling System Convention
· Draft guidelines on risk and impact assessments of the discharge water from exhaust gas cleaning systems (EGCSs) when considering local or regional regulations
· Draft amendments to MARPOL Annex V making the garbage record book mandatory also for ships between 100 and 400 GT
· Unified interpretations on biofuels, Selective Catalytic Reduction (SCR) systems and issuing certificates for ships using other approaches to ballast water management

**Amendments to the IBC Code**

There was no working group on this topic at PPR 9. The agenda for the next intersessional ESPH (Evaluation of Safety and Pollution Hazards) meeting was approved (ESPH 28). This includes the ongoing review of existing trade-named mixtures and consideration of the implication that the lack of toxic vapour detection will have on the daily operations of chemical tankers.

**Anti-fouling Systems (AFSs)**

To support the implementation of the controls on cybutryne in the AFS Convention, PPR 9 agreed on three drafts of updated guidelines:
· 2022 Guidelines for brief sampling of anti-fouling systems on ships
· 2022 Guidelines for inspection of anti-fouling systems on ships
· 2022 Guidelines for survey and certification of anti-fouling systems on ships

**Biofouling**

PPR 9 discussed inspection frequencies and proactive versus reactive
cleaning as recommended actions of the drafts of revised Biofouling Guidelines. The correspondence group was re-established to further discuss these topics, as well as the biofouling rating, the outcome of reactive cleaning activities, including appropriate capture rates, and how to increase uptake and effectiveness of the guidelines. The revised guidelines should be finalized at PPR 10 and adopted at MEPC 80 in June 2023.

**Black carbon**

PPR 9 agreed to continue the work aimed at reducing the impact of black carbon emissions on the Arctic through the correspondence group on air pollution. The correspondence group was given the following specific terms of reference:
· Develop draft guidelines for recommendatory goal-based control measures
· Review existing data on the recommended measurement methods to be used in conjunction with the draft of the recommendatory guidelines
· Further consider regulating or otherwise directly controlling black carbon emissions

**Use of multiple engine operational profiles for a marine diesel engine**

The use of multiple engine operational profiles (EOPs) in the context of NOx certification and a possible extension of the NOx Technical Code to better reflect new applications, for instance hybrid propulsion, was delegated to a correspondence group for further discussion. The correspondence group will consider regulatory controls on the use of multiple EOPs and clarify the need for definitions of terminology and application related to engine test cycles.

**Sewage treatment**

PPR 9 recommended to expand the existing output on confirming the lifetime performance of sewage treatment plants to also include a prohibition of fitting comminuting and disinfecting systems (CDSs) on new ships. The correspondence group was re-established and instructed to further progress the work. One important issue to address is the potential retroactive requirements to existing vessels.

**Standards for shipboard gasification of waste systems**

PPR 9 discussed standards for shipboard gasification of waste systems and the associated amendments to regulation 16 of MARPOL Annex VI. It tasked a correspondence group with developing a draft of standard specifications/guidelines for thermal waste treatment devices.

**Evaluation and harmonization of rules and guidance on discharge water from exhaust gas cleaning systems (EGCSs)**

PPR 9 agreed on draft guidelines on risk and impact assessments of the discharge water from EGCSs. This will ensure a uniform approach for member states when considering local or regional regulations with respect to restrictions on or the conditions of discharge water. The guideline also includes assessments of the risks in a long-term perspective.
Furthermore, an MEPC Circular on guidance regarding the delivery of EGCS residues and stored discharge water to port reception facilities was drafted for approval at MEPC 78 in June 2022.

## IMO Sub-Committee On Pollution Prevention And Response (PPR 9) (Continued)

**Marine plastic litter**

PPR 9 agreed on draft amendments to MARPOL V to make the garbage record book mandatory also for ships between 100 and 400 GT. Subject to adoption by MEPC 79 in December 2022, entry into force of the amendments is expected to be in May 2024.

The following additional topics were discussed:

- The transport of plastic pellets
- The reporting of lost or discharged fishing gear
- The marking of fishing gear

PPR 9 supported the need for measures reducing the environmental risk of marine transport of plastic pellets. Concrete proposals included amendments to MARPOL Annex III and the IMDG Code to strengthen stowage requirements for containers containing plastic pellets and to develop guidance for handling pellets. A correspondence group was tasked to consider the options further.

The correspondence group was also instructed to further progress the work on reporting mechanisms for lost fishing gear. In order to progress on the topic of the marking of fishing gear, the MEPC was invited to provide further advice on possible regulatory options to seek clarity as there was a divergent view on potential options.

**Unified interpretations**

PPR 9 agreed on draft amendments to unified interpretations (UI) to MARPOL Annex VI regarding the usage of biofuels. The amendment clarifies that fuels with a biofuel content up to 30% in principle fall under the definition of marine fuel oil derived from petroleum refining (Regulation 18.3.1) and no further NOx testing is required. For fuels with a biofuel content of more than 30%, it needs to be verified that the engine is not altered beyond the approved parts and settings of the NOx Technical File (Regulation 18.3.2) in order not to require NOx testing.

PPR 9 agreed on unified interpretations of the NOx Technical Code, clarifying the process for on-board testing, definitions of the engine family concept for engines with Selective Catalytic Reduction (SCR) systems and interpreting requirements for parent engine NOx tests.

PPR 9 agreed on unified interpretations of Appendix I of the Ballast Water Management (BWM) Convention, which is the international BWM certificate. It was clarified how to issue certificates for other approaches to BWM, especially with respect to ships occasionally engaged in an international voyage, ships exempted due to voyages between specific ports or locations, and for ships with "other approach" in accordance with Regulation A-5, B-3.6 or B-3.7.

PPR 9 did not come to a consensus for unified interpretations of Regulation B-3 of the BWM Convention regarding the loophole identified by IACS for ships constructed before 8 September 2017 but with a compliance date that falls after 8 September 2024. Unless an UI is agreed to at a later stage, the application of Regulation B-3 for the relevant ships needs to be decided on a case-by-case basis by the flag state.

**Any other business**

Volatile Organic Compounds

Due to time constraints, PPR 9 was unable to consider the submissions on reduction of emissions of Volatile Organic Compounds (VOC) and agreed to have these sent to a correspondence group tasked with identifying the outline of a scope of work on VOC emissions reduction.

Protocol for verification of ballast water compliance monitoring devices

PPR 9 made good progress on finalizing the protocol for verification of ballast water compliance monitoring devices. A correspondence group will continue the work on the outstanding issue of laboratory testing using treated water and the development of a standard reporting format.

Pollution prevention equipment for machinery space bilges of ships Interested member states and international organizations were invited to submit a proposal for a new output on the development of amendments to Res. MEPC.107(49) to ensure that no discharge of water with oil content exceeding 15 ppm occurs in the event that access of sample water to the oil content meter is inadvertently or deliberately blocked.

**Correspondence groups established**

The following correspondence groups were established and will report back to PPR 10 in April 2023:

- Correspondence Group on review of the biofouling guidelines
- Correspondence Group on prevention of air pollution from ships (addressing black carbon, thermal waste treatment, multiple engine operating profiles, and volatile organic compounds)
- Correspondence Group on amendments to MARPOL Annex IV and associated guidelines (addressing sewage treatments)
- Correspondence Group on marine plastic litter from ships (addressing plastic pellets and reporting mechanisms for lost fishing gear)
- Correspondence Group on development of a protocol for verification of ballast water compliance monitoring devices

**Recommendations**

As PPR is a sub-committee, all decisions concerning rules, regulations and dates are subject to further consideration and approval by the Marine Environment Protection Committee (MEPC).

**Source: DNV**

## IMO Update: Marine Enviroment Protection Committee – MEPC 78

The 78th session of the IMO's Marine Environment Protection Committee (MEPC 78) was held remotely from 6 to 10 June 2022. Highlights included the finalization of technical guidelines for the upcoming EEXI, CII and SEEMP regulations; approval of a proposal for a sulphur emission control area (SECA) in the Mediterranean Sea; and further discussions on the revision of the IMO GHG Strategy scheduled for 2023, and future technical and market-based measures.

**Meeting highlights**

·Finalization of guidelines for the EEXI, CII and SEEMP

· Consideration of revisions to the IMO GHG Strategy and future technical and market-based measures

· Approval of a new sulphur emission control area (SECA) expected to take effect from 1 July 2025, subject to final adoption at MEPC 79 in December 2022

· Adoption of amendments to MARPOL Annex I and the IBC Code on watertight doors

· Adoption of amendments to MARPOL Annex II on the Hazard Evaluation Procedure for chemical tanker products

· Extension of the ballast water experience building phase

**Adoption of amendments to mandatory instruments**

MEPC 78 adopted amendments to the following IMO instruments:

MARPOL Annex I and the IBC Code – watertight doors

Amendments to MARPOL Annex I and the IBC Code concerning watertight doors were adopted to harmonize the consideration of watertight doors in damage stability calculations with those in SOLAS. The amendments apply to all oil and chemical tankers and will not have any impact on existing ships.

The amendments will enter into force on 1 January 2024 and on 1 July 2024 respectively.

MARPOL Annex II – revised GESAMP Hazard Evaluation Procedure Amendments to Appendix I of MARPOL Annex II related to the revised GESAMP Hazard Evaluation Procedure used for classification of new products carried on chemical tankers were adopted. Column E1 is reassigned for the rating of the flashpoint, and Column C3 concerning inhalation toxicity has been expanded to introduce sub-categorization with thresholds for mist and vapour concentrations.

The amendments will enter into force on 1 November 2023.

**Harmful aquatic organisms in ballast water**

Experience building phase (EBP)

The EBP for the Ballast Water Management (BWM) Convention was extended with a proposal to complete the EBP by autumn 2026.

The non-penalization of early-movers provision is applicable for the duration of the EBP. A convention review plan will be prepared by a correspondence group reporting to MEPC 80 in July 2023, including the prioritized topics:

· Challenging uptake water quality for BWM systems

· Areas for improving BWM system performance and reliability, including crew training and maintenance

· The potential to verify BWM system performance outside of Port State Control Ports with challenging water quality (PCWQ)

There was an exchange of views regarding operation in PCWQ with respect to:

· Challenging water quality identification (e.g. BWM systems not able to operate due to challenging water quality)

· Aspects of ballast water exchange plus treatment (BWE+BWT) (e.g. port/coastal state authorities determine where ballast water exchange could take place)

· Whether operation in PCWQ and subsequent BWE+BWT can be considered as a contingency measure or are part of anticipated operation which should be approved in the BWM Plan

Further discussions will take place at MEPC 79 in December 2022 if proposals are submitted.

Guidance on modifications to BWMS using active substances

Guidelines for re-evaluations when modifications are made to a BWM system using active substances was adopted. Re-evaluations by GESAMP are applicable to modifications which could influence the outcome of the risk assessment for the environment, human health or ship safety (e.g. removal of filter or increased dose).

International Ballast Water Management Certificate (IBWMC) MEPC approved a unified interpretation of Appendix I to the BWM Convention (form of the IBWMC). It clarifies how to issue certificates for other approaches to BWM, especially with respect to ships occasionally engaged in an international voyage, ships exempted due to voyages between specific ports or locations, and for ships with "other approach" in accordance with Regulations A-4, A-5, B-3.6 or B-3.7.

Temporary storage of treated sewage and grey water in ballast tanks

MEPC 78 discussed principles related to the temporary storage of treated sewage or grey water in ballast tanks. Ballast water discharges from ballast tanks used also for other purposes should be compliant with the BWM Convention, while other issues should be addressed in the context of MARPOL Annex IV. However, MEPC 78 did not confirm if temporary storage is acceptable in principle and deferred the matter to MEPC 79 in December 2022.

**Air pollution and energy efficiency**

Exhaust Gas Cleaning Systems (EGCS)

Guidelines for risk and impact assessment of the discharge water from EGCS were approved. The guidelines provide information on the recommended methodology for risk and impact assessment that member states should follow when considering local or regionalregulations concerning EGCS discharge water

## IMO Update: Marine Enviroment Protection Committee – MEPC 78 (Continued)

Guidance regarding the delivery of EGCS residues to port eception facilities was approved. These best practises are intended to assist both ship operators and port states in assuring the proper management and disposal of EGCS residues and stored discharge water form EGCS into port reception facilities.

Reporting of flashpoint in the Bunker Delivery Note (BDN)

Following the approval of amendments to SOLAS Chapter II-2 by MSC 105 in relation to the flashpoint of oil fuel, amendments to Appendix V of MARPOL Annex VI (Information to be included in the BDN) were approved subject to adoption at MEPC 79. The following new item has been added to the BDN: "Flashpoint (°C) or a statement that flashpoint has been measured at or above 70°C".

Unified interpretations MEPC approved a unified interpretation of Regulation 18.3 of MARPOL Annex VI with regard to the use of biofuels. The amendment clarifies that fuels with a biofuel content up to 30% in principle fall under the definition of marine fuel oil derived from petroleum refining (Regulation 18.3.1) and no further NOx testing is required. For fuels with a biofuel content of more than 30%, it needs to be verified that the engine is not altered beyond the approved parts and settings of the NOx Technical File Regulation 18.3.2) in order to not require NOx testing.

MEPC 78 also approved a unified interpretation of Paragraph 4.4.6.1 of the NOx Technical Code 2008, clarifying the process for on-board testing, definitions of the engine family concept for engines with Selective Catalytic Reduction (SCR) systems, and interpreting requirements for parent engine NOx tests.

**Reduction of GHG emissions**

Technical guidelines for the EEXI, CII and SEEMP MEPC 78 finalized guidelines related to the EEXI, CII and SEEMP. With these guidelines adopted, the EEXI, CII and SEEMP are ready for implementation. The EEXI technical file needs to be approved before the first annual, intermediate or renewal IAPP survey or the initial IEE survey on or after 1 January 2023. The SEEMP Part III needs to be approved and on board by 1 January 2023. The first reporting of the CII based on 2023 data is due no later than 31 March 2024.

The following is a short summary of the main discussions and changes:

EEXI guidelines: Included option for in-service performance measurements. CII calculation guidelines (G1): The capacity parameter for ro-ro cargo ships was changed to gross tons.

CII reference lines guidelines (G2): Reference lines for ro-ro cargo ships and ro-ro cargo (vehicle) ships were updated; the reference line for ro-ro passenger ships was split in two, with a separate line for high-speed craft (HSC) and an updated line for ro-ro passenger ships excluding HSC.

CII rating guidelines (G4): Updates to the rating thresholds for the ship types with updated reference lines.

Interim CII correction factor and voyage adjustment guidelines (G5): New guideline which includes correction factors and voyage adjustments for various ship types and circumstances. There was an extensive discussion on which corrections and adjustments to include.

Corrections for adverse weather and extensive port and waiting time were not included at this stage and will need to be raised at the review in 2025.

DCS verification guidelines: Provisions for verification of the CII as part of the fuel data collection system (DCS) reporting.

SEEMP guidelines: Updated to include guidance on developing and verifying the SEEMP Part III (ship operational carbon intensity plan). There were minor adjustments to other parts of the guidelines.

Port State Control guidelines: MEPC 78 requested the sub-committee on Implementation of IMO Instruments (III 8) (July 2022) to consider if failing to implement the implementation plan in SEEMP Part III is a detainable deficiency.

Revision of the Fuel Data Collection System

MEPC 78 approved amendments to Appendix IX of MARPOL Annex VI to include information related to the EEXI and CII in the fuel data collection system (DCS). Further revisions the DCS will considered, including transparency of data and cargo data.

Revision of the IMO GHG Strategy

There was an extended exchange of views on the scheduled revision of the IMO GHG Strategy, but with no new decisions being made. The main divergence in views between countries is the split between those calling for full decarbonization by 2050, and those calling for further assessments on feasibility and impacts on states before such a decision can be made.

The MEPC will adhere to the established workplan on this matter and make its decision at MEPC 80 in July 2023. Further discussions will take place at an intersessional meeting agreed to be held back-toback with MEPC 79 in December 2022. There is also the expectation that an intersessional meeting will be held in the spring of 2023 dedicated to this matter.

Mid and long-term measures to reduce GHG emissions

There was an extensive discussion on potential mid and long-term measures at the intersessional meeting held two weeks prior to MEPC 78. At this meeting, proposals for various market-based measures were discussed:

· A levy system based on absolute well-to-wake GHG emissions. The GHG price is determined by the IMO.

· A levy system based on CII performance, where ships with CII performance below a benchmark pay a contribution per tonne CO2, and ships with performance above the benchmark receive a reward. The contribution is determined by the IMO, while the reward depends on the level of achievement of the fleet.

· A levy system based on absolute tank-to-wake CO2 emissions where the revenues are partly used to provide a direct rebate to zero-emission vessels. The CO2 price and rebate are determined by the IMO.

## IMO Update: Marine Enviroment Protection Committee – MEPC 78 (Continued)

· An emissions cap-and-trade system, similar to the EU ETS, where the well-to-wake GHG emission level is set by the IMO and allowances are auctioned out. The carbon price is then determined by the market.

Additionally, there were discussions on a proposed technical measure in the form of a well-to-wake GHG intensity fuel standard. MEPC 78 did not develop these proposals further, and discussions will continue at an intersessional meeting prior to MEPC 79 and following meetings. The decision on which measures to develop into regulations will be made at MEPC 80 in July 2023.

On-board CO2 capture

Due to time constraints, only a very brief discussion was held on provisions for taking into account on-board CO2 capture in instruments such as the EEDI and CII. The topic will be discussed further at future meetings.

Lifecycle GHG/carbon intensity for marine fuels

An intersessional working group prior to MEPC 78 developed draft guidelines on lifecycle GHG/carbon intensity for marine fuels. The work will continue through a correspondence group reporting to MEPC 80 in July 2023.

**Marine plastic litter**

Marking of fishing gear

MEPC 78 discussed whether the marking of fishing gear should be made mandatory under MARPOL Annex V or if a voluntary approach should be pursued. It was concluded to make marking of fishing gear mandatory through MARPOL and to develop a circular as a short-term measure to promote the implementation of fishing gear marking.

Garbage record book

Amendments to MARPOL Annex V to make the Garbage Record Book mandatory also for ships of 100 gross tonnage and above and less than 400 gross tonnage were approved with a view to adoption at MEPC 79.

**Pollution prevention and response**

Following the adoption of the amendments to the Anti-Fouling System (AFS) Convention to include controls on cybutryne adopted at MEPC 76, three revised guidelines were adopted at this session concerning the sampling, inspection and survey of anti-fouling systems.

Draft amendments to MARPOL Annexes I, II, IV, V and VI concerning regional reception facilities in the Arctic were approved together with amendments to the 2012 Guidelines for the development of a regional reception facility plan (Resolution MEPC.221(63)). The amendments are subject to adoption at MEPC 79.

In connection with the revision of the Integrated Bilge Water Treatment System (IBTS) guidelines at PPR 7, it was questioned whether forced evaporation by heating of oily bilge water for the purpose of disposal is acceptable. MEPC was asked to clarify this and after discussing the issue, it was concluded that in principle forced evaporation by heating of oily bilge water is acceptable as a means of disposal and delegations were invited to submit proposals to PPR 10 for amending MARPOL Annex I to reflect this.

**Identification and protection of special areas, ECAs and PSSAs**

MEPC 78 considered and approved a proposal for a Sulphur Emission Control Area (SECA) to be established in the Mediterranean Sea. The proposal is subject for adoption at MEPC 79 in December of this year, and is expected to take effect from 1 July 2025. The requirement will be the same as for other SECAs, mandating the use of fuel oil with a sulphur content of 0.10% or of an EGCS.

**Work programme**

MEPC 78 agreed to new or amended outputs to the work programme as follows:

A new output on the development of a practical guide on the development of local-level marine spill contingency plans to support key authorities in effectively implementing the OPRC Convention.

Amend the title of the existing output 1.26 to "Revision of MARPOL Annex IV and associated guidelines" and expand the scope to amend the definition of "person" as provided in MARPOL Annex IV, taking into account persons other than the crew and passengers.

**Recommendations**

DNV recommends that our customers evaluate possible technical and operational modifications to comply with the upcoming GHG requirements and, when applicable, to prepare and submit an EEXI Technical File and a SEEMP Part III for verification.

For more information about decarbonizing shipping and about the relevant DNV services relating to GHG emissions, visit:

· www.dnv.com/decarbonize-shipping
· www.dnv.com/cii
· www.dnv.com/eexi
· www.dnv.com/seemp3

Provisional list of resolutions and circulars

Please note that the list and document references below are provisional:

Resolution MEPC.343(78)
Amendments to MARPOL Annex I (watertight doors)
Resolution MEPC.344(78)
Amendments to MARPOL Annex II (abbreviated legend to the revised GESAMP Hazard Evaluation Procedure)
Resolution MEPC.345(78)
Amendments to the International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code) (watertight doors)
Resolution MEPC.346(78)
2022 Guidelines for the development of a Ship Energy Efficiency Management Plan (SEEMP)
Resolution MEPC.347(78)
Guidelines for the verification and company audits by the administration of Part III of the Ship Energy Efficiency Management Plan (SEEMP)
Resolution MEPC.348(78)
2022 Guidelines for administration verification of ship fuel oil consumption data and operational carbon intensity
Resolution MEPC.349(78)
2022 Guidelines for the development and management of the IMO ship fuel oil consumption database
Resolution MEPC.350(78)
Guidelines on the method of calculation of the attained Energy Efficiency Existing Ship Index (EEXI)

## IMO Update: Marine Enviroment Protection Committee – MEPC 78 (Continued)

Resolution MEPC.351(78)
2022 Guidelines on survey and certification of the attained Energy Efficiency Existing Ship Index (EEXI)
Resolution MEPC.352(78)
2022 Guidelines on operational carbon intensity indicators and the calculation methods (CII guidelines, G1)
Resolution MEPC.353(78)
2022 Guidelines on the reference lines for use with operational carbon intensity indicators (CII reference lines guidelines, G2)
Resolution MEPC.354(78)
2022 Guidelines on the operational carbon intensity rating of ships (CII rating guidelines, G4)
Resolution MEPC.355(78)
2022 Interim guidelines on correction factors and voyage adjustments for CII calculations (CII guidelines, G5)
Resolution MEPC.356(78)
2022 Guidelines for brief sampling of anti-fouling systems on ships
Resolution MEPC.357(78)
2022 Guidelines for inspection of anti-fouling systems on ships
Resolution MEPC.358(78)
2022 Guidelines for survey and certification of anti-fouling systems on ships
BWM.2/Circ.61/Rev.1
2022 Guidance on methodologies that may be used for enumerating viable organisms for type approval of ballast water management systems
BWM.2/Circ.66/Rev.3
Unified interpretations to the BWM Convention
BWM.2/Circ.13/Rev.5
Methodology for information gathering and conduct of work of the GESAMP-BWWG
MEPC.1/Circ.895/Rev.1
Unified interpretations to the NOx Technical Code 2008, as amended
MEPC.1/Circ.795/Rev.6
Unified interpretations to MARPOL Annex VI
MEPC.1/Circ.899
2022 Guidelines for risk and impact assessments of the discharge water from exhaust gas cleaning systems
MEPC.1/Circ.900
2022 Guidance regarding the delivery of EGCS residues to port reception facilities
MEPC.1/Circ.901
Guidance for submission of data to the IMO data collection system of fuel oil consumption of ships from a State not Party to MARPOL Annex VI
MEPC.1/Circ.902
Guidance on methods, procedures and verification of in-service performance measurements MSC-MEPC.1/Circ.5/Rev.3
Organization and method of work of the Maritime Safety Committee and the Marine Environment Protection Committee and their subsidiary bodies
FAL.2/Circ.133-MEPC.1/Circ.903-MSC.1/Circ.1646-LEG.2/Circ.4
List of certificates and documents required to be carried on board ships, 2022

**Source: DNV**

## IMO Maritime Safety Committee One Hundred and Fifth session (MSC 105)

### Introduction

MSC 105 took place 19 – 29 April 2022 as a virtual meeting. This briefing summarises the discussions and outcomes which are significant to Lloyd's Register's work with our customers.

In order to progress the meeting in the limited time available a number of documents were considered by correspondence prior to the Committee meeting. These include documents submitted under:

- Goal-based New Ship Construction Standards (papers submitted to MSC 102; MSC 103 & MSC 104) (Agenda item 6).
- Any Other Business (papers submitted under MSC 104) (Agenda item 18).

Any decisions are included under the relevant agenda item.

**Introduction of an ad-hoc mid-term amendment cycle**

The COVID-19 pandemic has caused some disruption to the regular meeting schedule which has meant that the finalisation of significant draft amendments to SOLAS and other IMO instruments for approval and adoption has been delayed. Examples include the draft amendments to SOLAS chapter II-1 for onboard lifting appliances and winches and the draft amendments to the LSA Code for the new ventilation requirements for lifeboats and survival craft both of which will be considered at MSC 106 (November 2022).

MSC 104 agreed to introduce an ad-hoc mid-term amendment cycle to facilitate the delayed approval, adoption and entry into force of such draft amendments. Any relevant draft amendments adopted before 1 July 2024 will enter into force on 1 January 2026 (rather than 1 January 2028 under the usual four-year amendment cycle).

Following this mid-term cycle the Committee will revert to the normal four-year amendment cycle with draft amendments approved and adopted between 1 January 2024 and 1 July 2026 due to enter into force 1 January 2028.

### Executive Summary

Below are some of the discussions and outcomes from MSC 105 which will have some impact on current practices. These can be found in detail under the relevant subject headings in the document.

- Following the conclusion of the review of the Global Maritime Distress and Safety System (GMDSS), MSC 105 adopted amendments to SOLAS Chapters II-1, III, IV and V, the appendix (Certificates) and the 1994 & 2000 HSC Codes. MSC 105 also adopted or approved, as appropriate, associated amendments and revisions to non-mandatory instruments, including a new MSC circular, that were approved in principle by MSC 104. These will all enter into force 1 January 2024. (Navigation & Communication)
- MSC 105 approved the new SOLAS Chapter XV & mandatory Code addressing safety standards for the carriage of more than 12 industrial personnel (IP Code). The new Code will apply to new and existing ships and permits more than 12 additional persons on board cargo ships. Industrial personnel (IP) are recognised as an additional category of person. Existing ships certified under the Interim Recommendations on the Safe Carriage of more than 12 Industrial Personnel on Board Vessels Engaged on International Voyages (MSC.418(97)) will be allowed to continue to operate, provided that they also meet the operational and equipment requirements in the new IP Code. The new SOLAS chapter XV and the IP Code are expected to be adopted at MSC 106 (November 2022) and enter into force 1 July 2024. (Agenda item 15)
- To address some of the safety issues identified after the loss of MV Stellar Daisy, MSC 105 approved draft amendments to the 2011 International Code on the Enhanced Programme of Inspections during Surveys of Bulk Carriers and Oil Tankers (2011 ESP Code) which include increased survey requirements for water ballast tanks (WBTs) and void spaces on Bulk Carriers. (Agenda item 15)
- MSC 105 adopted the MSC resolution on Model Regulations on Domestic Ferry Safety (MRDFS). The model regulations, developed to try to mitigate against domestic ferry accidents (notably MV Sewol), are intended to provide a framework of provisions for domestic ferry safety and are drafted in a way to enable easy translation and incorporation into national law. It should be noted that the incorporation of model regulations into national law by interested countries is purely voluntary and recommendatory. (Agenda item 4)
- MSC 105 continued the work on measures to address the safety issues related to low sulphur fuel oil and approved draft amendments to SOLAS chapter II-2 on the reporting of confirmed cases where oil fuel suppliers have failed to meet the flashpoint requirements specified in SOLAS regulation II-2/4.2.1.
- MSC 105 agreed to the development of a non-mandatory goal-based Maritime Autonomous Surface Ships (MASS) Code which will become effective from 1 January 2024, as an interim measure prior to the adoption of a mandatory Code which is expected to enter into force 1 January 2028.

**Source: Lloyd's Register**

## Promotions Roxana Shipping - ROKS Maritime 01Jul22 - 30Sep22

| Name | Rank | Promotion Date | Photo |
|---|---|---|---|
| Shakirov Ruslan | ChOff | 14/09/2022 |  |
| Cherepanov Nikita | 2nd/Off | 13/08/2022 |  |
| Maslennikov Vlad | 3rd/Off | 13/07/2022 |  |
| Arsentyev Alexander | ChEng | 19/07/2022 |  |
| Ivshin Aleksei | 3rd/Eng | 22/07/2022 |  |
| Dubovenko Maksim | 4th/Eng | 19/07/2022 |  |
| Glebov Ruslan | 5th/Eng | 10/09/2022 |  |
| Kondratovich Andrei | AB | 10/07/2022 |  |
| Vekhov Roman | OS | 14/08/2022 |  |
| Marunchenko Andrei | OS | 01/08/2022 |  |
| Akramov Ilkhomdzhon | OS | 03/08/2022 |  |

## Job Opportunities

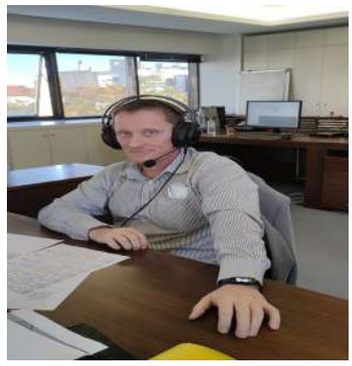
In view of the 2018-2023 5 years plan following new positions are announced for 2021-22:

**Fleet superintendent, ex Chief Engineer**
He will be based in Athens and/or Singapore, belonging to a Fleet Group, reporting to Headoffice, responsibilities as per CP01, fluency in English and computers desirable, Ex Chief Engineer in Roxana Fleet will be also desirable.
Attractive benefits package.

**Fleet superintendent, ex Master**
He will be based in Athens, belonging to a Fleet Group, responsibilities as per CP01, fluency in English and computers desirable, Ex Master in Roxana Fleet will be also desirable.
Attractive benefits package.

**Operator, ex Master**
He will be based in Athens and/or Singapore office, reporting to Headoffice, responsibilities as per CP01, fluency in English and computers desirable, Ex Master in Roxana Fleet will be also desirable.
Attractive benefits package.

## Capt. Alexander Vladimirovich Kozlov's employment



We are pleased to advise you that capt Alexander Vladimirovich Kozlov, has joined ROKS Maritime Inc as of 01Sep22 in the position of Wet Opd deputy dept manager, directly reporting to capt Ioannis Koloniotis and capt Karthik Kaliappan.

Alexander Vladimirovich graduated from Shipping Academy, Vladivostok in 2006 and joined Roxana in 30Apr07 as 3rd officer. He serves Roxana since then, promoted to 2nd officer in 20Dec08 and to Chief Officer in 08Jun11. He served to Roxana fleet as Chief officer for about 4 years, he was then promoted to Master in 14Sep19 serving Roxana fleet till now.

The professional experience and skills and the loyalty of capt Alexander Vladimirovich Kozlov will definitely add value in our team and will help us meet the short and long term objectives set out by the company.

Alexander Vladimirovich, welcome on board!

## Capt. Vitali Vitalievich Bekirov's employment

We are pleased to advise you that capt Vitali Vitalievich Bekirov has joined ROKS Maritime Inc as of 01Sep22 in the position of Crew dept deputy dept manager.

Vitali Vitalievich graduated from Far East Maritime University, Vladivostok in 2001. Having served various shipping companies joined ROKS Maritime Inc in 06Mar18 as Master, serving ROKS Maritime Inc fleet till now.

The professional experience and skills and the loyalty of capt Vitali Vitalievich Bekirov will definitely add value in our team and will help us meet the short and long term objectives set out by the company.

Vitali Vitalievich, welcome on board!

## Capt. Konstantinos Anissis' retirement

We hereby announce that Capt. Konstantinos Anissis will continue his life in pension, marine-free, after serving the marine industry for almost half century.

Capt. Anissis served our Company since 2006, starting as Fleet sup/nt, alternative DPA, then DPA and Crew dep manager.

Throughout these 16 years period capt. Kostas contributed a lot to the growth of our Company.

Capt. Kostas will keep his mobile number, so he will be contactable as usual.

We all thank Capt. Kostas and wish him all the best for the future.

## Restructuring of tasks

Following the departure of Capt. Anissis, following organizational changes were implemented.

1. Deputy Crew dept manager capt Vitaly Bekirov (VVB) will be in command of Crew dept.

2. Alternative DPA Mrs. Liana Kapsali (LPK) will be DPA while Mrs. Katerina Sfendylaki (KS) will be alternative DPA for ROKS Maritime Inc.

3. Mrs. Maria Chairopoulou (MCH) will be accountable for the Human Resources manager tasks.

We welcome Capt Vitaly, Liana, Katerina and Maria in their new role and all of us will assist them to accomplish their new tasks IF EffEff.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SHIPPING S.A.
State of the Art In Shipmanagment is our Tradition
Incident Free Effective Efficient