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Study shows road to net zero in Pilbara-to-Asia export trade route through LNG

Lohit Ishwar Moger - GME

A joint study by Pilbara Clean Fuels (PCF), Oceania Marine Energy and RINA has revealed that Well-to--Wake emissions in the Pilbara-to-Asia iron ore export trade route can be reduced by over 90% by 2050 through the use of liquefied methane (LNG).

According to RINA, the study presents a "flexible and commercially attractive" IMO-compliant marine fuel strategy to shipowners, operators and charterers amidst competing alternative fuel, and proposes a 'Green Corridor' marine fuels solution for the Western Australia-to-China bulk minerals export trade route.

To note, PCF is currently pursuing the development of an electrified LNG plant in Port Hedland, Western Australia, aimed at producing low-carbon LNG marine bunker fuel. The plant is said to have the potential to initially produce LNG with emissions of less than 200 kilograms (kg) of GHG per tonne, which can be further reduced to around 50 kg/t LNG, and potentially to zero through technology improvements.

Oceania is developing a marine fuel bunkering business using purpose-designed LNG refuelling vessels to be chartered from Kanfer Shipping, Norway. RINA claimed that LNG bunkering in the Pilbara region offers a "substantial voyage optimization by eliminating the need to deviate to other major bunkering hubs in the region, thus significantly reducing emissions."

As for RINA, the classification society has developed a concept for an LNG-fueled 209,000 DWT Newcastlemax dry bulk carrier design incorporating pre-combustion carbon removal and hydrogen production to meet IMO 2050 Carbon Intensity Index (CII) requirements over the ship's operating life.

RINA revealed that the concept features

a "novel propulsion arrangement which achieves a fuel saving of 12% when running on LNG at current market speeds and

offers the charterer greater fuel flexibility and enhanced economic benefits by reducing LNG consumption."

The bunker vessel design incorporates a hybrid energy system, including an 8 MWh battery, RINA said, noting that this, alongside the onboard CGR-designed process plant for vapour recovery and reliquefaction, "significantly reduces emissions and enhances operational efficiency."

RINA also pointed out that CO2 generated from onboard pre-combustion hydrogen production can economically be integrated into the large volume CCS hubs currently being developed in the Pilbara region by various third-party proponents.

Commenting on the study, the classification society stated: "The study concludes that by implementing this holistic combined systems approach, Well-to-Wake emissions for the Pilbara to Asia export shipping industry can be reduced by more than 90% by 2050. The reduction of GHG emissions is achieved by progressively decreasing the LNG fuel share to the engines while proportionately increasing hydrogen usage."

"This allows for staged upgrades over the vessel's lifetime to comply with the IMO requirements for continuously reducing GHG emissions. The ship-owner to decide which path to follow to stay ahead of compliance and competition. All necessary technologies for achieving Net Zero Emissions with LNG as a marine fuel already exist and are in use, marking the first time they have been proposed in combination, demonstrating a positive path to Net Zero Emissions for international shipping."

To remind, PCF, Oceania and RINA signed a memorandum of understanding (MoU) to collaborate on studies to define the commercial and emissions reduction benefits their combined concepts could deliver to shipowners and charterers for the Pilbara--to-Asia dry-bulk minerals export trade route back in November 2023.

In related news, in March 2024, a task force of fifteen industry representatives from across the value chain convened under the Getting to Zero Coalition to explore the implementation of a green shipping corridor powered by zero or near-zero carbon ammonia. This follows the identification of iron ore shipping routes between Western Australia and East Asia as high-potential candidates for establishing the corridor.

The task force believes that developing the corridor on this route could help accelerate the global decarbonization of shipping, reduce emissions regionally and generate benefits for Australia that support its national strategic priorities.

Courtesy; world maritime news

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10 Situations When Ship's Generator Must be Stopped Immediately

Karthik Raj - GME

The generator onboard, being the powerhouse of the ship, requires regular maintenance and overhauling to ensure efficient and safe operations. A responsible marine engineer will never wait to carry out maintenance procedures until its machinery is on the edge of a breakdown. Instead, he/she will take all necessary precautions to prevent his ship from any impending troubles, which can take place because of engine room machinery failure or breakdown.

There is a thin line between the starting of a problem and the problem taking the shape of a major issue. It is only a ship's engineer who can assess this situation.

Still, cases are observed every year wherein the auxiliary engine breakdown occurs even after giving several indications, foreboding the unfortunate.

Listed below are ten cases wherein you must immediately start the standby engine and stop the auxiliary engine in "trouble" before a dangerous situation takes shape of a major disaster:

1. Abnormal/ Queer Sound: The ship's generator engine comprises of heavy oscillating and moving parts. The attached auxiliaries such as turbochargers, pumps etc. are also high-speed machines which produce a good amount of sound. Any abnormal sound, no matter how faint, must never be ignored. In case of an unusual sound, the engine should be immediately stopped and troubleshooting must be carried out.

Incorrect Approach: The engine room is equipped with hundreds of machinery systems. When the power--plant is in operation, sounds from other machinery can suppress an abnormal sound. Even if you hear something unusual from the generator, you may think it's coming from nearby environment or machinery. Never ignore even the slightest abnormal sound. Take a second opinion and stop the engine for checks.

2. Smoke: When you see smoke coming from or near the generator, it's high time to stop the generator immediately. No need to offload the generator as the situation has already passed the danger level. Use the emergency stop button provided in a local or remote station. Smoke can be due to friction between moving parts, overheating etc.

Incorrect Approach: PANIC is the first thing that will strike a person when smoke or fire is seen. It might reduce the engineer's thinking process, which will eventually slow down the approach.

Never panic in such situations. Use the remote start button for the standby generator, which will come on-load almost immediately (normally done through local), and emergency stop the running generator.

3. Unusual Lubricating Oil Parameters: If the lubricating oil temperature has increased beyond normal or the oil pressure has dropped below the adequate level, stop the generator immediately and find out the troubling issue, which might be a dirty lube oil cooler or chocked filter.

Incorrect Approach: If you noticed a drop in pressure, the first thing comes to mind is to change to standby filter. If your standby filter is not primed and put in service in running condition, due to airlock major bearing damages can occur. It's always better to stop the machinery and then change it to standby filter, only after priming the same.

4. Higher Differential Pressure: Differential pressure is a term used to assess the condition of lube oil filter by providing a pressure measurement before and after the filter. The difference between the before and after filter pressures is displayed by a gauge. If the differential pressure is in the higher range, stop the generator and change to standby filter.

Incorrect Approach: On numerous occasions, it has been observed that the generator is allowed to run even when the differential pressure alarm is sounded during maneuvering. Engineers usually prefer not to take risk of changing the filter in running condition, as it may lead to blackout if the filter does not perform correctly. They thus plan to change it once the manoeuvring is over. However, due to this sometimes the differential pressure increases further and there is a sudden drop in oil pressure, which trips the generator in between maneuvering. It is very much possible to find bearing metal particles when filters are opened for cleaning. This shows that most of the times engineer is aware of the filter problem but fail to see the bigger picture.

5. Overspeed: Generator is a high--speed machinery and over-speeding of generator engine has resulted in explosions and causality in the past. Over-speeding of the generator is caused mainly due to a problem in the fuel system, specifically malfunction

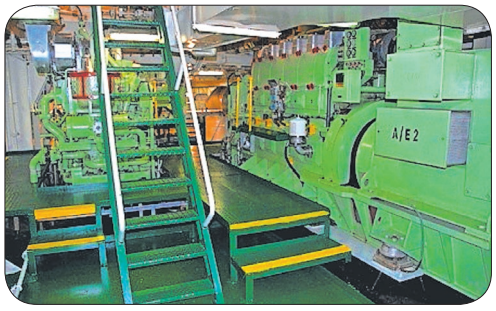
of the governor. If the generator is running above its rated speed and still does not trip (Read about overspeed trips here), engineers must stop the generator immediately to avoid a major accident. Crankcase inspection and renewal of bottom end bolts is then to be carried out.

Incorrect Approach: During trial running of generator after overhauling, the governor droop is altered to get required speed as stated in the manual. It may happen that the generator over-speeds due to wrong setting or due to stuck fuel rack during this time. Cases of not checking the crankcase and not renewing the bottom end bolts are common causes which lead to bearing damages.

6: Cooling Water Supply: Cooling water supply is an essential entity to ensure a smooth running of all high temperature moving parts. If there is no cooling water supply due to the failure of pumps, the generator should be stopped immediately to avoid overheating damage.

Incorrect Approach: If there is no cooling water pressure in the line, sometimes engineers try to release air from the purging cock provided near the expansion tank line of the generator. If the water supply is not available (due to the failure of supply pump), it will lead to further increase in the temperature and stopping of the generator at a later stage, resulting in the seizure of moving parts. Always stop the generator first and then do the troubleshooting. Once the generator is stopped due to starvation of water, flywheel should be rotated with lubrication to avoid seizing of parts.

7: Leakage from Pipings: If any leakage is found from the fuel, lube oil or cooling water pipe, it is to be rectified only after



stopping the generator. This will allow the engineer to tackle the leakage easily and better maintenance can be carried out.

Incorrect Approach: If there is a small fuel oil or a water leak from any of the pipe connections, tightening of the connection may stop the leak but over-tightening may lead to a sudden increase in the leakage and with high-temperature fuel and water splashing, it can cause a severe burn to the operator skin.

8. Vibration and Loose Parts: Vibration is one of the main causes which increase the wear rate of moving parts. If loose bolts are found or heavy vibration is detected when the engine is running, stop the generator engine immediately and find the cause for rectification.

Incorrect Approach: It is not a common practice to check the tightness of the foundation bolts of the generator and its attached auxiliaries such as turbocharger etc. on ships. It has been found that many shipping company's PMS do not include the foundation bolts and other bolts tightening checks in the routine.

9. Non-functional Alarms and Trips: During any point of time, if an alarm of the running generator is detected not to be working, then the generator needs to be stopped immediately as there is a possibility that other important alarms and trips are also not working. This can lead to major failure if an accident occurs in the generator.

Incorrect Approach: Ship crew on several vessels have a tendency to ignore alarms which they think are not important. It is many times observed by Port State Control (PSC) that generator alarms and trips are either not working or wrongly set. Such situations will do no good in saving the generator from disaster. Check all the alarms and trips on weekly basis.

10. Water in Oil: Water leaking in oil will decrease the load carrying capacity of the oil and leads to bearing damages. In such cases, the generator must be stopped if the water content is very high. Immediately find the leakage and renew/purify the sump oil before bringing the generator back in operation.

Incorrect Approach: Several cases have been found wherein the generator lube oil tests were not carried out regularly and the generator was allowed to run with water content in the oil. The effect of small amount of water is not immediately seen, but it will corrode and damage important parts of crankshaft and bearings in the long run.

The stopping of the generator is not limited to above points. There can be several other reasons which would require generators to be stopped immediately. However, it is the duty of the engineer to use his expertise and knowledge to avoid any kind of breakdown well ahead of time

A wise engineer always think of the worst and hope for the best!

Courtesy: marine insight

Discover the Role of a Chief Engineer on a Passenger Ship

M.Muthukumar - Senior Faculty

Imagine the vast expanse of the open sea, and aboard a magnificent passenger ship, a chief engineer orchestrates the seamless operation of the vessel.

The role of a chief engineer on a passenger ship is crucial in ensuring the safety and efficiency of the ship's machinery and systems. Here we will explore the fascinating world of chief engineers on passenger ships, shedding light on their responsibilities, qualifications, career prospects, challenges, and much more.

The Role and Responsibilities of a Chief Engineer on a Passenger Ship

What is the Role of a Chief Engineer on a Passenger Ship?

At the helm of the ship's engineering department, the chief engineer holds a vital leadership position. They are responsible for overseeing the operation, maintenance, and repair of all machinery and systems on board. Their expertise ensures the ship's smooth navigation, with a constant focus on safety, performance, and compliance with maritime regulations.

What Qualifications are Needed to Become a Chief Engineer on a Passenger Ship?

Becoming a chief engineer is the pinnacle of a maritime engineer's career. To reach this position, aspiring engineers must obtain the necessary certifications, which typically include a Bachelor's degree in Marine Engineering or a related field. Additionally, they must accrue substantial sea-time, gain experience in various engineering roles, and complete the required training courses and assessments.

What are the Main Responsibilities of a Chief Engineer on a Passenger Ship?

The chief engineer's responsibilities encompass a wide range of critical tasks. They manage the ship's propulsion system, auxiliary machinery, power generation, and environmental compliance. They are also in charge of the engineering crew, ensuring their training, performance, and well-being. Safety and emergency preparedness are of utmost importance, and the chief engineer plays a pivotal role in conducting regular drills and maintenance checks.

How is the Career Progression for a Chief Engineer on a Passenger Ship?

Career progression for chief engineers is a culmination of hard work, experience, and continuous learning. Unlike the career on cargo vessels where many start as junior engineers, advancing to second and then chief engineer.

Here is an example of the career development for a chief engineer on a passenger ship:

- Starting as a cadet,
- Junior watch keeping engineer - 4th Engineer / 3rd Engineer
- Senior watch keeping engineer/ 2nd engineer
- First engineer
- HVAC engineer/reefer engineer / AC engineer

- Hotel engineer/Ship services engineer
- Deputy chief engineer/Staff chief engineer
- Chief Engineer

A successful chief engineer may pursue higher management positions within the shipping company or take on advisory and consulting roles within the maritime industry. For instance successful chief engineer with experience can be an excellent choice for a technical superintendent (technical manager).

Are There Any Certifications Required to Work as a Chief Engineer on a Passenger Ship?

Yes, a chief engineer must possess relevant certifications such as the STCW (Standards of Training, Certification, and Watch keeping for Seafarers) certificates, including Chief Engineer's Certificate of Competency. These certifications testify to their proficiency, ensuring they are qualified to manage complex engineering tasks and lead the ship's engineering department.

What Skills are Important for a Chief Engineer on a Passenger Ship?

A chief engineer must possess a diverse set of skills. Technical expertise in marine engineering and ship operations is fundamental. Additionally, strong leadership, problem-solving, communication, and decision-making skills are essential in managing a team and handling unforeseen situations at sea.

Challenges, Collaboration, and Safety Guidelines for Chief Engineers on Passenger Ships

What is the Average Salary of a Chief Engineer on a Passenger Ship?

The remuneration for chief engineers on passenger ships varies depending on factors such as the type and size of the ship, the shipping company, the individual's experience, and the region of employment.

On average, chief engineers earn competitive salaries, making their positions highly sought after in the maritime industry.

What are the Challenges Faced by a Chief Engineer on a Passenger Ship?

Chief engineers encounter a myriad of challenges while at sea.

They must navigate complex engineering issues, manage a diverse team of engineers, and coordinate with other departments to ensure the ship's seamless operation.

Additionally, they face the pressures of adhering to strict schedules, adhering to regulations, and addressing emergency situations with efficiency and composure.

How Does a Chief Engineer Collaborate with Other Crew Members on a Passenger Ship?

Collaboration among the ship's crew is crucial for its successful operation.

The chief engineer works closely with the captain, officers, and crew members from different departments to ensure efficient communication and coordination. They contribute their engineering expertise to the ship's overall performance, safety, and navigation.

Are There Any Specific Regulations or Safety Guidelines for Chief Engineers on Passenger Ships?

Yes, passenger ships are subject to a plethora of maritime regulations and safety guidelines issued by international bodies such as the International Maritime Organization (IMO) and national maritime authorities.

Chief engineers must ensure strict compliance with these regulations to guarantee the safety of passengers, crew, and the environment.

Career Prospects for Chief Engineers on Passenger Ships:

The career prospects for chief engineers are promising.

With experience and a proven track record, chief engineers have the opportunity to work on larger and more sophisticated vessels.

Some may even transition to shore-based roles, contributing to vessel management, marine consultancy, or maritime education.

Insights into Chief Engineer Career Prospects

Career Prospects for Chief Engineers on Passenger Ships:

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At the End

The role of a chief engineer on a passenger ship is one of tremendous responsibilities and expertise.

As the mastermind behind the vessel's intricate machinery, the chief engineer ensures the ship's safety, efficiency, and compliance with regulations.

Their leadership and technical skills are vital in navigating the vast oceans and ensuring passengers' comfort and well-being.

From managing a dedicated engineering team to collaborating with other crew members, chief engineers exemplify the essence of teamwork on board.

The challenges they face at sea require quick thinking and adaptability, demonstrating their unwavering commitment to maritime excellence.

For aspiring engineers with a passion for the sea, the career path to becoming a chief engineer on a passenger ship is a rewarding journey.

By acquiring the necessary qualifications, developing essential skills, and embracing the values of safety and professionalism, they can embark on an illustrious career in the maritime industry.

Courtesy: vasil vyagov,chief engineer

Is Data the Key to Efficiency Technology Adoption?

Captn. Gabriel - Senior Faculty

Efficiency technologies range from rigid wing sails to air lubrication systems, each offering unique opportunities to reduce greenhouse gas emissions and operational costs. Despite their rapid evolution and the wealth of options available to shipowners, precise evaluation is essential to build a strong investment case and maximize impact. Iebum Shin, Data Analytics Lead at Houlder, discusses the challenges in adopting efficiency technologies and highlights how data is key to making progress.

In the complex and dynamic maritime industry, achieving de-carbonization requires more than just ambition; it calls for robust data and informed decision-making. Sherlock Holmes once said, "It is a capital mistake to theorize before one has data," a statement that resonates strongly in today's industry landscape, defined by evolving efficiency technologies and stringent regulations.

Overcoming data deficits

Houlder's recent qualitative decarbonization survey revealed a critical barrier: a lack of high-quality, relevant operating data remains a barrier to the adoption of maritime efficiency technologies. This data deficit not only restricts investment decisions but also complicates the evaluation and integration of transformative solutions.

Progress toward de-carbonization requires a proactive and collaborative approach. Shipowners must leverage real--world performance data, assess various technologies, and identify fleet-wide trends. Shifting from 'quick wins' to holistic efficiency technology adoption is crucial for driving meaningful industry-wide change.

Accurate performance data will

be fundamental in fostering trust and collaboration between technology providers and shipowners. It creates a win--win scenario: technology providers build credibility through successful case studies, while shipowners demand technologies that align with their operational needs and sustainability goals. Importantly, shipowners need to see that the technology delivers the promised results.

Clean technology providers may sometimes be hesitant to share their performance data. In such cases, an independent expert intermediary can bridge the gap between technology providers' projections and the assurances shipowners need for final investment decisions.

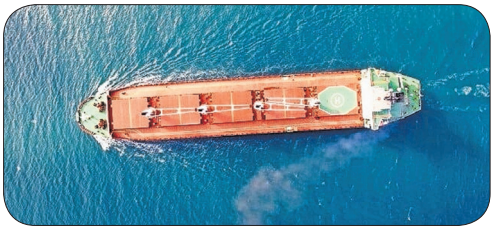
Analyzing ship performance

Effective analysis of efficiency technologies starts with understanding the ship's unique operating performance and duty profile, rather than focusing solely on the technology itself. Emissions performance varies significantly based on factors such as ship type, route, cargo, vessel speed, sea state, vessel loading condition, and fuel type. With sufficient data and advanced analysis tools, broader insights can be accessed across various ships to identify fleet-wide trends. Key considerations include ensuring that performance data covers the entire operational range of the vessel and reflects actual voyages.

Charting the course

Efficiency technologies are continually evolving, offering significant potential for fuel savings and emissions reductions. Low or zero-carbon propulsion technologies, including fuel cells and batteries, alongside propulsion assists like Flettner rotors, promise to achieve zero-emission shipping. Energy efficiency innovations, such as waste heat recovery systems, can also significantly improve vessel efficiency.

The economic landscape is rapidly evolving, with incentives and regulatory frameworks increasingly favouring efficiency and de-carbonization. The European Union's Emissions Trading System (EU ETS) imposes increasing costs on carbon emissions, strengthening the business case for energy efficiency technologies. Additionally, Fuel



EU Maritime promotes the installation of certain abatement methods and the use of low-carbon fuels by setting progressively stringent GHG emission targets based on the 2020 MRV fleet baseline. Similarly, the International Maritime Organization's Carbon Intensity Indicator (IMO CII) is set to have a significant commercial impact on shipowners, emphasizing the importance of efficiency technologies for achieving superior ratings and favourable charter party agreements. These technical and economic factors must also be incorporated into any sustainability analysis and strategy.

While the debate on alternative fuels continues, one thing is clear: efficiency technologies are essential for driving sustainability. However, their integration must be underpinned by rigorous analysis and a commitment to transparency. By embracing innovative solutions and prioritizing data collection, verification and transparency, we can accelerate progress toward a cleaner, more sustainable maritime sector today.

Iebum Shin is the Data Analytics Lead at maritime consultancy Houlder.

Courtesy: The opinions expressed herein are the author's and not necessarily those of The Maritime Executive.

Dutch open-access liquid CO2 terminal in Rotterdam port gains ground

Vallikumar Alagan - GME

Dutch companies Gasunie and Vopak have welcomed new partners in the CO2next, a planned liquid CO2 terminal at the Maasvlakte in the port of Rotterdam to be connected to the Aramis carbon capture and storage (CCS) project and used for shipping liquid CO2, as the project progresses to a new phase.

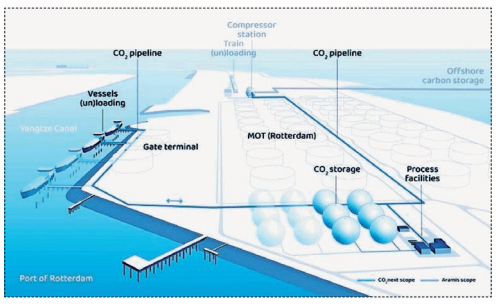
The CO2next project envisions building an open-access liquid CO2 terminal at the Maasvlakte in Rotterdam with jetties foreseen in the Yangtze Canal. The terminal will be able to receive and deliver liquid CO2 via vessels and will be connected to depleted gas fields in the North Sea via the Aramis trunk line for storage. It can also be leveraged as a part of other CCS chains and a potential future carbon utilization industry, the partners said.

The proposed CO2next terminal is seen as critical in the context of the Dutch climate agreement and the European Green Deal. Is is also expected to contribute to the infrastructure and facilitate CO2 reduction for the industry in Northwest Europe anda CO2-neutral port in Rotterdam by 2050.

According to the project developers, potential customers for the CO2next terminal have been approached in 2022, which to date has led to several customers who are keen to leverage the open access terminal for their de-carbonization needs.

The terminal has a launch capacity of approximately 5.4 million tonnes per annum (mtpa), and a potential to grow its capacity to approximately 15 mtpa, depending on market demand and the development of the Aramis project and other CCS chains.

In what was described as a major milestone, the CO2next project has now entered the front-end engineering design (FEED) phase and awarded the FEED contract to engineering and technology group Sener. During this phase, the realization schedule



and the cost of the proposed terminal will be further defined, the relevant permits must be received and customers will be contracted in preparation for the final investment decision (FID) currently planned for 2025.

Following the FID and subject to permits being granted by relevant authorities, the CO2next terminal is scheduled to commence commercial operations in 2028.

Additionally, energy majors Shell and Total Energies have joined the development of the CO2next project, which to date was led by Gasunie and Vopak.

Fulco van Geuns, Project Director of CO2next:"We are pleased to see the CO2next project firming up. Carbon Capture and Storage is recognised as required to enable the de-carbonisation of the hard to abate industries and we see a clear role for such a liquid CO2 terminal in the European CO2 infrastructure. The same infrastructure may also be required to enable a Carbon Utilisation industry in future. We welcome Shell and Total-energies to the partnership and are looking forward to jointly deliver this project."

Courtesy: world maritime news

MARITIME DAY CELEBRATION AT RLINS

Indian Maritime Day, also known as National Maritime Day, is celebrated on April 5th every year in India. This day commemorates the maiden voyage of the first Indian-owned ship, the SS Loyalty, from Mumbai (then Bombay) to London on April 5, 1919. The day highlights the importance of the maritime industry to India's economy and honors the contributions of the maritime community. Various events and activities are organized across the country, including seminars, award ceremonies, and exhibitions, to promote awareness about the maritime sector and its significance.

National Maritime Day in India is significant for several reasons:

Historical Significance: It marks the journey of SS Loyalty, the first Indian-owned ship to set sail from Mumbai to London in 1919, symbolizing a milestone in India's maritime history.

Economic Impact: The maritime sector is crucial for India's trade and economy. Over 90% of India's trade by volume and 70% by value is conducted through maritime transport. Celebrating this day emphasizes the industry's role in the nation's economic development.

Recognition of Maritime Community: The day honors the contributions of seafarers, shipbuilders, and others involved in the maritime industry. It acknowledges their efforts and sacrifices in ensuring the smooth operation of global trade and commerce.

Awareness and Education: National Maritime Day serves as an opportunity to raise public awareness about the maritime sector. It highlights the industry's challenges and opportunities, promoting maritime education and careers.

Policy and Development: The day encourages discussions and initiatives for the development of maritime infrastructure, safety, and sustainability. It is a platform for stakeholders to deliberate on improving the sector and enhancing India's maritime capabilities.

Overall, National Maritime Day underscores the importance of the maritime industry to India's heritage, economy, and future growth.

R.L. Institute of Nautical Sciences conducted Maritime Week celebration organising various events.The cadets participated with lot of enthusiasm and showed their talents.The 61st maritime day was celebrated on 5th April,2024 .The guest of honour of the function was our founder president Dr.R.Lakshmipathy.He hoisted the national flag and took the salute . Our president laid the wreath for the unknown sailors who made sacrifices during their sailing.The principal, faculty members and the cadets paid floral tributes which was followed by observance of two minutes silence.

The programme continued in the auditorium with lighting of Kuthu vilaku .Capt. Saket Kumar,Senior Manager,PMA(A Division of PIL(India) Private Ltd. was the chief guest of the function. Our alumni Mr.N.Ramkumar, Chief Engineer,Tom Shipping Pvt. Ltd. addressed the gathering with his inspiring speech motivating the cadets to begin a successful career in the maritime field.The chief guest had given away the prizes for the cadets who won in various competitions.

■ **The prize winners with the chief guest , Capt. Saket Kumar,Senior Manager,PMA, principal and vice-principal.**

■ **Dr.R.Lakshmipathy, President, RLINS honours Capt. Saket Kumar, Senior Manager, PMA, with a memento**

■ **Dr.R.Lakshmipathy,President,RLINS lays the wreath paying respect the unknown sailors.**

SUSTAINABLE SHIPPING: OPPORTUNITIES AND CHALLENGES

M. Muthukumar, Senior Faculty

National Maritime Day is celebrated on April 5 across the country to commemorate the sailing of India's first commercial vessel SS Loyalty from Mumbai to London. During the day's celebrations, the "NMD Award of Excellence" is usually conferred to recognize and honor individuals for their lifetime significant and exceptional achievements in the Indian maritime sector at a senior level. This day is dedicated to honoring the brave men who spend months at sea, contributing significantly to India's global trade and commerce. This year we are celebrating 61st maritime day and the theme for this year is SUSTAINABLE SHIPPING : OPPORTUNITIES AND CHALLENGES.

The significance of the shipping industry has been elaborately explained like 95% of the world trade is being done through shipping, it is the cheapest mode of transport and 75% of the earth is covered by ocean only. The evolution of shipping industry has been briefly explained and also the need for technological changes to reduce pollution has been emphasised which has significant economical reasons.

For sustainability of shipping industry it has to cater to the demands of the current and future challenges in relation to human, social, economic and environmental elements.

It has been explained in detail about the latest technological changes that is happening in the shipping industry with reference to the main propulsion system as well as auxiliary systems. These changes cater to meet the regulatory requirements of the regulating bodies as well as for economical reasons.

Lot of opportunities exist in the shipping industry as our country is having a long coastal area. Our government is also promoting coastal as well as inland water ways by means of schemes like Sagar mala. We are having plenty of scope to have new shipbuilding and ship repair yards as we are having only a few yards and lot of our ships are going to foreign countries for repairs. This will no doubt provide huge employment opportunities to all the seafarers. We are also lagging behind heavily in container manufacturing and container ownership. This area needs improvement. We are having good human resources and need to increase the supply of quality seafarers to shipping industry. This will in turn bring huge foreign money into India and the entire nation will prosper.

■ **Mr.M.Muthukumar, Senior faculty, addressing in the Institution of Engineers (Madurai Local Centre)**

Lot of opportunities exist in the shipping industry as our country is having a long coastal area. Our government is also promoting coastal as well as inland water ways by means of schemes like Sagar mala.

Various training opportunities are available in our home town Madurai and in the maritime training institute R.L.Institute of Nautical Science for the aspirants who want to start career in the marine field. The RL Institute offers the lucrative courses like GME for Graduates from Mechanical Engineering, ETO Course for Graduates from Electrical, Instrumentation, electronics and control systems and G.P.Rating for 10th passed students. The job opportunities for them are very high with a reasonably good pay package.

The seafarers face various challenges when they discharge their duties. Among the most challenging will be to face the dangers of piracy and major war between the nations. Another important dimension of the problem is that they have to encounter rough weather and rough seas, working with multinational crew and staying away from family.

SPORTS DAY AT RLINS

■ G P Rating cadets are in action.

■ Cadets are participating in the Swimming competition.

■ Cadets take part in Carom competition

RLINS takes concerted efforts to make its cadets mentally and physically fit by conducting every year annual sports meet. Certainly sports and games bring in them a sense of discipline and unity among them by which they develop good traits such as hard work and adventurism which will help them to meet any challenge in their life.

Sports events are very vital to channelise their energy and the spirit of sportsmanship will inculcate a sense of pride and competitive mind.

Sports day is a memorable day for the students who showcase their hidden talents by participating in various indoor and out door games.RLINS takes sustained effort every year in making this event a successful one.

This year the22nd annual sports meet was held on 4th April,2024 at the college auditorium.Mr.Marithangam,Physical Director, has taken elaborate arrangements to make it more successful. Many cadets participated in both in door and out door games with zeal . The chief guest distributed the prizes for the winners who contributed in various events.

The following is the medal tally of the winners in various competitions:

- **Volleyball match - Tankers house**
- **Carom - Liners House**
- **Badminton winners - Tankers house**
- **Chess - Bulkers**
- **Cricket - Reefer house ,**
- **Swimming - Liners house,**
- **Overall winners - Tankers House**

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