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DEBUTANT MASTER'S FEAR

by Radio Officer G.Mohandas

EVOLUTION OF SHIP

by Ch.Er. Shanmugham Magesh

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Article

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Message from Chief of Editor

**Mrs. Arul Josphin Mary | Director of PMA
Chief of Editor**

On behalf of our editorial team, I would like to offer a word of thanks to our reader, data contributors, marine authors, editors and anonymous reviewers, all of whom have volunteered to contribute to the success of the magazine and for its mission towards in the maritime education and research. Without research, education system cannot be fulfilled to meet the industry requirements **IMO's** dream about **GREEN VOYAGE 2050** and government of the India dream about **MARITIME INDIA VISION 2030**, we encourage contribution to ensure continuity of a successful maritime magazine We also welcome comments, suggestion that could improve the quality of the magazine Thank you, we trust and hope will find the magazine more informative in the future / ahead endeavor.

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SECTION EDITOR

1. Know Your Law
2. Fancy or Fantasy V.2
3. Lesson Learnt From Mistake
4. Evolution of Ship Propulsion System
5. Debutant Master's Fear Killed 4 Fisher Men

Know Your Law

DIFFERENCE BETWEEN MARPOL AND LONDON DUMPING CONVENTION



Ch. Er. Abdul Rasheed

The MARPOL Convention covers all the technical aspects of pollution from ships expect a) the dumping of waste by ships and

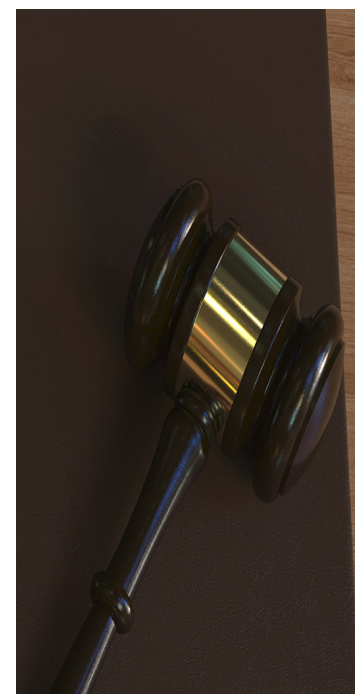
2) pollution arising from exploitation of sea bed minerals resources. There is a big difference between the operational discharges by vessels (MARPOL) and dumping of wastes from vessels (London convention).

The prohibition of all incineration at sea under the London protocol, does not affect the incineration on board vessels of garbage which is allowed under Annex V of MAFPOL provided all conditions of that Annex are met.



Bet you didn't know.....

A German shepherd named Talero stayed next to the body of his owner for 23 days after he had died in a snow storm. He prevented animals from attacking the body and tried to keep his owner warm by sleeping by his side.





Ch. Er. Pradeep Kumar M.S.

Fancy or Fantasy V-2

GDP vs Wealth

Remember that GDP isn't measuring wealth, it's measuring spending -- production which is sold.

GDP "counts the currency value of our output, but not the actual improvement in our lives, or even in any economic condition."

For example, if you pay to dig holes and fill them, it's GDP.

If you pay to throw your garbage into neighbour's plot, it added to GDP.

If your neighbour returns the complement, then again, it adds to GDP.

Ha ha ha

In fact, you could build a missile, blow up any bridge and every house within 5 miles of it, and it shows up as GDP.

The missile cost money after all, and the somebody paid for it.

Of course, mainstream media -- indeed, mainstream economics -- pretends(fools us into believing) that GDP is identical to wealth. Pumping out magazine articles after articles celebrating GDP as prosperity. Teaching it in college text books, as if it is knowledge.

But, that's "close enough" ONLY when private firms or individuals producing more to sell more -- in that case, rising GDP means the country is getting richer. Because more stuff is being PRODUCED.

But it's actually the opposite when it's government spending.

Because government's job is, forever taking wealth and lighting it on fire. Rarely is it otherwise.

That means when GDP is growing from government spending, GDP is not measuring wealth creation. It is, in fact including wealth destruction also into GDP.

It's measuring dissipation of wealth at best, destruction of wealth at worst.



March Month Birthday



Capt. Jitendra Chowdhary

07-Mar



Er. Abdul Rasheed

08-Mar



Mrs. Josphin Mary

10-Mar



Er. G.Kamala Kannan

19-Feb



Er. Dhilp Kumar

22-Feb

“Cheers to more fun, more memories, and more cake!”



Er. K.Ashok

22-Feb

Bad Hose Blanking Practice

Two tankers were carrying out a ship to ship (STS) transfer in port. Upon cargo completion, the cargo hose had to be drained to the receiving vessel. The Person in Overall Advisory Control (POAC) instructed to disconnect the cargo hose from the supply vessel, and to loosely bolt the blank and put rags in the cargo hose flange. This was to create a small clearance and allow air into the hose to ‘facilitate’ draining to the receiving vessel. The receiving vessel crew knew nothing about this arrangement. The hose was improperly lifted, leaving about 14 metres of hose bent in a U shape between the vessels. An excessive bend developed at the hose support of the receiving vessel. This created a back pressure, and the oil remaining in the hose was forced up and back out, escaping at the loosely bolted flange at the supply vessel. An estimated 15L of oil was sprayed on deck, and into the sea.



Lessons learned form Mistake

- STS guidance specifies blanked flanges should be securely bolted to prevent pollution.
- Introducing atmospheric air to the cargo system constitutes an explosion risk.
- STS Joint Plan of Operations should include all operations such as cargo hose connection, draining, purging and disconnection.



Capt. Moovendhan J

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Evolution of Ship Propulsion System

Ch. Er. Shanmugham Magesh

From the very beginning of human existence, ships were considered as an indispensable means of transportation, trade and war. Mankind does not know what was the first means for overcoming water spaces in humans. There are no chronicles that would record what the very first ship in the world was like, where and by whom it was built: there are only rock paintings. But nevertheless, the ancient Egyptians and their boats, made of reed and papyrus, are considered to be the first: after all, trees in Egypt were rare, very dearly valued, therefore, the first ship in the world was reed. Since then, people have tried to make ships faster and more efficient. For this, the methods of movement have changed over the centuries. From wind and steam to diesel engines and autonomous ships, engines are looking for an innovation, while recently the need for environmentally friendly transportation has become a driving force behind new methods of propulsion and the exploration of potentially new ones. In this article, would like to look at how engines and propulsion systems on ships have evolved over the years and what the future holds for them.

WIND

Before the use of the coal steam engines on ships in the early 19th century, oars or wind were mainly used to propel ships. At that time, merchant ships used sail as well as rowing, which was preferable as it provided maneuverability and speed.

Until the moment when the engines appeared, the sail was not used by the ship as a means of transportation. Recently, however, more and more developments have been taking place in which wind power is used to power ships.



STEAM

The real steam turbine was invented in medieval Egypt, by the 16th century Turkish astronomer, physicist and engineer Takiyuddin al-Shami. He proposed a method of rotating the spit by means of a stream of steam directed to the blades fixed along the rim of the wheel.

In the 1700s, steam was one of the main sources of energy that propelled ships.



In fact, there was a large influx of steam ships in 1769, as the steam engine underwent great changes during this time.

During this period, steam powered two types of engines: reciprocating (with steam pistons connected to the crankshaft) and turbines.

RECIPROCATING

The first steamers operated on wood and used aft or side paddle wheels, which later gave way to propeller wheels. The next generation of steamboats used coal or fuel oil, and the first commercial success was achieved on Robert Fulton's North River Steamboat in the United States in 1807.

TURBINES

Initially, steam turbines were fired with coal, and then with fuel oil, while the ship's steam turbine increased the power density. This allowed the creation of new high-speed liners in the first half of the 20th century, making the reciprocating steam engine obsolete.

MECHANIZED POWER

In the second half of the 20th century, rising fuel costs led to the demise of the steam turbine. In fact, since 1960, most of the new ships were built with diesel engines, which was a revolution. In fact, most modern ships use a piston diesel engine as their prime mover due to their ease of operation, reliability, and fuel economy compared to most other prime mover mechanisms.



ALTERNATIVE FUEL ENGINES

Shipping companies are currently required to comply with IMO decarbonization regulations. To achieve compliance, many operators choose to use alternative fuels as their engine. One of these fuels is LNG.

LNG

The first LNG vessel dates back to 1959, when Methane Pioneer shipped cargo from Louisiana to the UK. Today, an LNG marine engine can have multiple fuel options, allowing ships to navigate without relying on a single fuel.

In fact, research has shown that LNG can be an efficient transition fuel. However, limited access to LNG filling stations could affect the production of such engines. Moreover, ships providing services to the LNG industry have been upgraded with dual-fuel engines, with positive results.



AMMONIA

To date, no ammonia-fueled vessels have been built, but that has not stopped companies including Maersk, MAN Energy Solutions, NYK Line, Mitsubishi Heavy Industries and the French energy company Total from a rushed effort to bring vessels powered by ammonia fuel.



HYDROGEN

Another potential fuel that shipping companies are considering is hydrogen. In fact, more and more companies are creating projects to promote the use of hydrogen, such as the Hyundai Heavy Industries Group, which aims to complete the hydrogen value chain from production to transportation, storage and sale of fuel cells by 2030



ELECTRIC VESSELS

Despite the fact that electric vessels are not the types of propulsion in particular, would like to tell you more about them. First used around the 1880s, today several short-range vessels have been built or converted into electric vessels. This includes battery power that is charged from shore while others are powered from shore using electrical cables.



Specifically, on November 12, 2017, Guangzhou Shipyard International (GSI) launched what is arguably the world's first battery-powered, all-electric land-based coal transporter. The vessel with a deadweight of 2,000 tons will carry bulk cargo up to 40 nautical miles on a single charge. The ship is powered by 2,400 kilowatt-hours of lithium-ion batteries, about the same as the 30 Tesla Model S electric sedans.

Stena Line announced that it plans to order its first all-electric ferry no later than 2025. The Stena Elektra project, a concept for an all-electric ferry on the Gothenburg-Frederikshavn route by 2030, is currently under construction on a commercial vessel. The project was developed by Stena's in-house technical consultant, Stena Teknik.

CONCLUSION

The discussions on ship propulsion reveal a dynamic landscape, marked by continuous innovation and a quest for greener and more efficient solutions. From the historical evolution of marine engines, such as steam and diesel, to the contemporary adoption of gas turbines, LNG engines, and even hydrogen fuel cells, the maritime industry has consistently adapted to meet evolving demands.

The future of ship propulsion is undeniably intertwined with sustainability and environmental responsibility. As global awareness of climate change intensifies, shipping companies are under increasing pressure to reduce greenhouse gas emissions. This has led to the exploration of alternative fuels and propulsion systems, such as LNG and hydrogen, which offer the promise of zero-emission shipping.



Radio Officer G. Mohandas

Debutant Master's Fear Killed 4 Fisher Men

My wife digging my hip with her elbow at around 1am, and succeeded waking me up, in one of the ships (a 60,000 ton bulk carrier) where she was sailing with me, whispering into my ears that she felt as if the ship hit a very large object like a rock.

Since our cabin door was right opposite to the navigational bridge door, I jumped out of my bed and opened the bridge door and observed for few minutes and saw the lamp on the chart table was ON and pin-drop silence inside the bridge, which was quite normal. We were sailing through the English Channel.

I quietly closed the bridge door, returned to my cabin, and told my wife that no abnormal activities I observed in the bridge, so it could be a very strong wave hitting the ship that she thought it was a rock. Ushering her to go to sleep, I switched off the lights and slept.

Within few minutes she woke me up again and said that she heard human voices from the sea, as if pleading for help. I told her to be quiet and observe any footsteps rushing to bridge. No footsteps. I convinced her that at times sea creatures make such noises. I went to sleep again.

Five o'clock in the morning, Chief Officer knocked on my door and informed me that the Captain wanted to see me urgently.

I rushed to bridge and heard the Master on VHF, enquiring if any casualty picked up from sea.

Chief engineer and Bosun were present in the bridge. Since Master was busy on VHF, I asked C/E, "What happened?" He replied "collision".

I asked, "Which ship?" He said that our ship collided with a fishing trawler last night.

Master informed me not to respond to any media communication about the accident. BBC, London Telegraph and other media persons did call our ship and I did not entertain any of their communication.

I came to know that our ship collided with a UK fishing trawler which was anchored in English Channel. The fishing trawler was sunk and all the four occupants were missing.

This happened in second Officer Watch. Master was alerted and soon after the accident he inspected our ship's bow and found a radio antenna of the fishing trawler was found in our ship. Our ship's bow too sustained minor damage. He certainly knew about the collision and merely because just three months earlier he was promoted to the rank of Master, he did not take any action, out of fear. He kept sailing for next four hours and then reported to our Company Superintendent at London.

Superintendent advised the master to report to UK coast guard immediately; hence, he reported and narrated to UKCG all the details. UKCG immediately went into action and searched the area and found no trace of the trawler or the crew.

The very next day UK fishermen came to know about this accident. They attacked our Head Office at London and did not allow the Office to function for many days. UK authorities let our ship sail and directed us to anchor off the coast of Gibraltar, since we were heading to Suez Canal.

While we were anchored off Gibraltar, many officials from UK maritime, UK police, our flag state (Cyprus), our company superintendents came to our ship in repeated helicopter trips and conducted a thorough enquiry about the accident with the Master, Second Officer, Look-out cadet and self.

They checked all the log books (Official Log book, deck log book, Radio log book, engine log book) and took copies of the entries.

After the enquiry, we were allowed to sail out to Port Said and wait for further instructions. Upon arrival to Port said, Master, Second Officer and the Cadet were relieved from duty, their travel documents were confiscated, all the three were taken to Nicosia, the capital city of Cyprus, our flag state.

UK authorities filed a case against the ship master on the grounds of “manslaughter”. All the three of them were kept under house arrest at Nicosia and the case was going on for many months.

Fortunately, we won the case because the Fishing Trawler was anchored in the prohibited area!!! However the Master’s and second Officer’s certificates were endorsed.

(If the Master has just informed me soon after the collision I could have sent out a distress message and most likely saved the trawler crew)

After a couple of years, I met the cadet who was on look out duty during the accident and he told me the hidden truth and root cause of the accident.

While the collision took place in English Channel, the vessel was on AUTO PILOT, the second mate left the bridge and went two decks below and was washing clothes in washing machine!!!



Self responding to media and communicating with helicopter from Radio Room





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