



MARITIME REVIEW

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SECURING ALL SIDES OF THE PHILIPPINE MARITIME TERRITORY

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- ▶ The Global Commons
- ▶ Very Significant US Foreign Policy Statements
- ▶ 51 Incidents of Piracy and Armed Robbery
- ▶ PPA's 46 Years of Promoting Nation-Building

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Kalayaan Island Group

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Sabah

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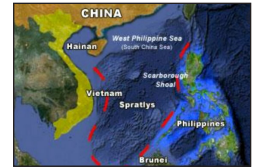
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About the Cover:

The cover showcases the Philippine Archipelago, which, as discussed in our Feature Story, highlights the importance of having clearly defined boundaries with neighboring states for a stable interdependence among stakeholders, opportunities for mutual cooperation, and confidence in maritime law enforcement within its borders.



MARITIME EVENTS CALENDAR

SEPTEMBER '20

- 1-2 MEGARUST NAVAL CORROSION CONFERENCE (VIRTUAL CONFERENCE)
- 2-3 CRUISE SHIP INTERIORS EXPO AMERICA (MIAMI, FL, USA)
- 8 GASTECH EXHIBITION & CONFERENCE 2020 (SINGAPORE)
- 8-11 THE INTERNATIONAL CONFERENCE ON MARITIME SECURITY AND DEFENCE (HAMBURG MESSE UND CONGRESS GMBH, HAMBURG, GERMANY)
- 8-11 MARITIME FUTURE SUMMIT (HAMBURG MESSE UND CONGRESS GMBH, HAMBURG, GERMANY)
- 13-15 THE MARITIME GIFT SHOW (MGS) (HALIFAX EXHIBITION CENTRE, GOODWOOD, CANADA)
- 15-18 PORTS CONFERENCE (WYNDHAM GRAND PITTSBURG DOWNTOWN, PITTSBURGH, USA)
- 22-24 MODERN DAY MARINE MILITARY EXPO (QUANTICO STATION, VIRGINIA, USA)
- 22 MARITIME FORUM #156 (MARITIME ACADEMY OF ASIA AND THE PACIFIC, MARIVELES, BATAAN; ONLINE VIA ZOOM MEETING)**
- 23-25 CHINA (SHENZHEN) INTERNATIONAL LOGISTICS SUPPLY CHAIN FAIR (SHENZHEN, CHINA)
- 28-2 OCT SNAME MARITIME CONVENTION (SMC) 2020 (VIRTUAL CONFERENCE)
- 29-30 SHIPPING TECHNICS LOGISTICS KALKAR (MESSE KALKAR, KALKAR, GERMANY)
- 29-1 OCT BREAKBULK EUROPE (BREMEN, GERMANY)
- 29-1 OCT INLAND MARINE EXPO (IMX 2020) (VIRTUAL CONFERENCE)
- 30 ASIA PACIFIC MARITIME (APM) 2020 (SINGAPORE)
- 30-1 OCT INTERNATIONAL GREEN & SMART SHIPPING SUMMIT (ROTTERDAM, NETHERLANDS)

OCTOBER '20

- 5-8 AUVIS Xponential (VIRTUAL CONFERENCE)
- 7-9 NAVEXPO INTERNATIONAL 2020 (PORT OF LORIENT, SOUTH BRITTANY, FRANCE)
- 7-9 CONTRACT MANAGEMENT FOR SHIP CONSTRUCTION, REPAIR AND DESIGN COURSE (THE ROYAL INSTITUTE OF NAVAL ARCHITECTS, LONDON, UK)
- 10-12 INTERNATIONAL CONFERENCE ON MARITIME TRANSPORT (DIPARTAMENTO DI INGEGNERIA CIVILE, EDILE E AMBIENTALE, ROME ITALY)
- 13-14 AFRICAN PORTS AND RAIL EVOLUTION (DURBAN ICC, DURBAN, SOUTH AFRICA)
- 13-15 SHIPPING INSIGHT (STAMFORD, CT, USA)
- 14-16 INTERNATIONAL SHIPPING AND COMMUNITY CONFERENCE (HILTON STAMFORD HOTEL & EXECUTIVE MEETING CENTER, STAMFORD, USA)
- 15 3RD BANGLADESH INTERNATIONAL MARINE & OFFSHORE EXPO (BIMOX) 2020 (DHAKA, BANGLADESH)
- 19-22 GLOBAL OCEANS CONFERENCE & EXPO 2020 (VIRTUAL CONFERENCE)
- 20-21 ENVIROTECH FOR SHIPPING FORUM (ROTTERDAM, NETHERLANDS)
- 21 MARITIME FORUM #157 (UP INSTITUTE OF MARITIME AFFAIRS AND LAW OF THE SEA (IMLOS); ONLINE VIA ZOOM MEETING)**
- 21-23 OIL & GAS VIETNAM (PULLMAN VUNG TAU, VUNG TAU, VIETNAM)
- 23 COMMERCIAL MARINE EXPO (PROVIDENCE, RI, USA)
- 24-28 INTERFERRY (HOBART, AUSTRALIA)
- 26-30 POSIDONIA (ATHENS, GREECE)
- 26-28 SEATRADE MARITIME MIDDLE EAST (DUBAI, UAE)
- 27-29 DANISH MARITIME DAYS (COPPENHAGEN, NETHERLANDS)
- 27-29 TOC AMERICAS (VIRTUAL CONFERENCE)
- 28-31 CLEAN GULF CONFERENCE & EXHIBITION (NEW ORLEANS, LA, USA)

NOVEMBER '20

- 2-6 OFFSHORE TECHNOLOGY CONFERENCE (OTC) ASIA 2020 (VIRTUAL CONFERENCE)
- 9 ABU DHABI INTERNATIONAL PETROLEUM EXHIBITION & CONFERENCE (ADIPEC) (ABU DHABI, UNITED ARAB EMIRATES)
- 9-11 MARITIME AIR SYSTEMS & TECHNOLOGIES (MAST JAPAN DEFENSE) (TOKYO, JAPAN)
- 9-13 INTERNATIONAL BUSINESS HOUSE (IBH) TRADING AND SHIPPING WORKING TOGETHER TRAINING COURSE (AMSTERDAM, NETHERLANDS)
- 11-13 KOREA OCEAN EXPO (SONGDO CONVENIA, INCHEON, SOUTH KOREA)
- 17-18 ASIAN LOGISTICS AND MARITIME CONFERENCE (HONG KONG CONVENTION AND EXHIBITION CENTRE, HONG KONG)
- 21 MARITIME FORUM #158 (DEPARTMENT OF TRANSPORTATION, TBD)**

DECEMBER '20

- 1-3 OCEANOLOGY INTERNATIONAL (OI) 2020 (LONDON, UK)
- 1-3 PACIFIC MARINE EXPO 2020 (CENTURYLINK FIELD EVENTS CENTER, SEATTLE, WA, USA)
- 7-9 SEATRADE MARITIME MIDDLE EAST (DUBAI EXHIBITION CENTRE, DUBAI, UNITED ARAB EMIRATES)
- 8-10 UNDERSEA DEFENSE TECHNOLOGY (UDT) (ROTTERDAM, NETHERLANDS)
- 9 MARITIME FORUM #159 (TBD)**
- 15-16 INTERNATIONAL GREEN SHIPPING AND TECHNOLOGY (GST) SUMMIT (METROPOLITAN HOTEL ATHENS, PALAIO FALIRO, GREECE)
- 15-17 INTERNATIONAL WORKBOAT SHOW (ERNEST N MORIAL CONVENTION CENTER, NEW ORLEANS, USA)
- 20-22 SHIPPING & LOGISTICS INDIA (CHENNAI TRADE CENTRE, CHENNAI, INDIA)

JANUARY '21

- 17 NEWCASTLE LARGEST HOLIDAY CRUISE AND EXPO (NEWCASTLE AUSTRALIA)
- 21 MARITIME FORUM #160 (DEPARTMENT OF FOREIGN AFFAIRS, MANILA)**
- 30-4 FEB K-LOVE CRUISE (FORT LAUDERDALE, USA)

FEBRUARY '21

- 2-5 SMM HAMBURG 2021 (HAMBURG EXHIBITION HALL AND , HAMBURG, GERMANY)

MARCH '21

- 16-18 INTERMODAL ASIA 2021 (SHANGHAI WORLD EXPO EXHIBITION AND CONFERENCE CENTRE, SHANGHAI, CHINA)
- 30 INTERNATIONAL MARITIME EXPO (INMEX) VIETNAM (HO CHI MINH CITY, VIETNAM)

APRIL '21

- 12-15 SEATRADE CRUISE GLOBAL (MIAMI, FLORIDA, USA)

MAY '21

- 24-27 MARITIME WEEK AMERICASE

JUNE '21

- 8-10 TOC EUROPE (ROTTERDAM, NETHERLANDS)



The Philippine Delegation, led by Assistant Secretary for Maritime and Ocean Concerns Generoso DG Calonge of the Department of Foreign Affairs, and the Indonesian Delegation, led by Director for Legal Affairs and Territorial Treaties Bebeb AKN Djundjuran of the Ministry of Foreign Affairs, meet in Yogyakarta for the 10th Joint Permanent Working Group on Maritime and Ocean Concerns on 20-September-2019. (Photo by Philippine Embassy in Jakarta)

SECURING ALL SIDES OF THE PHILIPPINE MARITIME TERRITORY

by Assistant Secretary Generoso D.G. Calonge

As an archipelagic State, the Philippines' maritime interests go beyond the West Philippine Sea / South China Sea, although it usually gets the most public attention. While promoting and protecting the rights of the Philippines in that area, the Department of Foreign Affairs, in particular the Maritime and Ocean Affairs Office, has also been tirelessly making efforts in addressing other maritime issues and concerns, and ensuring the security of all sides of the Philippine maritime domain – in the south with Indonesia, in the southeast with Palau, in the north with Japan, and in the west with Vietnam.

Philippines, Indonesia hold 10th maritime talks in Yogyakarta

The Philippines and Indonesia held the 10th Meeting of the Joint Permanent Working Group on Maritime and Ocean Concerns (JPWG-MOC) in Yogyakarta on 19-21 September 2019, reviving a key bilateral mechanism for the first time in 3 years.

The JPWG-MOC, which reports to the more senior Joint Commission on Bilateral Cooperation, was established to serve

as the primary forum between the Philippines and Indonesia for exchange of views on maritime issues of mutual interest.

The two sides were boosted by the entry into force of the 2014 Agreement on EEZ Delimitation through an exchange of instruments of ratification by Foreign Secretary Teodoro L. Locsin and Indonesian Foreign Minister Retno Marsudi in Bangkok on 1-August-2019. The Agreement is expected to benefit both countries, economically and politically, by promoting more bilateral cooperation in the EEZ in order to advance the common interest of managing and preserving the resources in the EEZ and further strengthening maritime security cooperation between the two countries.

During the Meeting, the Philippine and Indonesian delegations discussed post-EEZ boundary delimitation issues, the joint co-production of navigational charts, delimitation of the continental shelf, cooperation on search and rescue, marine and fisheries cooperation, and efforts to combat **illegal, unreported, and unregulated fishing (IUUF)**.



Delegations of the Philippines and Palau with members of the Palau National Congress at the 4th Technical Panel Meeting on the Maritime Boundaries between the Philippines and Palau, 13-14 November 2019 in Koror, Palau. (Photo from MOAO-Div 1)

Philippines, Palau hold 4th Technical Panel Meeting in Koror

The 4th Technical Panel Meeting on the Maritime Boundaries between the Philippines and Palau was held on 13-14 November 2019 in Koror, Palau. The Philippines and Palau laid out their respective positions in view of the principles and processes in maritime boundary delimitation in accordance with international law, including the United Nations Convention on the Law of the Sea. Both sides agreed to continue further discussions with the objective of reaching a final resolution on the issue of maritime boundaries.



The Philippines and Japan held the 3rd Dialogue on Maritime and Ocean Affairs at the Ministry of Japanese Ministry of Foreign Affairs (MOFA) in Tokyo on 11 June 2019, back-to-back with the 8th Philippines-Japan Political-Military and Military-to-Military Meeting. (Photo by MOAO-Div1)

Revival of the PH-JP Dialogue on Maritime and Ocean Affairs

The Philippines and Japan held the 3rd Dialogue on Maritime and Ocean Affairs at the **Ministry of Japanese Ministry of Foreign Affairs (MOFA)** in Tokyo on 11-June-2019, back-to-back with the 8th Philippines-Japan Political-Military and Military-to-Military Meeting.

It was the first such Maritime Dialogue between the two countries in six years, having been prompted by a decision between Secretary Teodoro L. Locsin, Jr. and Japan Foreign Minister Kōno Tarō at a meeting in Davao in February 2019. The inaugural First Dialogue was held in Tokyo on 9-September-2011 to explore various areas of cooperation in the maritime sector focusing on maritime safety and security. The Second Dialogue was held in Manila on 22-February-2013.

Apart from a discussion of each country's respective maritime concerns and experiences, the meeting was marked by the Philippines' presentation of a proposal seeking Japan's support in the establishment of an Asian Maritime University in the Philippines and Japan's recounting of its best practices to preserve remote islands and develop the exclusive economic zones (EEZ).

Philippines, Viet Nam hold 8th maritime talks in Hanoi

The Philippines and Viet Nam convened the 8th Meeting of the Philippines-Viet Nam (PH-VN) Joint Permanent Working Group on Maritime and Ocean Concerns (JPWG-MOC) on 17-19 October 2019 at the State Guest House in Hanoi, reviving a key bilateral mechanism for the first time in eight years.

One of the key outcomes of the meeting was the proposal to conduct informal discussions on the two countries' **extended continental shelf (ECS)** claims in the South China Sea. The Philippines and Viet Nam also discussed cooperation on maritime law enforcement, fisheries, scientific research, and marine environment protection.

First held Manila in 2004, the 6th Director General-level JWPWG-MOC was held in Manila on 24-25 January 2011 and the 7th was held in Ho Chi Minh on 15-16 August 2011.

Following a decision at the 6th Joint Commission for Bilateral Cooperation held in Hanoi on 5-6 October 2011 to elevate the mechanism to Vice-Ministerial level, the two countries held the 1st Joint Commission on Maritime and Ocean Cooperation (JC-MOC) in Manila on 20-February-2012 and the 2nd JC-MOC in Hanoi on 14-September-2015, thus putting the JPWG-MOC into hiatus until 2019.

PH asserts its maritime rights in diplomatic notes to UN

On 06-March-2020, the Philippines submitted to the UN Secretary-General communications stating its position on Malaysia's submission on 12-December-2019 of its extended continental shelf (beyond 200 nautical miles) to the **Commission on the Limits of the Continental Shelf (CLCS)** through Note Verbale No. 000192-2020, and its position on China's response on the same day to Malaysia's submission through Note Verbale No. 00191-2020.

The Philippines rejected the assertion of maritime claims that are not in accordance with international law, including the **UN Convention on the Law of the Sea (UNCLOS)**, and are inconsistent with the 2016 Award on the South China Sea arbitration case. Following the Philippines, Viet Nam, Indonesia, the United States, and Australia also called for compliance with **UNCLOS** and reiterated, directly or indirectly, the ruling of the Tribunal.

The Philippines' communications effectively barred the **CLCS** from considering the submission of Malaysia, and once again asserted the Philippines' rights in its maritime domain.

In conclusion, the Philippines, as a maritime nation, put utmost importance in having clearly defined boundaries and maintaining good relations with neighboring States. First, it results in a stable interdependence among countries in the region. Second, it opens opportunities for cooperation for mutual benefit. Lastly, it provides more confidence in the enforcement of maritime laws and regulations.

These discussions contribute in building trust and confidence, and it is crucial that they are anchored on international law, including **UNCLOS**. Thus, the **DFA** is committed in continuing these efforts and laying a strong foundation towards securing the maritime boundaries of the Philippines for the benefit of all Filipinos. ⚓



THE GLOBAL COMMONS

by VAdm Emilio C Marayag Jr AFP (Ret)

The global commons refer to the four domains where mother earth's shared natural resources, outside of national jurisdiction, are found: **maritime, air, space and cyberspace**. Among these, the oldest is the maritime domain, followed by air in early 20th century with the discovery of human flight; followed by airspace with the launching of satellites into outer space in the 1950s; and the latest is cyberspace with the introduction of the internet and digital technology in the late 1980s.

Due to congestion, overuse and degradation in these global commons, the **United Nations (UN)** has come up with a post-2015 development agenda for global governance and the governance of the global commons. The UN contends that the earth's sustainable development involves economic growth, social inclusion, and protection of the environment and the global commons.

While the world economy has improved by leaps and bounds, gaps in international trade, finance and technology continue. This leads to global imbalance that favors the wealthy nations. Moreover, the universal declaration to protect human rights and uplift social equality has not fully addressed many important social inequities such as the movement of workers, the protection of migrants' rights and the access to technologies in health, agriculture, education and many others. Furthermore, weak global governance slows down environmental awareness and fails to arrest the increasing rate of climate change, global warming, ozone depletion, and environmental degradation particularly in Antarctica where 80% of the world's fresh water reserves is stored. Apart from governance, the UN views peace and security as key enablers in protecting the global commons.

The maritime commons remain as the most affected domain insofar as global governance is concerned. This domain covers fisheries, ocean disposal of hazardous waste, law of the sea, cooperation in semi-enclosed and regional seas, seabed mining and a lot more. 90% of raw materials and merchandise passes through various waterways where 75% of these commodities transits through international chokepoints. Between 1970 and 2006 the quantity of goods delivered through the sea increased by 284%. Large oil tankers transport half of the current world's oil supply.

The cost effectiveness in maritime trade and commerce has created spin-off economic activities and ushered

interdependency on the other domains: **air** (visual tracking, environmental monitoring, and search and rescue), **space** (communications, satellite navigation and environmental reconnaissance) and **cyberspace** (digital data for ordering and scheduling, internet).

Due to its vastness, however, the maritime domain has become a lair of unscrupulous state and non-state actors who disrupt or deny the free flow of goods, capital, people and information. The threats are now diffused, irregular and unpredictable. For example, non-state disruptors in the Horn of Africa and the Malacca Strait continue their piratical activities using hybrid technology. A Middle Eastern nation uses small boat swarming tactics in the Strait of Hormuz to harass legitimate use of the sea; while another country in the Orient threatens freedom of navigation in a major waterway in Southeast Asia after heavily degrading the marine environment to put up several military outposts. Another nation wants to rewrite the rules governing the Sea of Asov, adjacent to the Black Sea, in order to deny its neighbors the resources in that body of water.

Recently, an American military commander announced that the Indo-Pacific must remain open and free as the area is at the frontline of strategic competition. He expressed alarm at the Chinese Communist Party's unified effort **"to corrupt and contest the values embraced"** by the peoples in the Indo-Pacific region and he cast aside any or all attempts to impose the **"might makes right"** fallacy. He also re-echoed the defense of freedom of the global commons and respect for the sovereignty of all nations.

Nearly 40 years after the promulgation of the UN Convention on the Law of the Sea (**UNCLOS**), some member states continue to question the wisdom of those who spearheaded this rules-based international effort to protect and preserve the maritime commons for global public good.

Only determined world leaders who are committed to international prosperity, peace and stability could reduce or eliminate the gaps or imbalances that threaten environmental sustainability, global trade and commerce, social development and the global commons. There should be adequate room for adjustments in the global governance regime so the benefits of the common heritage of mankind could pass on to future generations. ⚓

VERY SIGNIFICANT U.S. FOREIGN POLICY STATEMENTS ON THE DISPUTES IN THE SOUTH CHINA SEA

by BGen Manuel P Oxaes AFP (Ret)

Notably preceded and followed by major military movements, I wonder what would be the impact on RP's claim on certain islands and sea areas in the SCS.

Alfred Thayer Mahan (1840-1914), graduate of the US Naval Academy, wrote of the interdependence of military might and seaborne commerce, *"whoever controls the sea lanes controls the islands; who controls islands controls the mainlands."* This maritime strategy spurred the further expansion of the British Empire that stretched around the globe over which the 'sun never sets.' It also influenced the U.S. to build the Panama Canal in Central

America and a strong navy in the Atlantic that would sail the Pacific Ocean, and at the turn of the 19th century reached the shores of Islas de Filipinas, and captured Manila after a mock battle with the Spanish fleet.

Thus, the beginning of America's colonization of the Philippines, the introduction of her political structures and systems, setting up of military and naval bases, linking or involving the country in U.S. wars, and placing it under its protective umbrella.

This essay and timeline will show the significant foreign policy announcements of the U.S., China, Australia, and ASEAN states to include the Philippines on the disputed islands in the SCS, and major military movements by the U.S. and her allies, and China's own response.

The sea lanes of SCS extends from the Straits of Malacca between the island of Sumatra of Indonesia and Malaysia, up to the West Philippine Sea towards the straits of Taiwan. Through this waterway passes US\$3.5 trillion of the world's commerce that includes U.S. trade of US\$5 billion, 70% of China's imports and exports and 80% of imports of oil. Beneath the sea lies

untapped oil and gas –an estimated 11 billion barrels of oil and 190 trillion cubic feet of natural gas, and a fishing ground that account for the world's 14% or about 1 million tons supply of fish a year. The volume of oil carried by tankers that pass through this gateway is three times that of the the Suez canal, and five times that of the Panama Canal.

The U.S. has strong allies – Japan, South Korea and Taiwan in Asia, Australia and a defense partner, the Philippines. China has North Korea, an emergent nuclear power.

These military alignments and political geopolitical

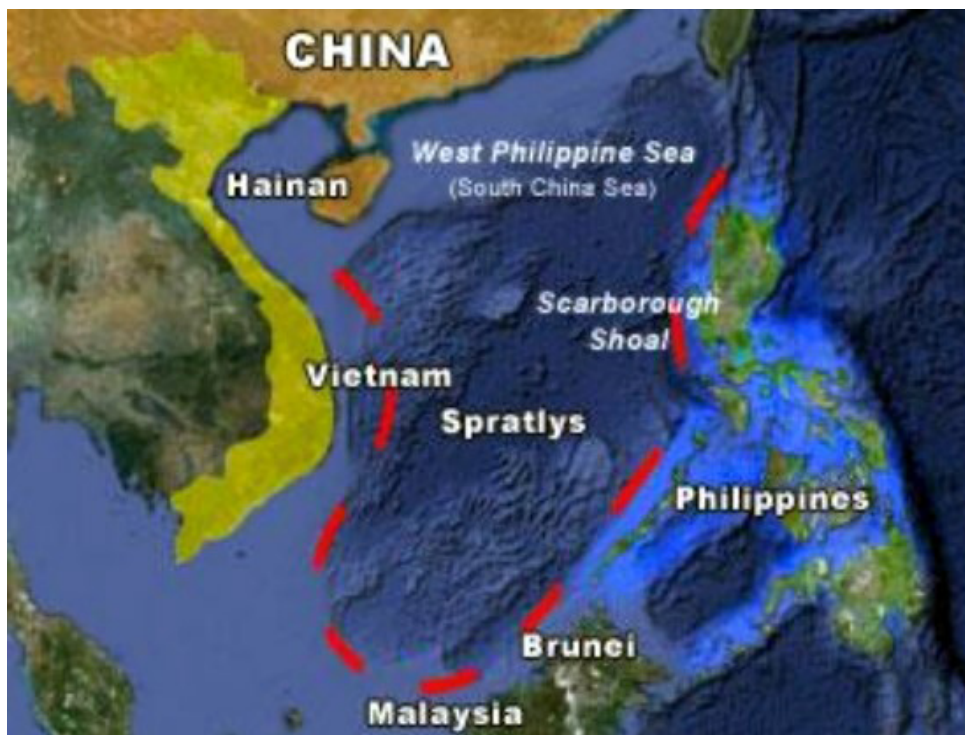
realities in the SCS explain the open and bitter rivalry of two Super Powers, U.S. and China, for dominance and supremacy.

China has continuously invoked its so-called nine dash line which encompasses almost 90% of the SCS asserting sovereignty over the seas, the islands and islets in the Spratly Group, west of Palawan, the Scarborough Shoal west of Zambales, the

Paracels, and other areas claimed by ASEAN states which include the Philippines (with overlapping claims) and Taiwan, despite the ruling of the Hague Tribunal in July 2016 that the nine dash line has no legal or historical basis.

The U.S., invoking Freedom of Navigation in international waters, sails uninterrupted its warships and conducts over flights through the sea lanes of the SCS –a demonstration of military strength.

During President Obama's term from 2010-16, he pursued a major shift in U.S. foreign policy, 'the Pivot to Asia' which, as articulated of by U.S. State Secretary Hillary Clinton, was for the U.S. to move its strategic attention and interest from the Middle East and Europe to Asia –a pointed



response to China, a world economic giant and dominant military power in Asia.

In April 2012, the U.S. intervened over a standoff between China maritime vessels and a Philippine Coast Guard vessel and a survey ship sent to protect Filipino fishermen in their traditional fishing grounds at Scarborough Shoal, east of Zambales. As agreed by the parties, the Philippine ship moved away but the Chinese vessel did not and has continuously prevented entry of Filipinos. It was then a U.S. policy not to intervene over the territorial disputes on islands in the SCS between China and on the other side, Taiwan and ASEAN states, Indonesia, Vietnam, Malaysia, Brunei, Singapore, Philippines, and instead encouraged them to hold bilateral talks.

In 2013, RP filed a case with the Permanent Court of Arbitration in Hague, Netherlands contesting that China's so-called nine dash line had no legal and historical basis and that certain islands in the Spratly Group 130 miles west of Palawan and the Scarborough Shoal 120 miles east of Zambales are well within Philippine territory and exclusive economic zone (EEZ). In contrast, the Spratlys are located more than 1500 miles from the southern coast of China while Scarborough is about 500 miles away from China. RP was the lone complainant. China did not participate in the deliberation and declared it would not be bound by the PCA's decision.

On 12-July-2016, the Hague Tribunal invalidated China's claims on SCS based on historic rights to resources within the so-called nine-dash line, and declared such claim as unlawful and without basis under the United Nations Convention on the Law of the Sea (UNCLOS). China responded it was not bound by the decision.

On 18-September-2017, President **Donald Trump** in his speech before the General Assembly of the United Nations said, *"We must protect our nations, their interest and their futures, uphold and respect laws and borders. US rejects threats to sovereignty from the Ukraine to the South China Sea."*

President Trump's stance towards adversaries is, 'he speaks loudly and carries a long pole which he thrusts to the ground when needed' in contrast to President Theodore Roosevelt's (1901-1910) 'Speak softly but carry a big stick.'

On 10-June-2019, a Filipino fishing boat was 'accidentally' rammed and damaged by a Chinese cargo vessel. A passing Vietnamese ship picked up the fishermen and towed the boat ashore. Despite RP's diplomatic protest, no compensation has been paid by the owner of the Chinese vessel.

In January 2020, Indonesia filed a diplomatic protest against the presence of Chinese fishing vessels over Natuna islands, sent air and sea patrols, and called for China to abide with Hague Tribunal ruling. Vietnam supported Indonesia and cited the same position.

On 11-February-2020, President R. Duterte directed the termination of the VFA in response to the U.S.' cancellation of visas of a few government officials.

On 17-February-2020, RP filed a diplomatic protest that its ship, BRP Conrado Yap, while on patrol off the seas in Philippine occupied Rizal Reef Islands in the Spratlys was accosted by a Chinese warship. When told that the ship was within Philippine territory, the Chinese captain replied that "China has immutable sovereignty over the SCS," and pointed its guns at the Filipino ship. Filipino ships have been treated with less courtesy and respect compared to those of other nations. RP had also

protested the passage and presence of hundreds of Chinese warships and other vessels off the seas of the islands in the Spratlys within RP's territorial limits and EEZ without RP's consent. These ships have also transited the straits between Tawi-Tawi and Sibuto, RP's southernmost islands, without notice and approval.

In March, the government declared a national emergency as the pandemic hit the world, and imposed quarantine measures and restrictions on travel locally and abroad starting on the 15th.

On March 12-22, China's carrier group composed of five ships conducted exercises in the SCS passing through Basil channel between Taiwan and northern Luzon.

On March 24, Malaysia filed a diplomatic complaint with the U.N. over the presence of a Chinese survey ship which had been on a month long stand-off with a drill ship contracted by the state-owned Petronas, on sea areas within Malaysia's EEZ in the Spratlys.

On 4-June, DFA Secretary Locsin, citing developments in the SCS and the pandemic, suspended the termination of the VFA for six months to be extended for another six months.

On 7-June, the ASEAN summit issued a statement amidst a pandemic that China has been advancing its interest in the SCS. It reaffirmed that the "1982 UNCLOS should be the basis for determining maritime entitlements, sovereign rights, jurisdiction and legitimate interests over maritime zones." So far, it was the ASEAN's strongest statement to China.

On 28-June, for the first time since 2014, the U.S. Carrier Strike Group led by USS Reagan and USS Nimitz escorted by destroyers, submarines, cruisers, and various ships, sailed the SCS and passed by the territorial limits of Fiery Cross and Mischief (Subi Reef) in the Spratlys, on which the Chinese navy has built a runway on one island and ports and structures with military use. The islets are claimed by the Philippines.

On 5-July, over reports that the Chinese navy would conduct exercises for the period of July 1 to 5 in the vicinity of Paracel islands (claimed by Vietnam), DFA Secretary Locsin issued a stern warning that if such military games spill over Philippine territory, the government would respond diplomatically and whatever measures appropriate. It was so far DFA's sternest warning to China.

On 12-July, on the fourth anniversary of the Philippine government's win before the Arbitral Tribunal at the Hague, DFA Secretary Locsin called on China to respect the award which "authoritatively and conclusively settled the issue of historic rights and maritime entitlements. He said, "The Philippines as a law abiding, peace loving and responsible member of the international community, adheres to the award ... without the possibility of compromise or change." He further stated that the government position is non-negotiable and leaves no room for compromise. It was so far RP's strongest policy declaration.

On 13-July, the Embassy of China in Manila promptly rejected RP's appeal "for China to comply with the Hague ruling" and stated the ruling 'invalid and illegal' and that China's position on the maritime issue is "consistently clear and firm."

Then DFA Secretary Locsin and the Chinese Ambassador issued a statement that both are "in a consensus in the proper handling of the arbitration case and have laid down ground rules" for bilateral talks.

On 14-July, the U.S. Secretary of State Mike Pompeo (a lawyer who graduated Nr. 1 at the U.S. Military Academy) in

a bold and landmark statement declared, “We stand with the international community in the defense of the freedom of the seas and respect for sovereignty, and reject any push to impose ‘might as right’ in the SCS or wider region.” Sec Pompeo told China “to honor the Hague Tribunal’s decision, and stressed “most of the claims of China in the SCS are completely unlawful and the world will not allow China to make SCS its maritime empire.” The U.S. statement effectively recognized and supported ASEAN states and Taiwan on their sovereign rights over their respective island-territories and EEZ in the vast SCS.

On 15-July, the Chinese Embassy in Washington issued a statement rejecting President Trump’s declarations.

On 16-July, the U.S. Asst Sec for East Asia and Pacific Affairs David Stillwell warned that any attempts by China to reclaim Scarborough Shoal would be a dangerous move. We “oppose any effort to block access to Filipino fishermen and any move by Beijing to physically occupy, conduct reclamation or militarization of Scarborough.” It was the clearest and strongest position by the U.S. on Scarborough Shoal, a departure from her position in 2012 over the stand-off between RP ships and a Chinese coast guard vessels in the islet.

On 17-July, Britain, amid her political differences with China over Hongkong and the border clashes of China with India in the eastern region, announced it would send next year its biggest aircraft carrier, the HM Elizabeth, onboard with U.S. built F-35 fighter jets, accompanied by destroyers and frigates, and deploy them in the SCS for exercises with the U.S. and Australian navies.

On 19-July, China deployed fighter jets on its occupied Woody Island of the Paracels claimed by Vietnam.

On 20-July, Brunei, which had been silent on the issue, declared that “Under UNCLOS, all states have the freedom of navigation and overflight operations in the high seas of the world.” That same day, China’s foreign minister warned the U.S. on meddling in matters that can be resolved bilaterally with ASEAN members.

On 21-July, the U.S. carrier strike forces led by the USS Reagan and USS Nimitz, the Japanese Self Defense Maritime Force, and the Australian Navy conducted combined and joint exercises at the ‘doorstep’ of the SCS. The U.S. sent B-1 bombers in a 32-hour flight from the mainland for exercises in the Pacific. These bombers were relocated from Guam, a U.S. air base. Also, thousands of airborne troops were dropped on Guam for training.

On 22-July, amid military confrontation with China in the eastern region (in Ladakh), India conducted joint naval exercises with the passing of U.S. aircraft carrier strike groups.

On 30-July, a letter from United Nations Malaysia said China’s position has no legal basis and “rejects its claims to historic, or and sovereign rights or jurisdiction over maritime areas of the SCS” bounded by the relevant part of ‘nine-dash line,’ reiterating the Hague Tribunal ruling. It was a hardening stand by Malaysia on the issue.

On 22-July, China’s Peoples Liberation Army (PLA) bombers conducted ‘high intensity exercise’ on simulated targets in the SCS. It also sent frigates at the ‘doorstep’ of the SCS.

ON 31-July, Australia’s High Commissioner told China he “is deeply concerned about China’s action in the SCS as destabilizing and could provoke escalation on an important shipping route, and that China should follow the Hague Arbitral Award, and refrain from unilateral action that will alter the status quo.”

In summary, there has been a very significant shift in US policy in the SCS. From the ‘hands-off position’ in 2012 of the government of President Obama to that of open and unqualified support by President Trump to the ASEAN states and Taiwan in their disputes with China over islands and sea areas in the SCS. The policy declarations by the U.S. were preceded and followed by major military movements in the SCS, the Indian Ocean and Sea of Japan, and at certain periods together with her notable allies, Japan and Australia, exercises which have not been done for the past many years.

What would these major military movements and flexing of muscles lead to? We can only speculate.

The relatively weak ASEAN states, the Philippines included, protecting their primordial national interests, the survival of the state, the safety and promotion of the welfare of the people, would figuratively steer their ships away and stay clear of getting roughed by very strong and tall waves.

RP’s position was spelled out by the President in his SONA last July 27. He said China has possession of islands and seas in SCS, which RP has claimed as its own, acknowledging the government could do little. It was an acceptance of reality; an expression of concern amid a pandemic and assurance of China’s help. Prudence dictates that RP maintains good relations with China and not be embroiled in her confrontation with the U.S. over issues in SCS.

On 5-August, the President disallowed the Philippine Navy from joining the U.S. exercise in the SCS.

RP may take comfort however, with the U.S.’ forceful and explicit landmark statement last 14-July by US Secretary State Pompeo calling for China to honor and abide by the decision of the Hague Tribunal in 2016 –won by RP. It has effectively strengthened the positions of RP, other ASEAN states and Taiwan in their disputes with China in the SCS.

The most definitive and unequivocal statement in support of RP was that of U.S. Assistant for East Asia and Pacific Affairs David Stillwell, **“U.S. will oppose any move by Beijing to physically occupy, conduct reclamation and militarization of Scarborough,”** located 120 miles west of Zambales, or **“block entry of Filipino fishermen.”** The U.S. has drawn a big red line.

Colloquially, the saying is, “Iba na ang nakasandal sa pader!” which literally translates to “It’s different when you can lean on a wall”- synonymous to having a big brother to defend you.



About the author:

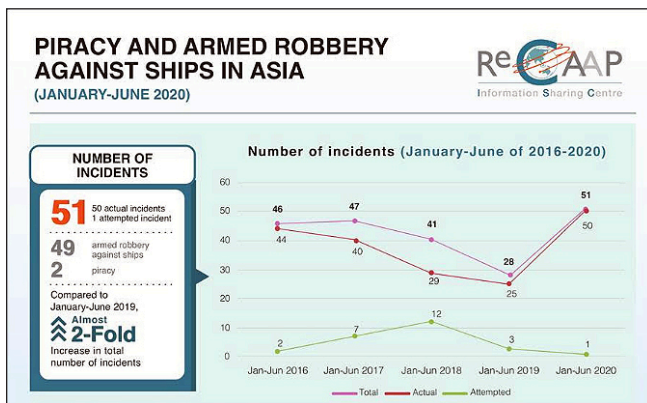
Brig Gen Manuel P Oxales AFP (Ret) was with GHQ AFP Staff for Plans and International Relations and a Wing Commander in Southern Mindanao. A Golden Aviators Awardee, he had several articles on external defense, security and advocacy issues published in magazines for professionals. He wrote three books: Advocacy in Retirement, which was officially designated reference of the National Defense College of the Philippines, Public Safety College and the AFP Educational, Training and Doctrine Command (AFPETDC), and the Offices of Senators Gregorio Honasan and Antonio Trillanes III; Advocacy Through the Year, a reference of the AFPETDC; and Two Stories of the February 1986 Revolution, which was made into a two-hour telemovie in 1987 starred by top movie actors. He has an MBA from U.P. and an MNSA from the National Defense College (Distinguished Graduate). He completed the National Security Management program at the US Industrial College. He was a lecturer at the Graduate School of Business of U.P., Ateneo de Manila University, and NDCP. You may reach him at: maningoxales@yahoo.com.

51 INCIDENTS OF PIRACY AND ARMED ROBBERY AGAINST SHIPS IN ASIA AND 2 INCIDENTS IN BATANGAS

by ReCAAP ISC

ReCAAP Information Sharing Centre (ISC) today released its Half-Yearly Report 2020 (January-June). Highlights of the Report, whose information is verified by the respective government agencies, also known as ReCAAP Focal Points, and regional authorities, are summarized below:

- June 2020, compared to January-June 2019:
- 1 incident of Category 1 (same as in 2019);
 - Decrease of Category 2 (from 2 to 1, the lowest in the past 14-year period of 2007-2020);
 - 74% of incidents were Category 4 (perpetrators not armed, crew not harmed).



Area of Improvement

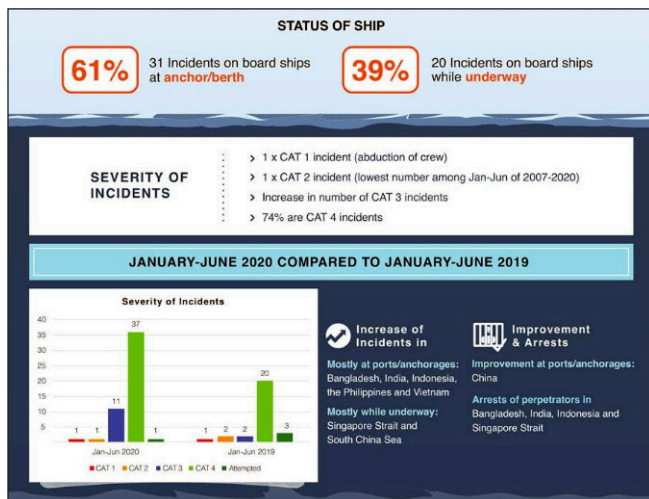
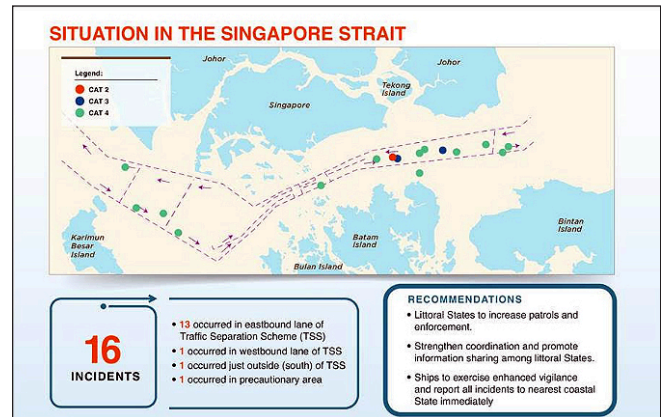
- ♦ There was improvement at the ports/anchorages in China with no incident during January-June 2020, compared to 3 incidents during the same period in 2019;
- ♦ There were also arrests of perpetrators at Chittagong Anchorage, Bangladesh; off Gujarat and Alang, India; off Pulau Batam, Indonesia; and along Singapore Strait.

Increase of incidents

- ♦ The increase of incidents during January-June 2020 occurred in Bangladesh, India, Indonesia, the Philippines, Vietnam, South China Sea and Singapore Strait;
- ♦ Of concern was the continued increase of incidents on board ships while underway in the Singapore Strait during January-June 2020 with 16 incidents, compared to 8 incidents during the same period in 2019.

Overall Situation

- ♦ 51 incidents of piracy and armed robbery against ships (comprising 50 actual and 1 attempted incident) were reported in Asia during January-June 2020;
- ♦ Almost a two-fold increase in the total number of incidents and a two-fold increase in the number of actual incidents reported in Asia, compared to 28 incidents (comprising 25 actual and 3 attempted incidents) in January-June 2019;
- ♦ Of the 51 incidents, 49 were incidents of armed robbery against ships, and 2 were piracy incidents;
- ♦ But severity level of incidents has not worsened in January-



Situation in the Sulu-Celebes Seas and Waters off Eastern Sabah

- ♦ The situation of abduction of crew in Sulu-Celebes Seas and waters off Eastern Sabah remains a serious concern as demonstrated by the abduction incident on a fishing trawler on 17-January-2020 off Lahad Datu, Sabah, Malaysia; and information of planned kidnapping by members of Abu Sayyaf Group in Sabah and Semporna, Malaysia targeting foreigners and crew of ships passing by the Tawi-Tawi and Sabah waters;
- ♦ 5 of the crew abducted from the fishing trawler on

- 17-January-2020 are still held in captivity;
- Shipping firms are advised to follow ReCAAP ISC's Guidance; and maintain communication with **Operation Centres of the Philippines and Eastern Sabah Security Command (ESSCOM)** of Malaysia.

"We are deeply concerned with the nearly two-fold increase in the number of incidents reported in Asia in the first half of 2020 compared to the same period last year, even though most of them are at low severity level. 'Small' crimes, if not addressed, can embolden criminals to commit more serious acts," said Mr. Masafumi Kuroki, Executive Director of ReCAAP ISC.

ABDUCTION OF CREW IN SULU-CELEBES SEAS AND WATERS OFF EASTERN SABAH

- Abduction of crew from fishing trawler off Eastern Sabah, Malaysia on 17 Jan
- 5 crew held in captivity

Status of abducted crew (as of 30 Jun 20)

86 Crew Abducted Since Mar 2016	71 Released/Rescued
10 Killed/Died	5 In captivity

EFFORTS BY AUTHORITIES

- Arrested 3 members of Abu Sayayf Group (ASG) in Sabah by Malaysian authorities
- Military operations against the ASG by the Philippine authorities

Warning & Advisory

The risk of abduction of crew is high

- Occurrence of abduction of crew on 17 Jan
- Information of planned kidnapping in Sabah and Semporna, Malaysia targeting foreigners and crew of ships passing by the Tawi-Tawi and Sabah waters.

ReCAAP ISC Advisory to ships to re-route where possible, otherwise:

- Exercise enhanced vigilance
- Adopt piracy countermeasures to mitigate risk
- Maintain comms with authorities
- Make timely report to national reporting centres (as shown on right)

Refer to *Guidance on the Abduction of Crew in the Sulu-Celebes Seas and Waters off Eastern Sabah*

CONTACT DETAILS OF REPORTING CENTRES

<p>PHILIPPINE COAST GUARD DISTRICT Southwestern Mindanao (CGD5W) Tel: +63 998-585-7972 / +63 917-842-8446 VHF: Channel 16 with call-sign "NEPTUNE" Email: hcgd5wm@yahoo.com</p> <p>PHILIPPINE COAST GUARD STATION Bongao, Central Tawi-Tawi Tel: +63 998-585-7941 / +63 917-842-8402 VHF: Channel 16 Email: cgd_jawi2@yahoo.com</p> <p>PHILIPPINE NAVY - LITTORAL MONITORING STATION (LMS) Bongao, Tawi-Tawi Tel: +63 955-714-0153 VHF: Channel 16 Email: jointtaskgroup@gmail.com</p>	<p>EASTERN SABAH SECURITY COMMAND (ESSCOM) Lahad Datu, Sabah Tel: +60 89863181016 Fax: +60 89863182 VHF: Channel 16 with call-sign "ESSCOM" Email: bilikgerakan_esscom@jpm.gov.my</p> <p>PHILIPPINE COAST GUARD COMMAND CENTRE (ALTERNATE CONTACT) Tel: +63 2-527-3877 (direct) +63 2-527-3481 to 89 (ext: 513637) +63-917-724-3682 (mobile) +63-929-825-3207 (mobile) Email: pogcomcen@coastguard.gov.ph</p>
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"This spike has come during a time of enormous challenges for the whole world affected by COVID-19. Despite the difficulties caused by the pandemic, we encourage the shipping community and maritime enforcement agencies to uphold vigilance, make timely reporting and conduct quick response to incidents, to protect the lives of seafarers and maritime transport." continued Mr. Masafumi Kuroki.

Situation of Abduction of Crew in the Sulu-Celebes Seas and Waters Off Eastern Sabah

As the risk of the abduction of crew in the Sulu-Celebes Seas and waters off Eastern Sabah is high as demonstrated by the abduction incident on 17-January-2020 and information of planned kidnapping in Sabah and Semporna, Malaysia, the ReCAAP ISC reiterates its advisory issued via ReCAAP ISC Incident Alert dated 21-Nov-2016 to all ships to reroute from the area, where possible. Otherwise, ship masters and crew are strongly urged to exercise extra vigilance while transiting the area, and report immediately to the **Operation Centres of Philippines and Eastern Sabah Security Command (ESSCOM)** of Malaysia.

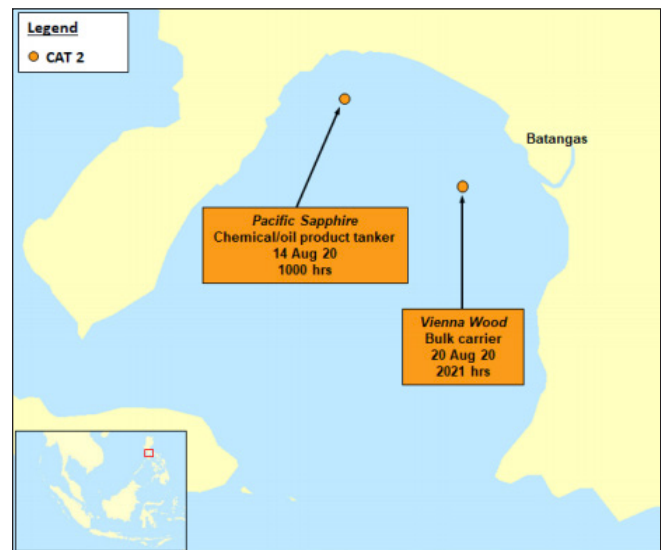
By 25-August-2020, **ReCAAP ISC** issued a notice of two violent armed robberies against ships in Batangas in 7 days. ReCAAP ISC issued an Incident Alert on Incidents at Batangas Anchorage, Philippines. Within an interval of seven days, two incidents of armed robbery against ships occurred while they were berthed/anchored in the region.

In both incidents, the perpetrators demonstrated violence toward the crew with a knife.

In the first incident on 14-August-2020 at 1000 hrs, the perpetrator entered the cabin of the general steward, threatened him by pointing a long knife at him and stole his personal belongings. The perpetrator left the ship immediately via the mooring lines in a small, unmarked blue motor banca stationed at the astern of the ship.

The second incident occurred on 20-August-2020 at 2021 hrs at 3 nm southeast of the first incident. A perpetrator attacked the duty crew with a knife when he was performing roving watch at the main deck. He suffered a cut on his right palm when trying to stop the attack but accidentally grabbed the blade of the knife. The injured crew was evacuated and sent to a hospital for treatment.

Shipmasters and crew are strongly advised to exercise vigilance, maintain constant look-out for suspicious boats in the vicinity and report all incidents immediately to the authorities. It is also very important for the crew not to engage in a confrontation with perpetrators. The **ReCAAP ISC** urges the authorities to enhance surveillance, increase patrols and respond promptly to incidents reported by ships in order to arrest and prosecute the perpetrators.



The incidents

On 14-Aug-2020 at about 1000 hrs, chemical/oil product tanker, Pacific Sapphire, was berthed at Bauan, International Port Inc., Batangas when one perpetrator armed with a long knife boarded the tanker by climbing the mooring lines located at the starboard astern of the ship. The perpetrator entered the cabin of the general steward, pointed a knife at him and took his personal belongings. The alarm was raised immediately, and the perpetrator escaped via the mooring lines in an unmarked blue small motor banca stationed at the astern of the ship. The **Port State Control (PSC)** personnel boarded the ship to verify the report and advised the master to file report with the **Coast Guard Station Batangas**.

On 20-Aug-2020 at about 2021 hrs, bulk carrier, Vienna Wood, was anchored at Batangas Bay Anchorage Area. While the duty roving crew was performing his duty, the perpetrator attacked him with a bolo (knife). The duty crew tried to stop the perpetrator but accidentally grabbed the bolo, which resulted in a cut on his right palm. The perpetrator escaped empty-handed. The general alarm was raised immediately and first aid was administered to the injured crew. The incident was reported to the **Port State Control (PSC)** and the **Philippine Coast Guard (PCG)**. The **PSC Batangas and Coast Guard Station (CGS) Batangas** responded to the incident but did not find any watercrafts or person within the ship's surroundings. The injured crew was evacuated and brought to a hospital for treatment. The master assessed that the perpetrator may have boarded the ship by throwing a line with hook. ⚓



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RADM MARGARITO V SANCHEZ JR AFP (RET)
President

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RADM MARGARITO V SANCHEZ JR AFP (RET)
Chairperson, SERGS Cooperative

For Inquiries and other concerns:

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AFPOVAI, Western Bicutan, Taguig City

Our Clients:



THE SINKING AND RAISING OF RPS RAJAH SOLIMAN (D-66) 29-JUNE-1964 (PART I OF II)

by CDR Mark R Condeno

On 29-June-1964, the Philippine Navy lost its Flagship and our First Destroyer Escort during the fury of Typhoon Winnie.

The loss of a Flagship is a major loss to any Naval Force; fortunately, during this incident none of the Officers and Crew was lost. Despite the harshness of Mother Nature, the ship's entire complement fought bravely to save the ship until the end.

For us to determine what transpired on that fateful day, this is her story.

INTRODUCTION

USS BOWERS (DESTROYER ESCORT 637)



The USS Bowers (DE-637) is a Buckley Class Destroyer Escort of the United States Navy commissioned on 27-January-1944 and participated in the major battles of the Pacific War from Operations in New Guinea, the Battle of Leyte Gulf and Okinawa. Her duties included Search and Rescue (SAR), Escort, Naval Gunfire Support, Anti-Submarine operations and Radar picket. She was hit by a Kamikaze on 16-April-1945, killing 37 of the ship's crew.

She was named after Ensign Robert Keith Bowers O-84057 USNR, a Seaplane Pilot of Observation Squadron 2 aboard the Battleship USS California (BB-44) killed in action on 07-December- 1941, during the Japanese attack on Pearl Harbor. Ensign Bowers hails from Kittitas County, Washington. He is the Son of Mr Ira Alva and Eunice Bowers of Ellensburg, Washington. Ensign Bowers died during the Japanese first wave of attack while directing the moving up of the ammunition onto the deck of the USS California, as narrated by fellow officers to Ms Dorothy Dietz, the fiancée of Ensign Bowers.

CONVERSION TO HIGH SPEED ATTACK TRANSPORT

On 24-May-1945, as preparations were made for the Destroyer Escort's conversion to a High-Speed Attack Transport of the Charles Lawrence Class, the conversion would not be finished until after the end of the Second World War. By September 1945, she was involved in trainings and exercises off Cuban waters,



after which, she was again decommissioned until February 1951 when recalled into service and became part of the Atlantic Fleet as training vessel for the Marine Corps, USN Underwater Operations Group and Midshipman. By 1954, she was attached to the 6th Naval District and served as a Naval Reserve Training Ship.

On 18-December-1954, USS Bowers (APD-40) was again decommissioned until loaned to the Philippine Navy on 31-October-1960 as part of the Military Assistance Plan (MAP). By 21- April-1961, she was bought thereat by the Philippine government and commissioned into the Philippine Navy as RPS Rajah Soliman (D-66) and classified as a Destroyer Escort.

RPS RAJAH SOLIMAN (D-66)

The biggest ship in the Philippine Fleet at that time, RPS Rajah Soliman (D-66) served the country and the Navy for three years and six months until her demise. It is the only ship in her class inducted in the Philippine Fleet.

NAMESAKE

She was named after one of the three famed rulers of Manila during the 15th Century, Rajah Soliman, along with Rajah Matanda and Rajah Lakandula who opposed the Spanish conquest of Manila. A very fitting name for a warship that symbolizes a Filipino patriot and warrior.

TECHNICAL SPECIFICATIONS

During transfer to the Philippine Navy, now a high-speed Charles Lawrence Class Attack Transport, she had the following specifications:

Displacement (full load): 2,130 tons; Dimensions (L x W x D): 93.3 x 11.2 x 3.9 meters; Armaments (in Philippine service): Guns : 1 x single 5"/38 Mk 26 DP, 3 x twin 40mm AA, 2 Depth Charge racks and 3 Torpedo tubes with 21-inch Torpedoes; Cargo capacity: 4 LCVP landing crafts, 6 1/4-ton trucks, 2 1-ton trucks, 4 ammunition carts, 4 packs howitzers, Storage, Ammunition 6,000 cu. ft.; General Cargo 3,500 cu. ft.; Gasoline 1,000 cu. ft.; Troop Capacity: 150 men, Depth Charge Capacity: 200; Powerplant: Two boilers driving 2 GE turbo-electric drive turbines: 12,000

bhp driving 2 shafts; Max Speed: 23.6 knots; Range: 11,000 at 12 knots; Ship crew: 12 Officers, 186 Men. Tabulated Record of Movement (TROM): RPS Rajah Soliman was loaned and acquired during the administration of President Carlos P Garcia though none of the ship's tabulated record of movement can be found during this period. However, during the incumbency of President Diosdado Macapagal, the ship would take the President on his various trips on reaching far flung areas of the country along with the First Lady Eva Macapagal and the Staff. Notable of these trips were of the visits made by the President on Burias Island on 27-December-1962. Some of the ship's missions earlier in 1962 when she was dispatched to Singapore was to pick up excess passengers --Muslim pilgrims of MS Taipooan, which was apprehended by Singaporean authorities for overloading.

Apart from her primary mission of conducting patrols on our vast territorial waters, RPS Rajah Soliman participated in various local and bilateral naval exercises with our American counterparts.

TYPHOON WINNIE (LOCAL NAME: TYPHOON DADING)

Typhoon WINNIE begun on 24-June-1964, a Category 3 typhoon, it was the most destructive typhoon to hit the country in 30 years, as it hit Manila and nearby provinces on 29-June-1964. Manila experienced a total black out due to the effects of the typhoon with several structures damaged, leaving people homeless with about 500,000 affected.

It had a peak speed of 115 mph per minute or 185 km per hour. It left the country on 04-July-1964 with destination China.

TYPHOON WINNIE and RPS RAJAH SOLIMAN:

As noted earlier, the typhoon hit Manila on 29-June, when RPS Rajah Soliman was already at the Ship Repair Facility (SRF) in Mariveles, Bataan. As narrated by Sir **Jun Nonato** (Son of Commander **Godiardo Guinson Nonato** 0-1976 PN PMA Class of 1944, skipper of RPS Rajah Soliman during the sinking), in his memoirs and as narrated by the crew of D-66 to him after the disaster that they tried to save the ship but they were no match to the waves with which the ship was pushed to the concrete sea wall and pier.

Fighting hard to keep her afloat by pulling the towlines inland, but the fury of Mother Nature had taken over. After giving the order to abandon ship, Commander Nonato decided to stay behind but was pulled out in time by his crew as a chunk of metal felled from the mast almost hit him.

Since the ship was undergoing repair during that period, its engines were removed, in which Sir Jun overheard his father said that if the engines were there, he would have taken her out to sea with much chances of saving her. But again, it must have been God's will as if the ship was taken out to open sea, loss of life might have occurred with the typhoon's fury.

Also of note, Typhoon Winnie's local name was Dading, which is also the nickname of Commander Nonato. He was court martialled for the incident as possible culpable neglect but was later cleared of charges, though sadly his naval career suffered as he was eventually bypassed for promotion to Navy Captain (equivalent to Army Colonel).

The ship's superstructure and starboard side were badly battered by the pounding waves that caused its eventual capsizing. The debris and mud further deteriorated the wreck

THE SKIPPER

COMMANDER GODIARDO GUINSON NONATO was born on 02- March-1919 in Bacolod, Negros Occidental. Prior to joining the Philippine Military Academy in 1940, he was enrolled at the University

of the Philippines-Diliman College of Engineering. He Graduated with the Class of 1944 of the Philippine Military Academy.

Apart from his General Staff Course (GSC) and other local schooling, he had taken United States Navy's Highly Specialized Mine Warfare Course at the US Naval Mine Warfare School, Yorktown, Virginia. Commander Nonato was the Philippine Representative for the course along with 11 other Naval Officers from Argentina, Belgium, Brazil, Denmark, Germany, Japan, Taiwan, Thailand, Turkey, Republic of Korea, and Sweden.

Prior to becoming the Skipper of RPS Rajah Soliman, he was the Commander of the Headquarters and Service Group, Cavite Naval Base. He took Command of RPS Rajah Soliman sometime in early 1963 until its sinking in 1964.

He married the former Ms **Coleta Oquias** and had seven children namely: Lysander, Cynthia, Godiardo Jr, Jocelyn, Tyrone, Kyster, and Yvette.

RETIREMENT AND POST NAVAL CAREER

Captain Nonato retired in 1969 at the age of 50 with last rank held as Navy Captain, after which he joined Ysmael Shipping and shuttled between Manila and Hong Kong as part of his job. After his stint with the Shipping Company, he did contract repair works with the Navy. His last job before retiring for good was as the Administrative/Personnel Manager of Feagle Enterprises.

DEATH

CAPTAIN GODIARDO G NONATO PN passed away on 06-November-2000 at age 81.

SALVAGING and RAISING RPS RAJAH SOLIMAN:

The PARBUCKLE SYSTEM

Based on the book *Mud, Muscle* and *Miracle* by **Captain Charles Bartholomew USN** and Commander **William Milwee Jr USN**, after the typhoon's departure, plans were made by the Philippine Navy to salvage the ship as it lay on 24 feet of water and 8 feet of mud with a 150-degree list. Philippine Navy Salvage Operators using pontoons were able to bring the ship to 10 degrees. Discussion later revolved around whether it was worthwhile to salvage D-66 considering the cost and if she was still repairable despite the damage she took on her structure and hull.

The Philippine Navy dilemma of salvaging the ship became known to the Chief Salvage Officer of the USN's Pacific Fleet Commander Eugene B Mitchell. As stipulated in the Military Assistance Pact, ships and equipment when no longer needed by the allies reverts back to United States control or ownership. Thus, on 9-December-1964, D-66 reverted back to US Control.

The Salvage Process took almost a month beginning 16-January-1965 and ending on 18-February-1965, though to put the ship in the upright position took only 13 days and with the remaining two weeks for dewatering, de-ballasting, and cleaning of mud and debris. Five Parbuckling attempts were conducted for the salvage operation.

I have consulted two notable publications with regards to the raising of RPS Rajah Soliman (D-66) that covers in detail the Salvage Operation conducted, Methods Used and Forces involved. These are (1) *Mud, Muscle and Miracle* by Captain Charles Bartholomew USN and Commander William Milwee Jr USN; and (2) Harbor Clearance Operations by the U.S. Navy's Naval Sea Systems Command released in 1989. ⚓



VESSEL CALL OPTIMIZATION

by FEPORT

Many actors including those[1] who participated in the recently published guide on “Just In Time” acknowledged the need for improved communication between ship and shore-side. Although, the guide focuses only on ships that sometimes wait due to the lack of updates from port stakeholders, it is also important and fair to remind that cooperation between shipping lines and port terminals is a reality in many ports. It is indeed the best commercial interest of shipping lines and port operators to optimize the calls while reducing shipping emissions in ports. Whether current good practices in this respect could be further encouraged and promoted, the answer is clearly “yes.”

It would have been also very informative to refer in the above-mentioned guide to the issue of ships’ schedule reliability, which is according to many sources, far from being optimal. Ships which arrive late beyond the allocated window or which skip the call provoke real disruption in the organization of port activities be it with respect to the use of the berthing space, to the optimization of the moves on the terminals’ yards or the use of the labor force.

Shipping accounts for around 2-3% of worldwide GHG emissions and if shipping was a country – it is often pointed out – it would be the 6th GHG emitter in the world. However,

only 2% of ships GHG emissions are emitted at ports.[2] Moreover, a European Commission study has found that better ship-shore communication/port call communication can only bring about a 1% emission reduction by 2030.[3] Whereas, shipping emits only 2% of all its GHG emissions while at port, terminals only account for about 10% of emissions in port areas.

The above-mentioned numbers indicate that while port/vessel call optimization is sought, it is not the “magical” solution to reduce shipping emissions, as only 2% of shipping’s GHG emissions happen in and around ports. Moreover, the impact of more efficient cargo handling operations is limited as terminal operations only account for 10% of the total port emissions.[4] It should also be noted that, taking into account the fact that neighboring cities are very sensitive to emissions resulting from port operations, terminal operators have several years ago met the 2020 target to reduce GHG emissions (as compared to 1990[5]).

Terminal operators have berthing plans including all the liner services expected to call at their facility each week. It is in the terminal operator’s own best commercial interest to optimize the use of its berth facilities. The same goes for port productivity – usually measured as the number of containers handled per hour.

In case the targets are not reached, terminals are compelled to pay penalties to shipping lines.

Very often, when ships are waiting, this usually is because they arrive late. According to the International Transport Forum's figures, schedule reliability, defined as the share of ships that arrives within one day of the scheduled arrival time, oscillated between 65% and 75% as of May 2018 depending on which trade lane was measured. There is certainly room for improvement for ships' schedule reliability.

Ships arriving late can still berth if space has come free due to other vessels also arriving late. This results in a complex planning process; terminals need to meet contractual obligations towards vessels arriving on time, while minimizing delays for those vessels arriving off-schedule. To manage this complex planning process, terminals are already in constant contact with shipping lines to receive updates about their estimated time of arrival and change their berth plan accordingly.

Vessels arriving off-schedule also affect the terminal operator's labor shifts on the docks and yards. Vessels arriving off-schedule will require extra labor force but their owners or managers will not bear the cost of the labor shifts, which did not work at the Estimated Time of Arrival.

Another issue disturbing terminals' planning process is blank sailing, which is the cancellation by a liner company of its weekly service. This is often done at the same time by different consortia and alliances and has tremendous effects on ports. The high fluctuation of blank sailings per month also makes it difficult for terminals to account for this in their planning

process. While blank sailings and capacity adjustments represent good solutions for shipping lines, as shown by their recent good financial results[6], the decisions to cancel calls have huge implications for port stakeholders.

Policy makers should support existing good practices initiated by different Vessel Call Coordination Centres in several ports as well as initiatives aiming at aligning standards and data-sharing that enhance port call processes. Moreover, in view of the significant number of vessels arriving late, schedule reliability should become a priority in order to make the best sustainable use of port capacities. Discussions regarding penalties for ships' no shows or very delayed arrivals could also be envisaged.



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- ◆ *Guide is the product of a collaboration between the GEF-UNDP-IMO Global Maritime Energy Efficiency Partnerships (GloMEEP) Project and the Global Industry Alliance to Support Low Carbon Shipping (GIA), established in the framework of the GloMEEP Project.*
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Happy Birthday

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FAIR WINDS AND FOLLOWING SEAS

FROM ALL OF US AT:

THE MARITIME LEAGUE



REEFER SHIPPING TO OUTPACE DRY CARGO TRADE DESPITE CONTAINER SHORTAGES

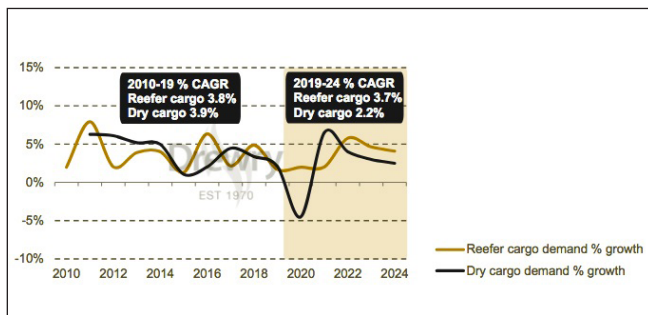
by Drewry

Growth in seaborne perishable cargo slowed in 2019 but is forecast to better weather the COVID-19 induced economic storm than the dry cargo trade given the broader resilience of the food supply chain. Meanwhile, availability of refrigerated container equipment is forecast to tighten as buoyant trade and continued modal shift boost expansion in reefer cargo carried by containerships, according to Drewry's latest **Reefer Shipping Annual Review and Forecast 2020/21** report.



Worldwide seaborne reefer trade recorded growth of just 1.7% in 2019 to 130.5 million tons, its weakest rate of growth since 2015. Traffic growth was held back due to lower shipments of both deciduous and citrus fruits on the back of extreme weather conditions in Europe and drought in South Africa and Chile, though aided by soaring pork traffic into China following the outbreak of African swine fever.

Drewry forecasts that seaborne reefer traffic will reach 156 million tons by 2024, representing average annual expansion of 3.7%, which is faster than the anticipated growth in the wider dry cargo trade (see chart).



Source: Drewry Maritime Research

"Drewry expects the reefer trade to be more recession proof against the economic impacts of COVID-19," said Drewry's head of reefer shipping research, Philip Gray. "And near term, it will continue to benefit from African swine fever induced protein demand into Asia. The continuing trade standoff between the US and China remains a threat to transpacific trade, but could provide opportunities on other routes through trade substitution, such as East Coast South America to Asia."

Refrigerated reefer cargo demand development compared to dry cargo demand. Meanwhile, reefer traffic continues to shift from the dwindling specialized vessel mode to fully cellular containerships. Drewry estimates that the former's share slumped to 13% in 2019 and is projected to diminish further to just 8% by 2024, due to an ageing fleet and limited investment in newbuilds. Bananas and fish are the biggest commodities carried in specialized reefer ships and their largest trade route is West Coast of South America to Europe thanks to the dominance of the banana trade out of Ecuador.

By contrast, buoyant trade growth and modal shift have enabled reefer container cargo growth to fast outstrip that of the wider container shipping market. As a consequence, the volume of reefer cargo carried by the world's fleet of containerships expanded 3.4% in 2019 to 5.3 million FEU. And this trend is set to continue, with Drewry forecasting average annual containerized reefer growth of approaching 5% in the period to 2024, far outstripping that of dry container trade.

"However, availability of refrigerated shipping container equipment remains a challenge, due to the highly imbalanced nature of reefer trade routes," added Gray. "And Drewry expects conditions to tighten as equipment fleet growth is not expected to keep pace with projected cargo demand."

Based on analysis of the top 15 reefer trade routes covered in the report, Drewry estimates that global deep sea reefer trades are 82% imbalanced, with major exporting regions such as South and Central America, Oceania and Southern Africa limited by particularly high negative imbalance ratios.



Source:

- <https://www.drewry.co.uk/news/reefer-shipping-to-outpace-dry-cargo-trade-despite-container-shortages>
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PANDIMAN HELPS THE PHILIPPINE SEAFARERS AMIDST THE PANDEMIC

by Pandiman Philippines Inc.

Over the long months of the global pandemic, with many countries still struggling to flatten the curve on the graph of the number of people infected by Covid-19, the Philippines has played and continues to play its part in the battle to control, if not eradicate, the deadly virus. At the time of this writing, Metro Manila remains under General Community Quarantine (GCQ); government and private companies are still not fully operational, due in the main to restrictions on public transportation.

Despite stringent GCQ restrictions, Pandiman Philippines, Inc., local correspondent for Protection & Indemnity Clubs, whose members, the ship owners of ocean-going vessels, employ Filipino seafarers, were required to stand at 24/7 readiness in order to come to the aid of seafarers in need. Exercising all due Covid-19 protocols, we have been on call and have assisted day or night since the start of the pandemic, ensuring the welfare of repatriated seafarers.

One such event, three months into Lockdown Luzon, Pandiman demonstrated the dedication and expertise of the various arms of our coordinated network of organized experts, pulled together under challenging virus-related restrictions in order to meet a seafarer in need.

On 29-June-2020, Pandiman was notified by a P & I Club that an ill 2nd Engineer was on board a Cyprus-flagged ship, which was deviating off-course and steaming for Manila in order to disembark the seafarer. The 2nd Engineer had reported symptoms to the vessel's Master, who had immediately arranged a telephone consultation with a Manila physician. When prescribed medication afforded no relief, it was clear that an emergency medical evacuation from the vessel was imperative.



Air Gurus Air Ambulance was appointed by Pandiman to accomplish the delicate task. As the vessel did not have a helideck, the air ambulance decided to make a light, on-skid landing, i.e. the skids would touch the deck as the helicopter hovered, thus the full weight of the helicopter would not in any way endanger the vessel.

The vessel arrived inroads at Lingayen at 1230 hrs on 2- July-2020; then at 1255 hrs, the air ambulance with three medical teams on board made the carefully planned on-skids landing. Within three minutes, the medical team



helped the patient board, the air ambulance left Lingayen, and landed at Manila Domestic Airport at 1430 hrs.

Meanwhile, the Pandiman team, headed by Mr Ferdie Cruz, Company Representative, had been setting in motion a network of appropriate parties to meet and treat the patient, all the while monitoring the progress of the evacuation. The team had been standing-by at the Royal Star Gate, the area of the Domestic Airport where Air Gurus helicopters land; the patient was quickly transferred from air ambulance to the waiting ground ambulance, and accompanied to Cardinal Santos Medical Centre for care and treatment.

At Cardinal Santos, the patient was immediately referred to a cardiologist and urologist, and proper treatment was initiated. The patient is recovering well and being closely monitored by Marine Medical Services, the post-repatriation clinic attached to the hospital to which Pandiman refers many of our repatriated seafarers.

The synergy and business-like efficiency of the air ambulance pilot and medics, the airport personnel, the ground ambulance medics, the hospital staff and the post-repatriation clinic were applauded. All parties worked together, keeping paramount the welfare of the 2nd Engineer and putting aside their personal safety under pandemic conditions.

This is indeed a story worth telling. However, it is only one of many to come out of the many months of pandemic-caused disruption, from various international closed borders, resulting in ships' crews being stranded at sea on their vessels, to the uncertainty of their seafaring future.



www.pandiman.com

MARINE LUBRICANTS MARKET TO BRACE ITSELF FOR ROBUST GROWTH

by Futures Trading Charts

At a time when maritime transport has become the backbone of international trade, marine lubricants have gained significant traction. Given that around 80% of global trade by volume and more than 70% of global trade by value are handled by ports and undertaken at sea, developing and developed economies have upped their investments in marine lubricants.

With the share of seaborne trade in developing economies rising 64% in 2018, 61% of all goods were unloaded in Asian seaports. With an upsurge in marine transport, demand for smooth functioning of machineries and removing the harmful effects of friction has risen. This has led stakeholders to up their investment in ship building and fleet market expansion.

Global Market Insights Inc. has estimated the marine lubricants market size to reach US\$7 billion by 2026, according to its latest research report. Marine lubricants market is due for robust growth as demand in hydraulic oil picks pace.

Trends toward bio-lubricants

While the world still counts on petroleum-based products that have posed serious concerns to the sustainability of marine ecosystem and energy security, bio-based lubricants are gradually gaining grounds. Bio-based lubricants have been setting the trend as they are said to have superior lubricant properties as compared to mineral lubricants.

Environmentally friendly lubricants (EALs) stemming from vegetable oils will be highly sought-after among end-users as they have tremendous lubricity vis-a-vis mineral oil and are biodegradable.

Forward-looking companies are poised to infuse investment in bio-lubricants such as hydraulic fluids and greases to help protect both seas and vessels. It is expected that bio-lubricants will be one of the major selling points as they offer an environmentally friendly option and have helped in improving environmental performance as compared to mineral based oils.

Growth drivers: Hydraulic oil

Recent years have witnessed increased traction for hydraulic oil as the marine lubricants are being used in several vessels for the stabilizers. Given that the stabilizers minimize the amount of roll that can have the toll on the ship's balance, investment in hydraulic oil will witness a notable uptick in the next few years.

Surged traction for synthetic lubricants will continue to fuel the industry growth as they provide superior fluid film protection against metal-metal-to-metal contact, reduce scuffing, and increase high shear stability.

Leading companies are optimizing equipment performance, providing more reliable operations with the use of synthetic

lubricants. Besides, low volatility and high resistance to oxidation have been some of the upsides that will trigger demand for synthetic oil among players in marine lubricants industry.

Opportunities for stakeholders: Product roll outs

Strategic business approaches may be the way forward as the global economy looks to surmount the fallout of COVID-19 pandemic. Strategies such as

product roll outs are being adopted by leading companies.

For instance, ExxonMobil has rolled out an advanced marine lubricant that adheres to the International Maritime Organization's (IMO) global 0.50% sulfur cap and can be used in medium speed engines.

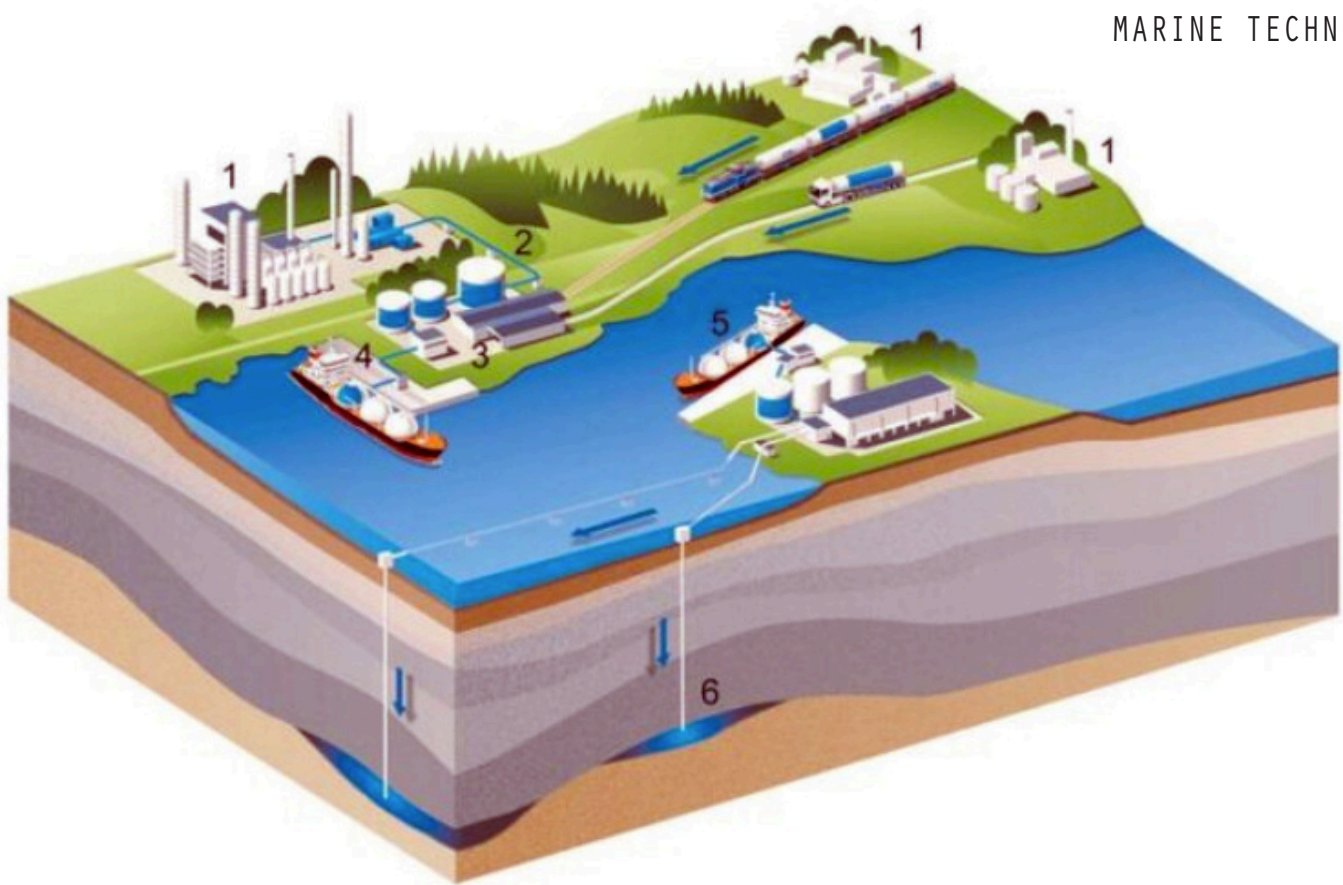
Chevron Marine Lubricants launched a range of premium high-performance gear oils meant for use in marine and industrial clutched gear systems in September 2019. It is said that the advanced formulation will protect vessels from yellow metal corrosion and provide extreme pressure protection.

Matching strength with opportunities, product launches will be witnessed in the next six years in the marine industry.



Request a sample of this research report @ <https://www.gminsights.com/request-sample/detail/412> Source: https://futures.tradingcharts.com/news/futures/Marine_lubricants_market_to_brace_itself_for_robust_growth_as_demand_in_hydraulic_oil_picks_pace_370706699.html





LIQUID CARBON DIOXIDE TRANSPORT PROJECT TO START IN SWEDEN

by SAFETY4SEA

Gothenburg and Sweden could be the first in the world to create a joint infrastructure for the transport of liquefied.

The project called CinfraCap is a collaborative venture between Göteborg Energi, Nordion Energi, Preem, St1, Renova, and Gothenburg Port Authority.

CCS is widely regarded as a key component in the transition of the global energy system, and several research and development projects are already under way.

Within the CinfraCap project the various parties are looking to join forces to identify the most effective way of approaching the industry-scale logistics system required to support CCS. The idea is to present proposals for an optimized infrastructure, and link into other CCS projects. Once the infrastructure is in place, the aim is for it to be an open access system, expanding its potential user base.

A collaboration agreement has been signed by all the parties involved, and the Swedish Energy Agency climate initiative Industrial Evolution (Industriklivet) has agreed to cover half the cost of funding a prestudy, which is being conducted by the consulting company COWI.

The prestudy, which started this month with completion due in Q1 2021, will focus on the means of collecting captured carbon optimally from each company, transporting it down to the port, intermediate storage prior to loading,

securing of permits, risk identification, and presentation of a business model.

We are starting up CinfraCap in western Sweden although the ultimate aim is to share our experience and the business model behind the carbon capture infrastructure with the rest of Sweden and the world. We are joining forces with other partners to ensure the requisite resources are in place to rapidly reduce the climate impact of companies and contribute to a sustainable future

-Karin Lundqvist, Business Developer, Preem AB.

More specifically, the project is focused on the transport of captured carbon and how this can be done in a climate-smart, cost-effective way. The aim behind CinfraCap is to produce a more comprehensive picture of the logistics chain required to transport captured carbon dioxide from different industrial facilities in western Sweden.

The interface for CinfraCap will be the fence around the facility in western Sweden that captures the carbon dioxide, through to the loading arm on the vessels that transport the liquefied carbon dioxide onwards by sea.

CinfraCap will complement several other ongoing research and development projects, including Preem CCS, ZEROC, and Northern Lights, which is a full-scale carbon dioxide repository project being run off the west coast of Norway. ⚓

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WHAT IS MGO?

by Vicky Viray Mendoza

The mega ships burn tons of fuel everyday to propel their engines and deliver their massive loads to different ports. Ship engines have been known to use low-grade fuel oil to lower the ship's operating costs, since the share of fuel cost can reach between 30-50% of total operating costs of a ship. It is not a simple decision to use low-grade fuel oil such as **Heavy Fuel Oil (HFO)** either because the ship will not be allowed in regulated **Emission Control Areas (ECAs)**. Thus, refineries are producing lesser of these residual HFO fuels yearly starting at the beginning of 2015.



The shipping industry is one of the top subsectors of the transportation sector to follow the stringent IMO environmental laws in moving massive cargo worldwide. Eliminating air pollution has been the top agenda of the **Marine Environmental Protection Committee (MEPC)**, and hence several regulations have been enforced to curtail the harmful emissions from ships such as **CO₂**, **SO_x** and **NO_x**. Both **NO_x** and **SO_x** are combustion products that are emitted into the environment in the form of smoke.

With the ever-changing technology on ships, the fuel used to run marine engines and designs may also need to change just as rapidly to optimize efficiency.

There are marine fuels that are seriously being considered to replace **Heavy Fuel Oil (HFO)**, the dirtiest and most-polluting residual fuel for ships. These are **Liquefied Natural Gas (LNG)**, **Marine Gas Oil (MGO)**, **Marine Diesel Oil (MDO)**, **Ammonia (NH₃)**, **Methanol (CH₃OH)**, **Fuel Cell Batteries**, **Hydrogen (H)**, **Liquefied Petroleum Gas (LPG)**, and **Biofuels** for the shipping industry.

LNG and **MGO** are the most preferred and prominently used

fuels in place of **HFO** because they are excellent fuels, and have lower carbon dioxide (CO₂), and negligible nitrogen oxide (NO_x) sulphur oxide (SO_x) emissions than HFO, respectively.

Ammonia, Methanol, Hydrogen, Fuel Cell Batteries, LPG, and Biofuel are considered environmentally cleaner fuels than HFO, but still need more engineering tests for reliability in long-haul shipping. Hydrogen and LPG are clean. Ammonia is a low carbon fuel, but has high NO_x emissions, and low flammability. Methanol will soon be carbon-free and is 2020 compliant with Sox, NO_x, and particulate matter (PM) emissions, but has a very low flashpoint of 12°C.

Distillates. Marine Gas Oil or MGO, is a high quality marine fuel that consists exclusively of distillates. Distillates are all those components of crude oil that evaporate during distillation and are then condensed from gas into liquid. **MGO** usually consists of a blend of various distillates. While **MGO** is made only from distillates, **MDO** is a distillate blended with **HFO** that may contain very small amounts of black refinery feed stock. When residual fuel oil is blended with distillates, the blend is called **Intermediate Fuel Oil (IFO)**.

Density. MGO has a higher density than MDO. The maximum density of **MGO** is 890 kg/m³ at 15°C, but closer to 860 kg/m³ at 15°C. In contrast, **MDO** has a maximum density of 900 kg/cm³ at 15°C. The density of fuel oil indicates the ignition quality of a fuel and is also used for calculating the amount of fuel oil quantity delivered during the bunkering procedure.

Flashpoint. MGO has inherently a transparent to light yellowish brownish color, but is colorized red. If a marine fuel like heating oil is used in inland waterway shipping, it is colorized with a yellow dye. These measures are to enable the detection of the type of use, and protect against the misuse of low-taxed and relatively cheap heating oil, which is often the same fuel used in inland shipping.

MGO and standard heating oil largely share the same properties. Thus, heating oil is sometimes supplied as marine fuel when there are shortages of marine fuel. **MGO** has a flashpoint between 65-850C. Thus, the flashpoint of the relabeled heating oil to replace **MGO** ship fuel must be a minimum of 60°C or higher. **MDO** has a flashpoint of 61°C. But both **MGO** and **MDO** have a minimum flashpoint of 60°C.

The temperature at which the vapor of the heated fuel ignites is the fuel's flashpoint. This is done under specified test conditions, using a test flame. Per **SOLAS** and **IMO**, the flashpoint for all heavy fuels to be used onboard vessels is set at a minimum of 60°C. In addition, the engine technology or any installed exhaust filter systems on the ship must be compatible with the low sulfur content of heating oil. However, the new fuels have a much lower flashpoint (<55°C) plus lower sulphur content, the combination of which may result in a collision with IMO safety regulations.

Viscosity. The viscosity of MGO is lower than **MDO** or **HFO**, and for operation in two-stroke marine diesel engines, **MGO** may need to be cooled to stay at specified engine design viscosity levels to prevent fuel pump wear. Because **MGO** is based on the lighter distillates, it results in a low viscosity, and thus can easily be pumped into the engine at temperatures of about 20°C,

unlike **MDO** that has a large proportion of **HFO**, and thus more difficult to be pumped into engines.

Viscosity is the resistance within the fluid fuel that acts against the flow. Kinematic viscosity represents the dynamic viscosity of a fluid per unit of density. The viscosity of fuel is a highly significant parameter since it is used to determine the ease of atomization and convenience to pump fuel within the system.

MGO's kinematic viscosity is 5-7 cSt (centistoke) at 400C. MDO's kinematic viscosity is about 8 - 11 cSt at 400C. **IFO 180** and **IFO 380** have viscosities of 180 mm²/s and 380 mm²/s, respectively. [mm²/s= square millimeter per second]

The kinematic viscosity in centistoke (cSt) at 40°C is the basis for the ISO 3448 kinematic viscosity grading system, making it the international standard.

Cetane Index. **MGO** has a minimum cetane index of 40 while MDO has a minimum cetane index of 35. The higher the cetane index, the higher the flammability. The lower the cetane index, the lower the flammability, the longer the burn lag.

Sulphur Content. **MGO** is also produced with varying degrees of sulfur, though its maximum permissible sulfur content lies below that of HFO. MGO is considered an ultra low sulfur fuel oil (ULSFO). ULSFO-MGO, having sulphur content of less than 0.1% means it can be used in Emission Control Areas (ECAs). In contrast, MDO has a sulphur content of 2%; and IFO would follow HFO's sulphur content requirement of 0.5% m/m (mass by mass) per MARPOL starting 1-January-2020. The ECAs impose a sulfur emissions limit corresponding to that of ULSFO-MGO. Alternatively, this limit can be achieved with the use of filter systems or scrubbers, but they are so expensive.

Sulphur content in fuel is one of the main factors for sulphur oxide (SO₂) pollution from ships – a pollutant, which is under major scrutiny by **IMO**. Compared to marine fuels with either a higher or lower proportion of **HFO**, emissions from MGO contain significantly less particulate matter and soot. And, as the sulfur content of distillate fuel can easily be kept very low, refineries are optimizing their production processes to produce less and less residual fuel **HFO**.

Pricing. **MGO** has been touted as the most expensive fuel compared to all the other fuel options. However, this is not necessarily true anymore because Methanol has entered the fray and even with its price drop, it is now more expensive than **MGO**. Also, the deep plunge in price of **LNG** and **TTF** (see table) is a signal to industry insiders to expect that **MGO** might be used more in the years ahead, and engine technology in shipping will adapt to **MGO** as a result. Although the price of **MGO** and **MDO** fuels have dropped by 54% compared with the 87% drop in **LNG** prices, they are significantly still much more expensive than **LNG**, **IFO**, **TTF**, and **Crude Oil**. Thus, the global shift to **MGO** as the marine fuel of the future is not likely to happen anytime soon in the near to medium term. **LNG** will likely continue to be the preferred fuel over MGO mainly for reasons of cost efficiency.

However, the world seeks for a marine fuel for the future that is a super clean zero-emission fuel. Meaning, cleaner than **LNG**, which has **CO₂** and methane emissions. And **MGO**, being a pure distillate and an excellent marine fuel, just might fill the top spot for being carbon free, with negligible **NO_x** and **SO_x** emissions.

Specifically, here are comparative fuel prices of some fuel types in U.S. Dollars per Million Metric British Thermal Unit (US\$/mmBTU):

Type of Fuel	October 2014	July 2020	% Decrease
EU TTF gas	9.35	1.85	80%
LNG	17.43	2.29	87%
Japan TTF gas	17.03	4.54	73%
IFO 380/MDO	14.98	7.29	31%
Crude Oil Brent	17.92	7.80	56%
MGO	21.74	9.88	54%
Methanol	20.70	14.07	32%

Notes:

IFO 380 = Intermediary Fuel Oil with some HFO, is synonymous to MDO.

TTF = Title Transfer Facility is a virtual trading point for natural gas.

In the 2018 Whitepaper by **DNV-GL** titled, "**Alternative fuels and technologies for greener shipping**," it stated: "The IMO decision to limit the sulphur content of ship fuel from 1-January-2020 to a maximum of 0.5% worldwide, and the recently adopted resolution to reduce **greenhouse gas (GHG)** emissions by 50% by 2050, will change the future mix of ship fuels dramatically. The combined amount of **heavy fuel oil (HFO)** and **marine gas oil (MGO)** consumed by ships accounts for no more than 25% of total global diesel fuel and petrol production. This is roughly equivalent to the amount of energy consumed using **liquefied natural gas (LNG)**, which stands at 24%; however, LNG represents only a small portion (about 10%) of the overall gas market."



Whether MGO will fill a short, medium, or long-term spot if and when LNG phases out is subject to speculation. What is certain is if the world wants to address Climate Change, the shift must be done much faster than the current pace, from the use of low emission gases (LNG, MGO, MDO etc) as marine fuel to zero emission renewable energy sources.



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THIS NEW TECHNOLOGY CAN SAVE WHALES FROM SHIP COLLISIONS

by World Economic Forum

- ◆ Whale-ship collisions are occurring at an increasing rate around the world.
- ◆ A newly developed tool uses AI, a mobile app and big data to help mariners avoid whale strikes.
- ◆ The first Whale Safe system has now been deployed off the coast of California.

A pillar of warm air and vapor bursts out of the ocean, reaching three storeys into the sky. It is an exhalation from the blowhole of a blue whale – the largest animal to ever exist, and yet a species hunted nearly to extinction by commercial whaling.

While whaling has decreased dramatically over the past century, six of the 13 great whale species remain endangered and continue to face multiple human-induced threats, one of which is massive cargo ships. Busy shipping routes often traverse whale habitats in coastal areas, and ships can unintentionally hit and kill whales while the animals are feeding, migrating, resting, mating or socializing.

Not only beautiful and awe-inspiring, whales are important components of a healthy and productive planet. They promote thriving ocean food webs, support coastal economies, and even help mitigate climate change. An economic evaluation found that when combining whales' carbon and ecotourism benefits, a single whale is worth more than \$2 million. At the same time, marine shipping is the lifeblood of the global economy, moving 90% of the world's goods – and maritime traffic is conservatively expected to triple by 2050. To strike a balance between a healthy planet and a strong economy, whales and ships must coexist in an increasingly busy ocean.

Yet from the coasts of the U.S. to Sri Lanka to the Mediterranean Sea, whale-ship collisions are occurring at

increasing rates. The North Atlantic right whale is a distressing sentinel for the potential fate of whale populations globally if we fail to quickly implement solutions to prevent fatal strikes from occurring; it has been deemed 'critically endangered' by the IUCN, and some die every year from ship collisions. With only 400 members of this species remaining, every whale counts.

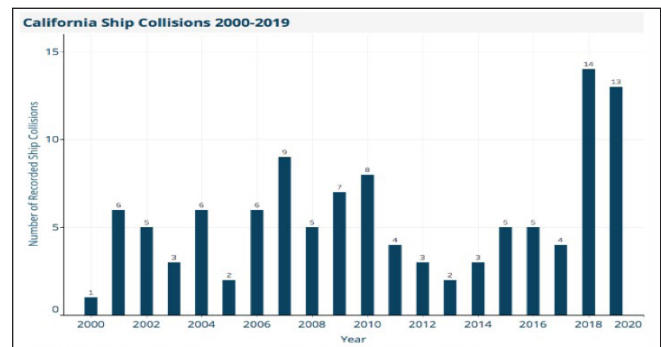


Photo Credit: NOAA Fisheries 2019.

Off the coast of California, 2018 and 2019 were the worst years on record for whale-ship collisions with 27 reported strikes across all whale species. Even so, scientists estimate that only 5-17% of whale carcasses are detected and recorded, so the actual number of ship strike victims is likely much higher. Scientists estimate that in reality, 18 endangered blue whales are likely killed by vessel collisions on the West Coast of the U.S. each year.

To put this in context, the National Oceanic and Atmospheric

Administration has determined only one to two blue whales can die each year from human-caused incidents (such as ship collisions or fishing gear entanglements) for the population that visits California to recover to a sustainable level.

Despite these trends, there are ways to combat the problem. Research has shown that reducing ship speeds is one way to protect whales from collisions, for example. However, a large container ship can be 1,000 ft long and 15 storeys tall, making it very difficult for captains and crews to spot whales with enough time to respond. Therefore, ships need to know when and where to slow down.

Tech to the rescue

Could digital technology provide a solution? A team of leading ocean scientists from the Benioff Ocean Initiative, University of California, Woods Hole Oceanographic Institution, Texas A&M University at Galveston, University of Washington, National Oceanographic and Atmospheric Administration have developed Whale Safe, a new whale-detection system that will empower mariners with the data they need to reduce the risk of whale-ship collisions.

Whale Safe incorporates three technologies: an AI-powered underwater sound recording system that detects whale calls; a mobile app used by community scientists to record whale sightings; and big data models that provide near real-time forecasts of whale feeding grounds based on data like ocean temperature and circulation. Data delivered by the new technology will let ships know when whales are nearby, so they can slow down to protect whales while safely transporting goods around the world.

The Whale Safe system also integrates ship-tracking data and

allows the public to monitor which ships and companies are slowing down to protect endangered whales, bringing transparency to transportation within supply chains. Ongoing monitoring of ship strikes and shipping speeds will be used to evaluate Whale Safe's success.

The first Whale Safe system has been deployed off the coast of California in the Santa Barbara Channel near the Ports of Los Angeles and Long Beach, one of the busiest port complexes in the world. The shipping lanes around these ports, like many others around the world, also overlap with a biologically rich feeding ground for endangered whales. This region has been identified as an area of concern since 2007, when five endangered blue whales were killed by ship collisions in the channel. If successful, Whale Safe could be replicated in other ship strike hotspots around the world to empower decisions that protect whales while supporting efficient maritime commerce.

Whale Safe is part of a growing ecosystem of ocean technology that offers promise for accelerating smart solutions for a sustainable blue economy. As the world enters the Great Reset, it is essential that we harness these tools for the benefit of both people and planet.



Written by:

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Source: <https://www.weforum.org/agenda/2020/09/this-new-technology-can-save-whales-from-ship-collisions/#:~:text=A%20newly%20developed%20tool%20uses,off%20the%20coast%20of%20California.>

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Around since the late 70's, previously under sister company Aquila Maritime Business Inc., for forty-three years as commercial Protection and Indemnity (P&I) correspondents for P&I Associations covering all international ocean-going vessels entered with their chosen P&I Association, Pandiman serves as a one-stop-shop for shipowners, their local manning agencies and the country's seafarers in the handling of personal injury (P.I) claims and general care of seafarers deployed abroad. The SURVEY SPECIALISTS team of experienced marine surveyors handle all areas of cargo disputes, vessel inspection following collision, pollution and condition surveys.



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JAPANESE CONSORTIUM WORKING ON WORLD'S FIRST CO₂ CAPTURE AT SEA

by SAFETY4SEA

A Japanese consortium is working to conduct test operations and measurements for a small-scale ship-based CO₂ capture demonstration plant. Under the name "Carbon Capture on the Ocean" (CC-Ocean), the project seeks to achieve CO₂ capture at sea in a world's first.

The Japanese companies, including Mitsubishi Shipbuilding Co., Ltd., a part of Mitsubishi Heavy Industries (MHI) Group, K Line and ClassNK, are cooperating to verify the equipment's use as a marine-based CO₂ capture system with support from the Maritime Bureau of Japan's Ministry of Land, Infrastructure, Transport and Tourism (MLIT), as part of its assistance project for research and development of technological advancements in marine resource development.

The demonstration involves converting the design of an existing CO₂ capture system for onshore power plants to a marine environment, and installing it onboard an actual ship in service.

The consortium launched a hazard identification (HazID) study for the design of the demonstration plant and the onboard installation, with verification from ClassNK.

Mitsubishi Shipbuilding will undertake manufacturing of the small scale CO₂ capture demonstration plant and safety assessment of the system.

Then, manufacturing of the demonstration plant will occur in mid-2021. Following operational tests at the factory, the plant will be installed onboard a coal carrier for Tohoku Electric Power Co., Inc. operated by K Line.

Through operational and performance confirmation in an actual marine environment, Mitsubishi Shipbuilding will then determine the system specification requirements as a marine-based device, and will also consider how to make the plant more compact.

This demonstration experiment at sea is the first of its kind in the world. The knowledge will be useful for future development of technologies and systems to capture CO₂ from the exhaust gases of marine equipment and ships.

In addition, the captured CO₂ can be recycled for use as a new source of CO₂ for enhanced oil recovery (EOR) processes, or as raw material in synthetic fuel, providing a significant contribution towards reductions in GHG emissions.

The project will last two years.



Source: <https://safety4sea.com/>

[japanese-consortium-working-on-worlds-first-co2-capture-at-sea/](https://safety4sea.com/japanese-consortium-working-on-worlds-first-co2-capture-at-sea/)



SIX NEW ENERGY EFFICIENT CONTAINER VESSELS

by Del Monte

We continue to fulfill our commitment to create a positive impact on the environment with the addition of 6 new energy efficient reefer container vessels to our fleet. The addition of the new vessels named – Del Monte Gold, Del Monte Rose, Del Monte Harvester, Del Monte Spirit, Del Monte Valiant and Del Monte Pride – marks a new chapter in environmental sustainability for our company. The first of the 6 vessels, the Del Monte Gold, embarked on the high seas in July, traveling from Hong Kong towards the Panama Canal. Like its siblings, the Del Monte Gold has a full cargo capacity of 1,276 TEU with 634 plugs for 40-foot high cube reefer containers. Given the perishable nature of fresh fruits and vegetables, the air-cooled containers maintains the cargo at specified temperatures, traveling in reefer mode with multiple temperature variants from -25C to 40C.

"We have been working towards this goal since 2017 and could not be more excited to see it come to fruition," said Helmuth Luty, Senior Vice President of Shipping Operations for Fresh Del Monte Produce. *"As one of the world's leading producer, marketer and distributor of fresh fruits and vegetables, we have set a very high bar for all the reefer containers and ships in our fleet. These 6 new vessels set the bar even higher, and allow us to deliver the high-quality fresh fruits and vegetables we are known for while meeting our sustainability goals."*

Each vessel meets the most stringent emission control regulation and includes:

- ◆ Latest hull design and vertical bow to achieve a service speed of up to 22 knots with a very efficient fuel consumption;
- ◆ Fitted with Hybrid Scrubber system, meeting all international requirements to reduce pollution and control emissions of noxious substances;
- ◆ Fitted with shore power connection to use Alternate Marine Power (AMP) at ports allowing ships to work with shore power (Cold ironing) without having to use IFO or MGO while in port where facilities are available and/or required; and
- ◆ Fitted with the latest Preventive Maintenance System technology on all machineries on board with the purpose to have efficient combustion on main and auxiliary engines and control of main components replacement efficiently according to manufacturer's parameters.

"Today, shipping accounts for the largest portion of our global energy use," said Hans Sauter, Chief Sustainability Officer, Fresh Del Monte Produce. "In 2018, we committed to lead by example and reduce vessel emissions by 10%. With the addition of these 6 new container vessels we are well on our way, estimating a savings of nearly 19,000 metric tons of fuel each year."



Source: <https://www.freshdelmontecsr.com/portfolio/fresh-story-six-new-energy-efficient-container-vessels/>



The Maersk Pelican was fitted with two 30m high Norsepower's Rotor Sails. Photo courtesy of Maersk.

SAILING ON SUSTAINABILITY: THE COMEBACK OF WIND POWER?

by Vessel Performance Optimization

As the shipping industry ramps up efforts to decarbonize, initial sea trials onboard a Maersk tanker fitted with Norsepower Rotor Sails indicate that wind power has the potential to play a significant role in a low carbon ocean transport system.

Early results from a sea trial onboard the 109,647 DWT Maersk Pelican fitted with two meters high, five meters in diameter Rotor Sails by Finnish sail technology provider, Norsepower, have proven an 8.2% reduction in fuel consumption is possible over a 12-month period.

The Norsepower Rotor Sails are large, cylindrical mechanical sails that operate based on the Magnus effect. Wind hits the spinning Rotor Sails, causing air to accelerate on one side of the Rotor Sail and decelerate on the other. The difference in the speed of airflow results in a direct pressure difference, creating a lifting force that is perpendicular to the wind flow direction. This generates a forward thrust, propelling the vessel.

Finding the right partner

In a webinar hosted by Blue Communications, Maersk's Chief Technical Officer, Tommy Thomassen, revealed that the shipping company had explored many different energy saving devices and fuel saving technologies for some years, including various wind utilization technologies, but realized early on that Norsepower's Flettner Rotor Sails rotors had the potential to yield significant power. "We scanned the market to see who was out there and the best provider for our tankers turned out to be Norsepower and that's where the dialogue began," Mr Thomassen said.

Preparing to fit the Rotor Sails

The Rotor Sails installed on the Maersk Pelican are, thus far, the largest to ever to be installed on a sea-going vessel. "We're talking two 30-metre-high, five meter diameter Rotor Sails being installed on an existing ship in service," Mr Thomassen confirmed. Prior to installation, Maersk carried out a thorough risk assessment, including an assessment of all the potential risky situations that Maersk could encounter and a consideration of all the operational performance parameters.

For Norsepower, this installation was the biggest scale up they had done, with the largest installation to date being an 18- meter sail. "For the first time we also fitted mechanical sails on a tanker ship, so we had to ensure it fitted the class requirements for an explosive environment," said Tuomas Riski, CEO and partner at Norsepower.

"Norsepower received the initial contract from Maersk at the end of 2015 and from those early dialogues it took nearly two years to conclude the project but after that it went pretty fast. By August 2018, we had done the fitting; and by the end of 2019, we had the results of the trial," noted Mr Riski.

"Shell came onboard as a consultant for the Energy Technologies Institute (ETI), a sponsor of one of the Rotor sails," Stephen Brown, Technology Innovation and Decarbonization Manager at Shell confirmed.

"Lloyd's Register was also brought on as a trusted expert. They performed the independent assessment of the performance of the Rotor Sails technology through measurement. Data systems were fitted to the Maersk Pelican and measurements

were taken before and after to understand how performance differed," Dr Chris Cradock, Technical Advisory and Ship Performance Manager at Lloyd's Register explained.

Installing the Rotor Sails

Installation began on the Pelican while the vessel was carrying out an ordinary docking of the ship in China. In the first month, Norsepower installed the foundations, cabling and automation measure systems onboard and prepared the Rotor Sail units. The docking was in January 2018 and by August 2018, Norsepower had fitted the two Rotor Sails onboard.

Mr Thomassen said that one of the reasons they thought the technology was so interesting was because it was suited to retrofits. "The physical installation of the sails down in Rotterdam was almost the smallest piece of the work. It was a big event but not a big challenge."

Mr Riski also confirmed that the installations were done without harming any of the coatings in the clean tanks.

It was also "a great learning curve" for all parties involved. The final installations of the Rotor Sails were done in less than 24 hours. "It takes a lot of preparation and planning but smooth and quick installations are possible," said Mr Riski.



Norsepower's Rotor Sails. Image courtesy of Norsepower.

Sea trials and performance measurement

Once the Rotor Sails were installed on the Pelican, it took less than a day to do the physical sea trial in Rotterdam, checking everything worked as it should and teaching the crew how to use the technology, Mr Thomassen from Maersk stated.

There many bold claims are made when it comes to energy saving technologies but it is vital to ensure that independent verification happens with such a technology as the Rotor Sails.

In terms of performance measurement, Dr Chris Cradock of Lloyd's Register reiterated the importance of understanding the baseline performance of the vessel before sea trials began.

Measurement systems were installed onboard 6 months prior to the installation of the Rotor Sails. Once they were installed data was recorded for another 12 months to identify fuel consumption with and without the Rotor Sails each day.

While the results over that year indicated a fuel saving of 8.2% fuel, these were in align with Norsepower's expected results of 7-10%.

Mr Riski said there was a "perfect harmony between the simulated model results and the Lloyd's Register validation of the actual fuel savings achieved on the Pelican."

Stephan Brown, Shell, reiterated the importance of achieving these results as part of a trial, and noted that naturally there were some teething problems that were overcome quickly.

However, the **Maersk Pelican** used for the trial was a ship already trading and according to Mr Brown, not always on the most favorable routes all of the time:

"The fact is that the wind speeds for that particular time of year for performance monitoring were lower than usual. The reality of this is that the 8.2% fuel savings were excellent."

During the sea trial, the vessel sailed from the yard in the China to Far East Asia on transoceanic voyages. Norsepower's CEO said that based on the company's simulation model, the same tanker sailing on a different route, from Rotterdam to New York for example, could result in a potential 20% cut in fuel.

During the 12 months, the Rotor Sails were utilized around 50 per cent of the time. According to Mr Riski, simulation models show a payback based on typical tankers and long-term fuel prices of four to nine years.

Maersk's chief technical officer said that it was also important to note that at present the low fuel prices make the ROI less attractive.

However, he noted that, "It is about far more than just fuel costs as it is hugely important to save CO2. We want to participate and drive the CO2 saving at the end and we believe this particular technology has huge potential and one of the biggest potentials for retrofits."

One question asked during the webinar was whether the Rotor Sails could become less favorable on less windy routes. Maersk's Mr Thomassen said that based on dialogue with different customers and the impact of trading routes, they haven't seen any negative impact on the trading routes because of the Rotor Sails. The sails have also brought positive attention to the vessel, he confirmed.

Maintenance and operation

According to Norsepower, the Rotor Sails can be maintained with two checks per year, with the current estimation for maintaining the sails at one-man day per 6 months. Mr Riski said that these checks are simple and can be done by the crew. Norsepower will also deliver the spare parts if needed.

Mr Thomassen echoed these words and confirmed that the sails are, "pretty simple to operate and pretty simple to maintain, which is also part of the attractiveness of this particular technology."

Wind power and decarbonisation

The role of wind power in decarbonizing shipping is yet to be fully understood, however Dr Chris Cradock from Lloyd's Register is confident that these Rotor Sails will play a large role in the industry's efforts in making a zero carbon transport system alongside other energy saving devices.

"There won't be one single device that is a full solution to solve the decarbonization problems we have but this technology as have many others have demonstrated that they will be part of the solution."

"Most energy saving devices we see onboard ships today are in the realm of 1-3% fuel savings but when you start getting over 5 per cent it becomes a really interesting technology. Because it has such a high benefit it will probably play a strong part going into the future of decarbonization."

"We still need to look at alternative fuels as well as reducing the powering requirement of these ships and Flettner Rotors is a solution to do that as well. It will be a collection of different technologies that will solve the decarbonization problem," Dr Cradock clarified.



Source: <https://vpoglobal.com/2020/06/28/sailing-on-sustainability-the-comeback-of-wind-power/>



BLOOM, SAMSUNG SIGN DEAL TO DEVELOP SHIPS POWERED BY FUEL CELLS FED BY LNG

by Delaware Business Now

Bloom Energy and South Korea-based **Samsung Heavy Industries (SHI)** signed a joint development agreement to design and develop fuel cell-powered ships. The two companies will work together to use Bloom fuel cells to cut emissions on ships, a sizable source of pollution. The fuel cells would produce electricity that would power the ships via **liquefied natural gas (LNG)**.

Bloom's main assembly site is at the University of Delaware's STAR Campus in Newark.

"By signing this joint development agreement, SHI has a plan to develop eco-friendly ships that will lead the future of the industry," said Haeki Jang, Vice President of Shipbuilding & Drilling Sales Engineering at SHI. "Our goal is to replace all existing main engines and generator engines with these highly efficient solid oxide fuel cells to align with the **International Maritime Organization's (IMO) 2030 and 2050** environmental targets."

SHI is actively participating in all of the relevant activities during the joint development, from early studies to project completion. Bloom Energy has created a dedicated, cross-functional team of engineers to adapt Bloom Energy's Servers to the requirements of the marine environment.

SHI and Bloom Energy are actively working towards the next milestone in this development with a target to present the design

to potential customers in 2022. Following commercialization, the two companies anticipate that the market for Bloom Energy Servers on SHI ships could grow to 300 megawatts annually.

Because the fuel cells create electricity through an electrochemical reaction, without combustion, these ships would be able to improve air quality with a reduction of particulate emissions, by more than 99%, and shrink carbon emissions.

"The marine shipping industry has the ability to make a substantial impact on emissions and air quality at ports and across our planet," said **KR Sridhar**, CEO, **Bloom Energy**. "We see a collaboration with one of the world's largest shipbuilders, SHI, as a moment to make measurable strides in reducing emissions and extending our mission for clean, reliable energy to the seas."

The joint development agreement between SHI and Bloom Energy follows an Approval in Principle for fuel cell-powered Aframax crude oil tankers from **DNV GL**, the internationally accredited marine shipping registrar and classification society, announced in September 2019. The next class of ship to be submitted for design approval is an LNG carrier.



SOURCE: <https://delawarebusinessnow.com/2020/06/bloom-samsung-sign-deal-to-develop-ships-powered-by-fuel-cells-fed-by-liquefied-natural-gas>



Leo Boogerd handing over the half model of EcoClipper500 prototype to Jorne Langelaan, founder of EcoClipper, in the Maritiem Museum Rotterdam

INNOVATIVE ENGINELESS SAIL CARGO SHIP NEXT STEP IN MARITIME TRANSITION

by EcoClipper B. V

On Friday 24-July-2020 at the **Maritiem Museum Rotterdam** the half hull model of the **EcoClipper500** has been handed over to the founder of the **EcoClipper B.V. shipping company**: Captain **Jorne Langelaan**, by the constructor, ship carpenter Leo Boogerd in cooperation with **Bert van Baar** of the **Bootbouwschool** and **Cadhead's Marijke de Jong**.

The building of this half hull model is the start, and a new milestone, in the development of a series of engineless sailing cargo ships to transport cargo and passengers on shipping lines all over the world.

Constructing a half hull model used to be common practice in shipbuilding and it was used for the design of the hull. As starboard and portside of a ship are identical, a half model would suffice. It was considered the first step in the building process.

Being one of the founders of the Fairtransport shipping company Captain **Jorne Langelaan** has been striving for many years to re-introduce sailing cargo ships as an alternative for the very polluting shipping and aviation logistics.

During the past 10 years, the sail cargo industry has been growing steadily. Along the European coasts and transatlantic, sailing cargo ships transport sustainable produced products and passengers.

The **Maritiem Museum Rotterdam** was chosen as venue for the handover of the half hull model because the **EcoClipper** ships will be modeled after the **Noach** –built in 1857 at **Kinderdijk** in the Netherlands– one of the fastest and most successful Dutch clippers ever.



Capt Jorne Langelaan showing the sharp lines of the EcoClipper500 Prototype.

The Noach construction drawings are part of the Maritiem Museum's collection and were made available for the **EcoClipper B.V. shipping company** after consultation with the museum's conservator, to begin a transition to sustainable shipping.

As Captain Jorne Langelaan puts it: *"The half hull model is the first physical part of the EcoClipper fleet to be."*



Source: <https://www.hellenicshippingnews.com/innovative-engineless-sail-cargo-ship-next-step-in-maritime-transition/>



COMBINED OPERATIONS EFFECTIVENESS INTEGRATIONS APPRAISAL STUDY (COEIAS) ON A NEWLY ACQUIRED FRIGATE BY THE PHILIPPINE NAVY

by Capy Tomas D Bains PN (Ret)

INTRODUCTION

Warship design originates from the following order of priority:

1. Doctrine development in regard to the manner in which the Navy will address the strategic concepts of responding against the challenges of threat.
2. The Naval Staff & Circular of Requirements are parameters desired by the Navy in the development and design that will lead to shape the performance and capabilities
3. Technical Specification is the responsibility of and prepared by the Ship designer and shipyard which is technology-driven and is the expertise of a shipyard. Said specification will match and tailor fit to the Doctrines of a Navy.
4. Ship Construction is in accordance with the technical specification prepared by the shipyard.
5. Upon completion, technical evaluation will be conducted

by the Navy to determine the compliance of the ship design in the technical specification.

6. The Combined Operation Effectiveness Integration Appraisal Study (COEIAS) is to complete the ship design loop (items 1 to 5) and establish the combat reputation of the warship that is matched and tailor fitted with the aptitude of combat readiness of a Fighting Ship.

NAVAL STAFF & CIRCULAR OF REQUIREMENTS OF A WARSHIP

A Warship must be designed to withstand certain amounts of battle damage inflicted through combat action in order to keep on fighting while providing maximum protection to the crew and vital critical sensitive equipment onboard the ship, under extremely hazardous situations. The following parameters may be used as guide in doing the appraisals.

Group I: Seaworthiness – The ability of the Frigate to operate at sea with sufficient stability standard, buoyancy, hull structural strength, watertight integrity, crew habitability, speed and power performance at various sea state conditions, etc. A vessel is seaworthy if all its parts and equipment are reasonably fit for their intended purpose, and is operated by an adequate and competent crew for the work assigned.

Group II: Battleworthiness – The ability of the Frigate to fight at sea with the capability to avoid early detection, target detection capability beyond the horizon or underwater; can float, communicate, detect, track, move, shoot, survive, etc.

The following are the Circular of Requirements (COR), which will provide guidelines, in generic terms, on the parameters of ship design derived from the Naval Staff Requirements.

- ♦ **SUSCEPTIBILITY** – evaluation of the level of susceptibility of signature threshold with minimal electromagnetic spectrum based on proven design ship records, reduce the degree of attractions to hostile weapon system seeker's lock-on to home in to the Warship.
- ♦ **VULNERABILITIES** – the ship systems must have some level of resistance to weapon effects from spreading in several parts of the ship, and minimize degree of damage from the aftermath of the strike from hostile munitions/ ordnance.
- ♦ **RECOVERABILITY** – the ability of the ship to immediately recover from temporary stoppage after multiple hits from combat in a short time scale, and resume operations.
- ♦ **SURVIVABILITY** – the capability to provide protection to the crew and vital equipment on board during an extremely hazardous combat situation.
- ♦ **SPEED AND POWER** – the ability of the ship to provide the desired economical power needed at minimum fuel consumption, and longer period of time between overhauls, while providing longer patrol time at sea.
- ♦ **MAINTAINABILITY** – the ability of the ship to sustain vital ship systems in a short time scale efficiently.
- ♦ **OFFENSIVE CAPABILITY** – the fighting capability of the Warship to strike in anti-air, anti-surface and anti-submarine with the ability to strike surgically against hostile targets with a high probability of the degree of success to defeat hostile threats.
- ♦ **DEFENSIVE CAPABILITIES** – the ability of the Warship to protect and defend itself effectively from various hostile weapons such as attacks from air, surface, and the subsurface.
- ♦ **ELECTRONIC WARFARE CAPABILITY** – Electronic

Surveillance Measure (ESM) provides early warning of an attack or identification of an incoming aircraft; Electronic Counter Measure (ECM) – jammers, decoys to counter or distract sensor seekers of incoming missile on path and stop an inbound missile lock-onto the target (Soft kill); by Electronic Counter-Counter Measure (ECCM) – hard kill of the target (fitted with SAM, CIWS, etc).

SHIP SYSTEMS AND SUB-SYSTEMS

- ♦ **RELIABILITY** – Dependency diagram showing each system and sub-system functionalities that can operate independently to provide the necessary services (duplication, segmentation or redundancy) in case of damage of one system during combat.
- ♦ **HABITABILITY** – the ability of the ship to provide comfortable living conditions that can enhance the morale of the crew in prolonged, stressful durations of combat deployment at sea.
- ♦ **MATERIAL QUALITY CONTROL AND STANDARDS** – The highest quality control standards are crucial elements of a warship's survivability.
- ♦ **SHIP SYSTEMS ACQUISITION COST DISTRIBUTION** – Cost distribution must be allocated by Ship Work Breakdown Structure (SWBS) to determine the direct and indirect cost per ship system of ship acquisition program.
- ♦ **LIFE CYCLE COST (30 YEARS)** – The cost needed to operate and maintain the warship for the entire life span of the ship upward to the next 50 years with the paramount goal of operational readiness of a battle-ready warship in harm's way.
- ♦ **MIDLIFE REFIT** – A system in upgrading the level of capability when same equipment nearing obsolescence and no longer responsive congruent to each ship system to support other sub-system in order to accomplished the mission efficiency are to be replaced by a new technology unit.

CONCLUSION

The COEIAS provides a total overview and basis of appraisals and evaluations of the complex components of various ship systems anticipated to face the future perceived scenario of challenges in terms of performance, task and capabilities to be done by establishing both the density of their fighting outfit and their expected levels of survivability, making said vessel's combatant capability readiness confidence more challenging.

The COEIAS is a must for the end-user NAVY in order to complete the ship design loop, which originally starts from the doctrine of Navy Staff Requirements to the actual evaluations, and are verified once the vessel is operational in various naval exercises and other operations experiences.



Reference: British Aerospace lecture.

ABOUT THE AUTHOR: The Philippine Navy sponsored Capt Tomas D Bains to undergo orientation training in Ship System Evaluation at the United Kingdom Defense Evaluation Research Agency (DERA). He earned a diploma in Submarine Design at the University College of London (UCL), Great Britain under the sponsorship of the UK Ministry of Defense in 1998 and also attended a weeklong orientation seminar on Design and Construction of Shallow Water Attack Submarine at Cosmos Shipyard, Livorno, Italy. In the same year, he also attended the MEKO Frigate Shipbuilding Construction on modular ship construction and survivability at Blomh & Voss in Hamburg, Germany.

WORLD'S FIRST FULL SCALE AMMONIA ENGINE TEST TO BEGIN

by Trade Arabia

The technology group Wärtsilä, with Knutsen OAS Shipping, Repsol, and Sustainable Energy Catapult Centre, will commence the world's first long term, full-scale, testing of ammonia as a fuel in a marine four-stroke combustion engine.

The testing is made possible by a 20 MNOK grant from the Norwegian Research Council through the DEMO 2000 program, a statement said.

"This is a great example that illustrates the importance of dedicated petroleum R&D. This DEMO 2000 project is another steppingstone for reaching our ambitious climate targets and it is also aligned with our recently published hydrogen strategy. We need to develop and use new technologies that reduce emissions. We are very happy to support development work that can lead to increased use of ammonia as a fuel in shipping and in the offshore sector. Know-how from this project will also provide important input to the development of regulations for the use of ammonia and other low-carbon fuels," says Tina Bru, **Norwegian Minister of Petroleum and Energy.**

Ammonia is promising as a carbon-free fuel for marine applications, in view of the maritime industry's need to fulfill the International Maritime Organization's (IMO) vision of reducing greenhouse gas emissions from shipping by at least 50% by 2050. Furthermore, ammonia has huge potential for providing green energy to remote power systems, such as offshore installations on the Norwegian Continental Shelf.

Development work by Wärtsilä, as it prepares for the use of ammonia as a fuel, continues with this testing program, which will be the world's first full-scale four-stroke combustion engine test. The project will commence in the Sustainable Energy Catapult Centre's testing facilities at Stord, Norway during the first quarter of 2021.

"We are really excited to further develop and understand the combustion properties of ammonia as a carbon free fuel in one of our multi-fuel engines," says Egil Hystad, General Manager, Market Innovation at **Wärtsilä Marine Business.**

"Ammonia storage and supply systems will be designed and developed for maximum personal safety, and in parallel with the Fuel Gas Handling System under development as part of the EU project ShipFC. This project is coordinated by NCE Maritime CleanTech, and it involves an ammonia driven fuel cell which will be tested on the Eidesvik Offshore supply vessel, Viking Energy," Hystad of Wärtsilä continues.

From testing to real operations

Wärtsilä, as part of its development work on future fuels, has studied the use of ammonia as a future carbon-free fuel through the **ZEEDS initiative**. The company's first ammonia combustions tests were commenced in Vaasa, Finland, in winter 2020, and will continue with this long-term testing at the Sustainable Energy Catapult Centre facilities in Stord.

"We are extremely pleased to be part of this project that will prove for the industry the robustness of ammonia as fuel. The project confirms our test facilities' and Norway's leading position within the testing and development of solutions for the use of maritime carbon-free fuels," says Willie Wågen, CEO of **Sustainable Energy Catapult Centre**. The centre is part of the Norwegian Catapult program that facilitates a national infrastructure for innovation. The program is run by **SIVA** in close cooperation

with Innovation Norway and the **Norwegian Research Council** and financed by the Norwegian Ministry of Trade, Industry and Fisheries.

The full-scale fuel testing program can pave the way for ammonia engines to be used in real vessel operations within few years, and several shipowners have shown interest in this possibility. It will also provide important insights into the long-term effect of an ammonia-fuelled engine in relation to other systems and components in a vessel, including the required safety measures.



The project leaders: Egil Hystad of Wärtsilä, and Willy Wågen of Sustainable Catapult; and Kjell Storelid of Wärtsilä. Photo Credit: Trade Arabia

Close cooperation between the government and industry

"A future implementation of ammonia as a carbon free fuel, combined with clean energy production from offshore wind or other renewable energy sources can be the start of a new industrial era for the Norwegian industry," Egil Hystad of Wärtsilä, points out.

"The Norwegian culture for collaboration and knowledge sharing across different companies and sectors is a great support in closing big technology gaps. The assistance, cooperation and funding from governmental institutions are essential to drive the change towards a carbon free future," he continues.



Source: http://www.tradearabia.com/news/IND_369716.html



HHIC's Subic Bay shipyard. Photo Credit: L. HHIC Philippines

SUBIC BAY DEVELOPMENT - A NEW DAY IS HERE

by Timothy Muelder

I arrived in the Philippines for the first time in early 1972, landing at Clark Air Base before experiencing the breathtaking bus ride to the U.S. Naval Base Subic just outside Olongapo City. I was to meet the USS Kitty Hawk CVA-63 on its next port of call, the first of many deployments during the Viet Nam campaign. During my wait for almost a month to catch the ship, I enjoyed getting to know the Philippines, Naval Base Subic, and Olongapo City very well.

The eruption of Mt. Pinatubo in 1991 changed everything. In 1992, the U.S. Naval Base Subic permanently closed and was transformed into a very successful Subic Free Trade Zone of which my family and I enjoyed very much.

After the closure of the U.S. Naval Base Subic, as reported by One News, 80 to 100 U.S. ships still visit the Philippines annually.

Even before the American and Australian companies expressed interest in Hanjin shipyard, U.S. Navy ships have been

making port calls to Subic, including massive aircraft carriers and nuclear-powered attack submarines.

The once busy Hanjin Shipyard is across the bay from the Free Trade Zone but unfortunately after the global economic crash of 2008, and business downturns over the next years, it filed for bankruptcy causing over 30,000 skilled Filipino workers to lose their jobs in January 2019.

Fast forward to present day August 2020, a new dawn is spreading over Subic Bay and the Philippines.

An Australian shipbuilding company, **Austal**, and a U.S. financial conglomerate, **Cerberus**, are in the final process of an agreement to assume control over Hanjin Property with the intention of repurposing the entire complex into two separate entities. It has been reported the repurposing of Hanjin may take about one year but most, if not all, of the 30,000+ unemployed skilled Filipino workforce will be rehired to a more stable business platform.



Austal has multiple contracts to build military ships for the **Philippine Navy**. **Cerberus** is the parent company for **Dyncorp**, which is a major contractor maintaining and repairing U.S. military ships. There is a possibility dry-docks once installed in the prior naval base will return. Should that happen, ship traffic is expected to increase.

There is also interest for acquisition of the two small islands, Grande and Chiquita, just offshore from the Hanjin complex.

The **Philippine Navy** has interest to build a **Philippine Naval Base Subic** on 100 hectares adjacent to the Hanjin complex.

Subic Bay has one of the best port facilities in the world having naturally deep and secure harbors.

Additional great news is the **VFA (Visiting Forces Agreement)** will remain in effect. **VFA** was approved by the Senate in 1999.

As reported by **UCA News (Union of Catholic Asian News)** on 17-April-2020, a groundbreaking ceremony was held for the building of a U.S. military facility at a Philippine Air Force base in the province of Pampanga, north of Manila. The building of the facility is part of an agreement signed in 2014 known as the **Enhanced Defense Cooperation Agreement (EDCA)**. The military deal allows the building of U.S. military facilities inside Philippine military bases.

*"EDCA is an executive agreement now under the umbrella of the U.S. law called the **Asian Reassurance Initiative Act (ARIA)** of 2018, and was deemed and recognized as legal by both countries – the U.S. and the Philippines. However, the U.S. can only build "temporary" military facilities, meaning, the structures built are not permanently attached to the ground. The technicality in setting up such a structure lies in the design,"* says VAdm Emilio C Marayag AFP (Ret).

It appears to me that the agreements being discussed, and those already in place, are proof the Philippines is heading in the right direction paving a path towards economic recovery, regional stability, and sovereign security even during this Covid-19 virus pandemic.

It's a win for the country and the entire region.



About the author: Timothy Muelder is a retired Facilities Officer of the U.S. State Department.

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The graphic features a central circular diagram representing the ship design process, with 'FINAL DESIGN' at the center. Surrounding it are various stages and components: OWNER'S REQUIREMENTS & PURPOSE, COST ESTIMATES, WEIGHT ESTIMATE, COMPLIANCE WITH DESIGN STANDARDS, EQUIPMENT LIST, PLUMBING, MECHANICAL, ELECTRICAL, ENGINE & POWERING, MASTS, SPARS, STANDING & RUNNING RIGGING, DECK LAYOUT, HULL & DECK CONSTRUCTION, HULL & DECK ENGINEERING, HYDROSTATICS & STABILITY, LINES PLAN, SAIL PLAN, GENERAL ARRANGEMENT, BASIC DIMENSIONS & DESIGN RATIOS, and COMPARISON DESIGN. The diagram is surrounded by logos for various software solutions: Rhinoceros (design, model, present, analyze, realize...), Auto AEM Software, Orca3D, Simerics (TECHNOLOGY BY DESIGN), EXPRESSMARINE (Structural Modelling plug-in for Rhino3D), AUTODESK, MAXSURF (Integrated Naval Architecture & Ship Construction Software), ShipWeight, SACS, prop elements, NavCad, PropExpert, PropCad, and SHIPCONSTRUCTOR.

PPA'S 46 YEARS OF PROMOTING NATION-BUILDING THROUGH INTEGRITY AND DEDICATED PUBLIC SERVICE IN PORTS FOR EVERY FILIPINO

by PPA News

The year 2020 was supposed to be a prosperous year for the entire world according to fortune-tellers. Everybody was upbeat. The business community, government economic leaders, and GOCCs like the **Philippine Ports Authority (PPA)** were anticipating unprecedented opportunities ushered in by the new year and a new decade.

And then, disaster struck.

In the first quarter of the year alone, the Philippines already faced several challenges like the eruption of Taal Volcano in January displacing thousands of residents from the provinces of Batangas and Cavite as well as nearby cities and municipalities; and the death of notable celebrities and world leaders where countries, the Philippines included, drew inspiration from, and the spread of a new strain of Coronavirus, the Novel Coronavirus 2019, now known as the Coronavirus Disease 2019 or COVID-19.

The magnitude of its spread is so huge, affecting even nations considered as global superpowers, infecting and killing hundreds of thousands of people across the globe.

The Philippines has not been spared from this global health crisis. It caught the entire nation by surprise, paralyzing the flow of people, goods, trade and tourism until this present time.

If not for the proactive approach of the National Government led by President **Rodrigo Duterte** immediately placing the entire country under a State of Public Health Emergency on 16-March-2020, the health condition in the Philippines could have been worse considering the huge number of infections centered not only in the country's capital but also in other densely populated areas in Luzon, Visayas and Mindanao.

Anchored on this declaration, the **PPA**, under the guidance of the Secretary of the **Department of Transportation Arthur P. Tugade**, wasted no time and quickly buckled down to work to make sure that the presence of the agency could be felt most especially by the communities whose livelihood depended

heavily on its ports.

Thus, the Bayanihan sa Pantalan was born.

Waves upon waves of relief operations were conducted in partnership with the private sector and other civic organizations to help those who are in need like porters, dockworkers, as well as the immediate neighboring communities to help them withstand the global pandemic.

PPA employees also continued to help by sharing a portion of their salaries to help our countrymen who are most in need.

PPA General Manager Jay Daniel R Santiago said that,

in the midst of this pandemic, the agency and its people once again showed their unity and resiliency by working together towards finding ways to provide public service beyond the usual day-to-day performance of their duties and responsibilities.

"It is really overwhelming that the PPA, across all its offices, has moved forward as one unit, contributing to the efforts of the Government as it copes with the challenges that the country is facing due to the pandemic, not to mention the other challenges and emergencies that the country has faced since the start of the year," GM Jay Daniel R Santiago emphasized.

"The 'Bayanihan sa Pantalan' initiative of the PPA community with

the help of other government agencies and civic organizations has provided relief goods and cash assistance to a total of 5,762 porters, dockworkers, PPA outsourced personnel and other persons in need, with an overall estimated amount of P2,298,443.83 all over the 25 PPA PMOs," GM Santiago said.

Not only that, **PPA** made a big splash in helping the country ease the effect of the Coronavirus pandemic to the day-to-day lives of Filipinos by paying in advance its 2019 dividend remittance amounting to P5 billion to help the government finance its anti-COVID-19 measures. It is the biggest dividend remitted by PPA in its 46 years of existence that enabled the PPA to land a spot in the Top 20 Philippine Corporations released by the Department of Finance.



Likewise, using the P100-million funding from the **Lopez Group of Companies**, the **PPA**, through the guidance of the **Department of Transportation (DOTR)** headed by Secretary Arthur P. Tugade and in partnership with the **Philippine Coast Guard (PCG)**, the **Maritime Industry Authority (MARINA)** and the **Department of Health (DOH)**, with other government agencies, the **2GO Group** and **Asian Terminals, Inc. (ATI)** retrofitted the Eva Macapagal Super Terminal inside the Manila South Harbor into a state-of-the-art, 211-bed capacity Bayanihan to Heal As One COVID-19 Quarantine Center to help ease the demand for such quarantine facilities due to the increasing number of infections in the NCR and its nearby cities, provinces and municipalities.

The **PPA** also procured a Stage 3 Ambulance to further prop-up the capability of the Quarantine Center using the fund donation from the Lopez Group of Companies.

In partnership also with the management of the **Manila International Container Terminal (MICT)** and the **Manila South Harbor**, the **Department of Trade and Industry (DTI)**, the **Department of Agriculture (DA)**, the **Department of Finance** and the **Bureau of Customs**, a Joint Administrative Order was issued to successfully address the looming congestion at the Ports of Manila brought about by the non-withdrawal of cargoes due to **COVID-19**.

To further assist port stakeholders, the **PPA** extended the payment of concession and rental fees by 30 days for all payments falling under the period of community quarantine and likewise extended the Holdover Authority and permits issued by the agency during the quarantine period up to 31-July-2020.

Taking the lead from the **Inter-Agency Task Force on the Management of Emerging Infectious Diseases (IATF-EID)** and the **Joint Task Force COVID Shield**, **PPA** issued a memo easing up the movement of cargoes to and from the ports to address the demands of the international and local supply chains particularly essential supplies amid the pandemic.

The **PPA** also continues to help and support other government programs specifically the Balik-Probinsya Program of the Office of the President, the repatriation of locally stranded individuals, returning overseas Filipinos, seafarers and students. To date, more than 20,000 repatriates were handled and processed in different ports nationwide and the number continues to grow.

While still in the middle of the pandemic, **PPA** has also successfully completed 14 port projects to boost the connectivity and efficiency of the ports system to address the future demands of local and foreign shipping.

These projects include the ports in Coron, Palawan; Boac, Marinduque; Estancia, Iloilo; Iligan, Lanao del Norte; Jagna, Bohol; Mansalay, Oriental Mindoro; Ozamiz, Misamis Occidental; El Nido, Palawan; Tagbilaran, Bohol; Malalag, Davao del Sur; Currimaos, Ilocos Sur; and Masao, Agusan del Norte. There are also two separate projects for the Iloilo Commercial Port Complex. The **PPA** was able to complete these projects without registering any COVID-19 infection.

MOVING FORWARD

Considering the high risk of possible COVID-19 infection, the **PPA** is implementing measures to guarantee that ports remain COVID-free in preparation for the 'new normal'. The measures include misting of luggage and cargoes of incoming passengers, mandatory wearing of face masks, mandatory washing of hands before entering any port premises, accomplishment of the **PPA** entry protocol form for contact tracing, markings relative to physical distancing and the establishment of **COVID-19** Testing Facilities in select ports.

PPA is also partnering with other government agencies like the **Department of Health** in its anti-**COVID-19** advocacies by utilizing all available port platforms to help bring the information to the public.

PPA is also eliminating face-to-face transactions by introducing several online platforms like the unified passenger ticketing system, automated payment scheme and automated cargo payment regime to comply with the 'new normal' procedures.

The agency is also set to complete 22 more port projects this year to further improve operational efficiency of **PPA** ports. The projects include the Pier 18 rehabilitation and upgrade in Vitas, Tondo, Manila; the construction of a port operations building in Abra de Ilog, Occidental Mindoro; the Balanacan Port expansion project in Marinduque; the construction of the RC Pier and Ro-Ro ramp at the Port of Bansud, Oriental Mindoro; the construction of a back-up area at the Port of Bulalacao also in Oriental Mindoro; the construction of a Ro-Ro ramp and expansion project at the Port of Bulan, Sorsogon; and the construction of the Coastal Access Road project at the Port of Calapan, Oriental Mindoro.

Also expected to be finished by the end of the year are the expansion of the Port of Capinpin, Bataan; the reconstruction of the Carmen Port in San Agustin, Romblon; the Cobo Port construction project in Cobo, Catanduanes; and the construction of port operations buildings at the ports of Coron, Currimaos, Masbate, Mauban, Quezon, and Talaga in Mabini, Batangas.

The port rehabilitation and upgrading of RC wharf at the Port of Legazpi; the port expansion projects in Matnog, Puerto Princesa, Salomague, Ilocos Sur, Tablas, Romblon, and **TMO Pasig**; and the rehabilitation of the Port of Tabaco, Albay are also targeted for completion by the end of 2020.

More importantly, **PPA** is taking care of its major asset – Its people. Round-the-clock supply of COVID-19 protective equipment and other essentials are being provided to all its ports in order to protect its employees, particularly its frontline personnel against possible infection. Alternative work platforms are likewise adopted to further reduce the risk. Campaign materials are posted in strategic places to remind its employees on the 'new normal' procedures.

"We cannot do all of these if we do not take care of our people. The employees are the foundation of the success of our agency most especially during this pandemic. PPA is blessed with having a hard-working workforce giving unparalleled public service during this pandemic. They show what 'Bayanihan sa Pantalan' is all about.



As their General Manager, I salute each and every one of them. As we continue to march on forward in this fight during our 46th Founding Anniversary, we will show what PPA is all about: Kabalikatan ng Bayan sa Pagbangon," GM Jay Daniel Santiago said.

"The PPA remains committed to provide the best service we can as we consider ourselves as soldiers in this battle," GM Santiago added. 🚢



PALAWAN - THE PHILIPPINES' LAST FRONTIER

by Commodore Armando S Rodriguez AFP (Ret)

Brief History

Palawan's textured history can be traced back over millions of years. Bone fragments, the skull cap remains and tools of the Tabon Man – one of the oldest remnants of human inhabitants found in the Philippines at 22,000 years old – were discovered in 1962 in the Tabon Caves in Quezon, Palawan. It is believed that these cave dwellers came from Borneo. Further exploration of the caves revealed burial jars, jade ornaments, animal bones and human fossils indicating habitation as far back as 47,000 years ago. Geological studies have also revealed limestone formations on the islands date back 25 million years.

But what's in a name? The origin of the name 'Palawan' too has a contested genealogy. Some argue it arises from the Chinese "pa lao yu" meaning Land of the Beautiful Harbours. Others maintain that it was derived from a plant locally known as palwa. But the popular belief – with perhaps the greatest credence – is that Palawan owes a debt to the Spanish word "paragua" as the central island's shape resembles that of a closed umbrella.

Long before it became "*The Best Island in the World*" and a major tourist destination, Palawan had a significant role over the years especially during those dark days of colonization from one colonizer to another. The early history of this province was determined by a team of researchers led by Dr. Robert Fox who has found the evidence of life from the remains they unearthed in the Tabon Cave – proving that man has continuously lived in Palawan for more than 50,000 years ago. The remains of the "*Tabon Man*" was found in the municipality of Quezon.



Although the origin of the cave dwellers was not yet established, anthropologists believe that they came from Borneo. Until now, excavations and explorations are still done in the Tabon Cave which was dubbed as "The Cradle of Philippine Civilization" to search for other yet undiscovered items and remains that could be useful for further studies.

Spanish Era

After the death of Magellan, the remaining members of his fleet sailed to Palawan where the bounty of the land saved them from

starvation, thus, named it *“Land of the Promise”* by Magellan’s chronicler, **Antonio Pigafetta**. The northern Calamian Islands were first to come under Spanish authority and were later declared a separate province from mainland Palawan. In the early 17th Century, Spanish friars sent out missionaries in Cuyo, Agutaya, Taytay, and Cagayancillo but they ended up meeting resistance from the Moro community who were occupying the place. Later, before the 18th century, Spain began building churches that are enclosed by garri-sons for protection against Moro raids in the towns of Cuyo, Taytay, Linapacan, and Balabac. In 1749, the Sultanate of Brunei surren-dered southern Palawan to Spain.

In 1818, the entire island of Palawan which was then called Paragua was organized as a single province and named it **Calamianes** with Taytay being its capital. However, in 1858, the province was divided into two provinces namely **Castilla**, covering all the municipalities in the northern part with Taytay as its capital, and Asturias in the southern mainland with Puerto Princesa as its capital. Later on during the Spanish colonization in the Philippines, Cuyo became the second capital of Palawan from 1873 to 1903.

American Regime

After the Philippine-American war in 1902, the Americans established a civil rule on the northern part of Palawan, calling it the province of **Paragua**. In 1903, pursuant to the Philippine Commission Act No. 1363, the province was reorganized to include its southern portions and renamed it into Palawan, and Puerto Princesa was declared its capital. During this era, bringing the people closer to the government was among the priority plans of the Americans along with the building of schools, and the promotion of agriculture.

Geography

The geography of Palawan is composed of the long and narrow Palawan Island, plus a number of other smaller islands surrounding the main island. The Calamianes Group of Islands to the Northeast consists of Busuanga Island, Coron Island and Culion Island. Durangan Island almost touches the westernmost part of Palawan Island, while Balabac Island is located off the southern tip, separated from Borneo by the Balabac Strait. In addition, Palawan covers the Cuyo Islands in the Sulu Sea. The disputed Spratly Islands, located a few hundred kilometers to the west, are considered part of Palawan by the Philippines, and is locally called the Kalayaan Group of Islands.

Palawan’s almost 2,000 kilometers (1,200 mi) of irregular coastline are dotted with roughly 1,780 islands and islets, rocky coves, and sugar-white sandy beaches. It also harbors a vast stretch of virgin forests that carpet its chain of mountain ranges. The mountain heights average 3,500 feet (1,100 m) in altitude, with the highest peak rising to 6,843 feet (2,086 meters) at Mount Mantalingahan. The vast mountain areas are the source of valuable timber. The terrain is a mix of coastal plain, craggy foot-hills, valley deltas, and heavy forest interspersed with riverine arteries that serve as irrigation.

The province is the largest of all the provinces in the Philippines in terms of total area of jurisdiction straddling the western region of the country. It is located in the **MIMAROPA** Region or Region IV-B of Southern Tagalog provinces. It lies between the West Philippine Sea and the Sulu Sea stretching from Mindoro in the northeast to southwest direction towards Borneo covering almost the length of Sulu Sea and occupying the rich vastness of the West Philippine Sea south of Manila. The province is named after its largest island,

Palawan Island (09° 30’N 118° 30’E) measuring 450 kilometers (280 miles long) and 50 kilometers (31 miles) wide. It is rich in marine resources both for food and tourism purposes that it aptly comprises the largest eco-tourism industry of the Philippines. Its terrestrial resources also boast of virgin forests with the finest and hardest wood in the country complemented by rich mineral resources. The province is also known as the last frontier of the country with known oil reserves in its seabed. The Malampaya Natural Gas Power Project, which lies just 50 kilometers offshore from El Nido in northwest Palawan, provides 2,700 megawatts of electricity for the island of Luzon, which is the center of industries and population of the Philippines. The Galoc Oil Field just northeast of Malampaya produces “sweet oil” which only tells that the seabed of Palawan is indeed rich in fossilized fuel since it is part of the conti-nental shelf running from the oil rich Borneo.

Other oil explorations conducted find that Palawan contains large deposits of oil in its continental shelf from north to south which when fully developed will provide the country with much needed energy to boost the country’s programs of development to truly become a tiger economy in Asia. Its deep harbors in Buliluyan in the southern part of the province is being developed by the provincial government in connection with the **BIMP-EAGA (Brunei-Indonesia-Malaysia-Philippines East ASEAN Growth Area)** as an open port to cater to the envisioned economic activities in this part of the region. The pier and the wharves would also serve as fish ports with the rich fishing ground in the West Philippine Sea. As a natural maritime area of the country, the island could become a major source of maritime industries like shipbuilding, given the right direction and infrastruc-ture necessary for such heavy industries since Palawan is also one of the largest sources of nickel in the world, being mined and produced by Rio Tuba Nickel Mining Corporation and Coral Bay Nickel in the southern part of the province.

Excerpted from the author’s dissertation on dividing the big province into smaller provinces in 2014 and made into law in 2019, to be ratified by the people in an incoming plebiscite.



About the author:

COMMODORE ARMANDO S RODRIGUEZ AFP (RET), PH.D MNSA is a native of Sta. Cruz, Laguna, a member of PMA Class ‘76 and presently residing in Puerto Princesa City, Palawan. He is currently teaching at Palawan State University in the undergraduate school; and at Holy Trinity University in both the undergraduate and graduate school. He authored the division of Palawan in his dissertation in 2014 and was favorably endorsed by the province to Congress and made into law by President Rodrigo Duterte, which paved the way for the possibility of realizing his dream of seeing a more progressive and dynamic Palawan Island Region.

He authored also in the past the “Joint Fishing Venture” between Indonesia and the Philippines while assigned in Marore Island as Border Crossing Officer, the “Task Force Sagip-Buhay Dagat” in Davao City in 1994 with 12 government agencies signing the MOA with the support of then Mayor Rodrigo Duterte to protect and conserve Davao Gulf initially but which was made into law by President Fidel Ramos in 1996 which became a model for inter-agency concept in coordinative efforts of government agencies.

He was awarded the Outstanding Achievement Medal by President Fidel Ramos during the AFP Day in 1996 at Camp Aguinaldo. COMMODORE RODRIGUEZ has mentored thousands of young and ambitious students of PSU and HTU with some of them having already graduated from PMA and the PNP Academy, not to mention faculty and members of the civil government who have likewise earned their graduate degrees.

He is a holder of a Doctor of Philosophy in Public Administration, a Master in National Security Administration, and Law at PSU. He is married to Maria Theresa Vicente Rodriguez of Puerto Princesa City where she is currently the Chief of Business Permit and Licensing Office of the City government.



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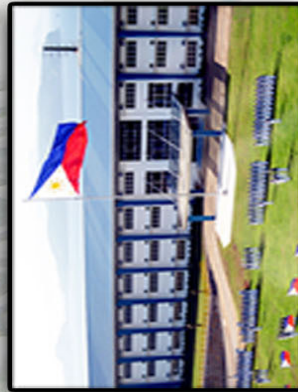
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MAAP Profile

Geographic destiny has given the Filipino the innate talent to be an excellent seafarer. To enhance this natural skill, the Maritime Academy of Asia and the Pacific (MAAP) was established on January 14, 1998. The Academy stands on a 103-hectare property in Kamaya Point, Mariveles, Bataan.

The Associated Marine Officers' and Seamen's Union of the Philippines (AMOSUP) founded by the late Capt. Gregorio S Oca, capitalized and developed the Academy. The new AMOSUP President, Dr. Conrado F. Oca, heads the Academy's board of governors. The board is comprised of representatives from the private sector, the International Transport Workers Federation, the Filipino Association of Maritime Employers, the International Transport Workers Federation, the All Japan Seamen's Union, the International Mariners Management Association of Japan, the Norwegian Seafarers' Union, the International Maritime Employers' Committee, the Danish Shipowners' Association, the Norwegian Shipowners' Association, and the Japanese Shipowners' Association.

MAAP conducts shipboard training aboard T/S Kapitán Felix Oca, a 5020 DWT dedicated training ship capable of accommodating 180 midshipmen and 9 instructors in 30 air-conditioned cabins and six berths.

MAAP students are all scholars who are entitled to free tuition, board and lodging. They receive a comprehensive, up-to-date and well-rounded education that fully complies with the requirements of STCW 95 and the Commission on Higher Education (CHED). To ensure the highest standards of quality, MAAP adheres to a Quality Standards System that has been certified to comply with ISO 9001 version 2008, the Det Norske Veritas (DNV) Rules for Maritime Academies, and the Productivity and Standard Board (PSB) of Singapore.

The Academy offers three main programs: the Bachelor of Science in Marine Transportation (BSMT), Bachelor of Science in Marine Engineering (BSMarE) and the Bachelor of Science in Marine Transportation and Engineering (BSMTE). The curricula for the three courses were designed with the help of the United States Merchant Marine Academy at Kings Point, New York. Courses are four-year courses with sea phases scheduled in the third year. The BSMT curriculum requires a total of 192 units: 152 at MAAP, 40 practicum/shipboard units on board T/S Kapitán Felix Oca and/or a shipping company sponsorship. The BSMarE curriculum requires a total of 193 units: 153 at MAAP, 40 practicum/shipboard units on board T/S Kapitán Felix Oca and/or a shipping company sponsorship.

Our Curricula

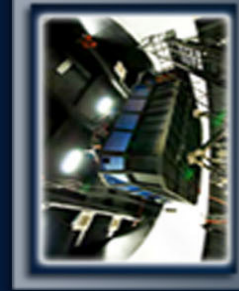
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