



MARITIME REVIEW

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PHILIPPINE INTERNATIONAL MARITIME CONFERENCE AND EXPOSITION

THE MARITIME LEAGUE EXPO BEACON 2023

BLUE ECONOMY ANNUAL TRADE AND CONFERENCE

THEME: PHILIPPINE BLUE ECONOMY INSIGHTS & FORESIGHTS

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Also Inside:

- » Rightsizing and Retooling Defense Forces
- » A Whole-of-Nation Approach To The Blue Economy
- » Our Amphibious Warfare Vessels
- » IN MEMORIAM - CAPTAIN TOMAS D BAINO PN (RET)



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ABOUT THE COVER

BEACON is the acronym for Blue Economy Annual trade and Conference to highlight the event theme: "PHILIPPINE BLUE ECONOMY: INSIGHTS AND FORESIGHTS." The photo features the Sabtang Lighthouse (Sabtang Island, Batanes). A lighthouse is a fixed marker to guide the various maritime stakeholders from seafarers and maritime to marine and seabed resources in their quest to explore, exploit, or preserve our nation's resources. On September 6-8, BEACON EXPO 2023 will be held at the SMX Bldg, Mall of Asia, Pasay City, Metro-Manila. BEACON EXPO 2023 is the first trade conference of the Maritime League.



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RIGHTSIZING AND RETOOLING DEFENSE FORCES

by VAdm Emilio C Marayag Jr AFP(Ret)

In April this year, the President ordered a review of numerous government positions for rightsizing to “upgrade and reskill the workforce in order to improve state services and programs.” The call emanated from the President’s 2022 State of the Nation Address. Consequently several legislators proposed a National Rightsizing Act that is well-aligned with the Revised Administrative Code. The review and the legislative proposal do not include the armed forces, teaching-related positions in public schools, medical and allied professional positions in government hospitals, and those under government-owned or -controlled corporations.

The latest government rightsizing directive offers an opportunity for non-affected agencies to institute parallel efforts to better improve their systems, processes and procedures to make their organizations more cost effective. With the rising cost of maintaining personnel and increasing pension liabilities, the initiative is well-timed and reflective of enhanced awareness of the resource limitations of the government.

While the President exempts the military from his rightsizing order, he mentioned two of its components – retooling and retraining during the graduation rites of the Philippine Army’s Officer Candidate Course in July. He said, “*We continue to prioritize retooling and retraining to arm you with intellectual fortitude, with tactical prowess, and strategic acumen to thrive in the modern battlefield.*”

The “rightsizing and retooling” of the defense forces are guided by the AFP modernization law. This law is the centerpiece of military capability upgrade in five major areas:

- (1) Human Resources;
- (2) Doctrines;
- (3) Materiel;
- (4) Bases and bases support; and
- (5) Force streamlining and restructuring.

The biggest slice of modernization funding is given to materiel because of many decrepit equipment, tools, and platforms in the AFP inventory, many of which come from foreign sources. This skewed allocation for materiel upgrade may necessitate calibration, as inferred by the President, to develop a defense force that is lethal, sustainable, resilient, survivable, agile, and responsive.

Rightsizing is “*optimizing the allocation of resources like manpower, finances, and equipment to ensure effectiveness and efficiency.*” The philosophy behind it is to have small, agile, mobile forces capable of waging military operations in the current and future defense environments. This would then allow resources for modernization, technological upgrades and reserve force, or additional human resource, development.

One popular guide worth citing to right-size the defense forces is one espoused by P.H Loitta and Richmond M. Lloyd –*Strategy and Force Planning Framework*. It is a top-down approach. It starts with assessments of current and future security landscapes and the clear statements of the country’s national interests

and national objectives. One of the national objectives is the national security objective that is then translated to a national security strategy with due regard to the politico-economic-military and information culture. The national security strategy considers resource constraints, technology, threats, challenges, opportunities, vulnerabilities, allies, friendly nations, non-state actors and international institutions.

The national security strategy leads to the formulation of the defense strategy and subsequently the national military strategy. The national military strategy (NMS) takes into account the government’s Fiscal and Program Guidance and lists down current and desired capabilities. The NMS includes the operational challenges and operational concepts. It is then subjected to further assessment and identifies the deficiencies and risks that are inputted into the national security strategy.

The military deficiencies and risks generate alternatives on how best to structure the Force. Based on the selected option, programmed forces are listed. These program forces are designed to minimize the risks posed by the competitors but will not be available at once. The available forces are those currently funded and will be the ones that will confront the competitors with associated risks. The Lloyd-Loitta framework provides the various variables that affect strategy and force planning to optimize resource allocation, minimize or reduce security risks and right-size and retool the Force.

Many nations have started to right-size and retool their forces. F. Wang-Diaz’ *Retooling for the Future* reveals how China has embarked to challenge the supremacy of the United States as world power. China and North Korea have started to enhance their special forces capabilities because they believe that the new concept of war necessitates new strategies, organizational restructuring, special skills, and creative use of current and emerging technologies.

China has increased the number of its marines, or expeditionary forces, while reducing its land forces by 300,000 men. On the other hand, North Korea has added the strength of its special operations forces to 17% of its entire armed forces for a variety of missions including becoming proxy forces of some countries. India is also rightsizing its border forces; while the U.S. has been continuously testing its air-sea battle concept. The U.S. Navy terms this new concept as fleet-in-dispersal.

This trend of force restructuring for maritime domain operations is triggered by a derivative concept of war (war being the continuation of politics with other means according to Carl von Clausewitz) advanced by Chinese PLA senior officers Quiao Liang and Wang Xiangsui in 2001 - *Unrestricted Warfare (URW)*. This duo defines URW as “*using all means, including armed force or non-armed force, military or non-military, and lethal and non-lethal means, to compel the enemy to accept one’s interest.*” They believed that in this kind of warfare there are “no rules with nothing forbidden.” URW is similar to centuries-old Chinese game of encirclement called “Weiqli” that Quiao Liang and Wang



BRP Sierra Madre on Ayungin Shoal which is within the EEZ of the Philippines. Photo credit: AFP | Jay Directo, 2014.

Xiangsui now define as “the art of strategic encirclement.”

URW supports China’s security objective of displacing the U.S. as the dominant power in East Asia and at the same time avoid direct confrontation. Its strategies comprise of:

- (1) cultivating appearance of good relations;
- (2) building alternative regional institutions like Shanghai Cooperation Organization and ASEAN +3;
- (3) stabilizing continental ‘rear areas’ in Central Asia and Russia’s Far East; and
- (4) focusing on threats and opportunities in the maritime domain.

Unrestricted Warfare, according to F. Wang-Diaz, consists of numerous “types of warfare” collectively termed as “Beijing’s Cocktail.” These are:

- (1) *Trade warfare* - embargoes, tariff barriers, most favored nation;
- (2) *Financial warfare* - currency, banking, stock market manipulation, use of foundations;
- (3) *New Terror warfare* - use of high technology equipment and platforms, weapons of mass destruction;
- (4) *Ecological warfare* - influences natural state of rivers, oceans, crust of the earth, polar ice sheets, air circulation;
- (5) *Psychological warfare* - perception management of strength and capabilities, intimidation, breaking the will of the enemy;
- (6) *Smuggling warfare* - throwing markets into confusion with illegal goods and counterfeit products;
- (7) *Media warfare* - media manipulation to influence opinions, attitudes and images and intimidation of journalists and media outlets;
- (8) *Drug warfare* - profiteering for illegal drugs sales used to destabilize and weaken other nations;
- (9) *Network warfare* - conducting non-attributable cyber-attacks;
- (10) *Technological warfare* - manipulating critical nodes;
- (11) *Fabrication warfare* - deception, lying, perception and narrative management to conceal one’s weakness and project false strength;
- (12) *Resources warfare* - plundering the stores of natural resources by controlling access to them by other countries;
- (13) *Economic Aid warfare* - providing aid to control and create dependency;

(14) *Cultural warfare* - influencing and shaping foreign culture, values and practices into accepting, absorbing and integrating as your own, leading cultural trend so yours will be adopted; and

(15) *International Law warfare* - controlling the legal and regulatory environment, using judicial system to advance your own agenda and defeat your adversary. U.S. Air Force Major General Charles Dunlop Jr is credited to have coined the term Lawfare, defined as “a strategy of using, or not using, law as a substitute for traditional military means to achieve operational objective.”

Nearly all types of warfare cited above have been exploited by China in pursuit of its objectives in South China Sea. China has succeeded in influencing many Filipino government officials, past and present, some academics, and the local media. These Filipinos parrot, and continue to parrot, the Chinese line of deception, lies, intimidation, illegal presence and manipulation, particularly in the resupply of a naval ship in Ayungin Shoal, the 2016 Arbitral Ruling, and the exploitation of seabed resources in the Reed Bank. They justify their actions to suit the Chinese propaganda fully confident that they will be protected by the democratic ideals they aim to subvert.

China’s unrestricted warfare will continue. The best defense is public awareness and timely disclosure of China’s URW actions to generate local and international support. At the same time our defense forces must think along the lines of asymmetric warfare to counter URW actions.

But it is also necessary to right-size and retool our defense forces to address the challenges of unrestricted warfare by enhancing our operational readiness, providing a networked and integrated command and control system, acquiring lethal, precise, and highly mobile weapons, robust delivery platforms, and ensuring long term sustainability with the active participation of the local defense industries and our allies. In addition, the nation should also organize, train, equip, and retool our reserve forces for territorial defense and their readiness status assessed after scheduled mobilization exercises. 🚩

ABOUT BEACON 2023

The Maritime League, a Filipino maritime foundation, in partnership with the Department of Transportation, will host a 3-day Philippine International Maritime Conference and Exhibition entitled Blue Economy Annual Trade and Conference (BEACON 2023), on September 6-8, 2023 at the SMX Convention Center, Mall of Asia Complex, Pasay City, Philippines. The Theme of this event is "Philippine Blue Economy: Insights & Foresights".

The activity aims to advance the interests of the Philippine Maritime sector through information sharing, marine technology exhibits, and participation of maritime industry leaders and government managers. It envisions to jumpstart the celebration of the country's Maritime Archipelagic Nation Awareness Month (MANAMO 2023)

EVENT HIGHLIGHTS

A 3-day conference on IMO Policies and compliances, Philippine Maritime administration, and Maritime Security and Defense;

Static display of the state of the art products and services from domestic and international maritime industries and institutions;

C-Level speakers and participants from the maritime and oil & gas industries, the line departments (defense, transportation, energy, agriculture, and tourism), defense colleges, naval reservists, coast guard auxiliaries and maritime associations.

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CONFERENCE SCHEDULE

SEPTEMBER 6, 2023 PART 1

OPENING CEREMONY & LAUNCHING OF MANAMO ACTIVITIES



GUEST OF HONOR
HON. JAIME J. BAUTISTA
SECRETARY, DEPARTMENT OF TRANSPORTATION



WELCOME REMARKS
VADM EDUARDO MA R. SANTOS AFP (RET)
CHAIRMAN & PRESIDENT, THE MARITIME LEAGUE INC.



OPENING REMARKS
ATTY. HERNANI N. FABIA
ADMINISTRATOR, MARITIME INDUSTRY AUTHORITY



INTRODUCTION OF GUEST OF HONOR
ADMIRAL ARTEMIO M. ABU PCG
COMMANDANT PHILIPPINE COAST GUARD



REMARKS AND LAUNCHING OF MANAMO 2023
EXEC. SECRETARY LUCAS P. BERSAMIN
CHAIRMAN, NATIONAL COAST WATCH COUNCIL

SEPTEMBER 6, 2023 PART 2

3RD MARINE ENVIRONMENTAL PROTECTION FORUM HOSTED BY: MARINA



OPENING REMARKS
ENGR. NANNETTE Z. VILLAMOR-DINOPOL
MARINA DEPUTY ADMINISTRATOR FOR OPERATIONS



* UPDATE ON MIDP, OVERRIDING PROGRAM ON PROMOTION OF ENVIRONMENTALLY SUSTAINABLE MARITIME INDUSTRY *
ENGR. RAMON C. HERNANDEZ
DIRECTOR II, SHIPYARDS REGULATION SERVICE AND MARINE ENVIRONMENT PROTECTION DEV'T SERVICE, MARINA



CLOSING REMARKS
MS. SONIA B. MALALUAN
ADMINISTRATOR, MARITIME INDUSTRY AUTHORITY

SEPTEMBER 7, 2023 PART 1

BLUE ECONOMY: CHALLENGES & OPPORTUNITIES



GUEST OF HONOR & KEYNOTE SPEAKER
HON. RENATO U. SOLIDUM JR
SECRETARY, DEPARTMENT OF SCIENCE & TECHNOLOGY
PAGTANAW 2050:
"Towards a Prosperous Archipelagic Maritime Nation"



RHEA MOSS-CHRISTIAN
DIRECTOR, WCPFC
WESTERN CENTRAL PACIFIC FISHERIES COMMISSION
* THE ROLE OF THE WCPFC in the Sustainable Blue Economy in the Western and Central Pacific Region



HON. MARIA ESPERANZA CHRISTINA G. FRASCO
SECRETARY OF DEPARTMENT OF TOURISM
" Sustainable Coastal & Maritime Tourism:
A Potential Blue Economy Avenue"



HIS EXCELLENCY FRANZ-MICHAEL SKJOLD MELLBIND
AMBASSADOR OF DENMARK TO THE PHILIPPINES
" Net Zero Emissions by 2050 Scenario"



DR. JAE JUNG JANG
CHAIRMAN, UNI GROUP OF COMPANIES
" Digitization and Decarbonization"

SEPTEMBER 7, 2023 PART 2

NETWORKING & AWARDING NIGHT



VADM EDUARDO MA R. SANTOS AFP (RET)
CHAIRMAN & PRESIDENT, THE MARITIME LEAGUE INC.

SEPTEMBER 8, 2023

MARITIME DEFENSE & SECURITY



GUEST OF HONOR & KEYNOTE SPEAKER
HON. GILBERTO C. TEODORO JR
SECRETARY, DEPARTMENT OF NATIONAL DEFENSE



INTRODUCTION OF GUEST OF HONOR
VADM TORIBIO D. ADACI JR PN
FLAG OFFICER IN-COMMAND PHILIPPINE NAVY



HER EXCELLENCY MARYKAY L. CARLSON
USA AMBASSADOR EXTRAORDINARY TO THE REPUBLIC OF THE PHILIPPINES
"Strengthening Philippines - US Alliance"



HIS EXCELLENCY AMBASSADOR AGUS WIDJOJO
AMBASSADOR OF INDONESIA TO THE PHILIPPINES
"EEZ Protection: Indonesian Experience"



DR. MAXIMO Q. MEJIA JR
PRESIDENT, WORLD MARITIME UNIVERSITY
BLUE ECONOMY PROGRAMS:
"Best Practices and Challenging Pitfalls from around the world"



HON JUSTICE ANTONIO T. CARPIO
FORMER ASSOCIATE JUSTICE OF THE SUPREME COURT OF THE PHILIPPINES
"Updates on West Philippines Sea"

SEPTEMBER 6, 2023
OPENING CEREMONY



ARRIVAL OF GUESTS OF HONOR AND SPEAKERS

BLANCA JOY BUSTAMANTE
PRESIDENT & CEO
INTELLEVISION EVENTS PHILIPPINES



ENTRY OF COLORS

PHILIPPINE COAST GUARD

RIBBON CUTTING CEREMONY

VIEWING OF EXHIBITS



OPENING PRAYER

COL CARLITO T BUSLON
CHS (MNSA) SPIRITUAL ADVISER, THE MARITIME LEAGUE

NATIONAL ANTHEM



WELCOME REMARKS

VADM EDUARDO MA R. SANTOS AFP (RET)
PRESIDENT, THE MARITIME LEAGUE INC.



OPENING REMARKS

ATTY. HERNANI N. FABIA
ADMINISTRATOR, MARITIME INDUSTRY AUTHORITY



REMARKS AND LAUNCHING OF MANAMO 2023

USEC. EDMUND S. TAYAO
EXECUTIVE DIRECTOR,
NATIONAL COAST WATCH COUNCIL SECRETARIAT



INTRODUCTION OF GUEST OF HONOR & SPEAKER

ADMIRAL ARTEMIO M. ABU PCG
COMMANDANT PHILIPPINE COAST GUARD



INSPIRATIONAL MESSAGE

HON. JAIME J. BAUTISTA
SECRETARY, DEPARTMENT OF TRANSPORTATION

PHILIPPINE EFFORTS IN MARINE PLASTIC LITTER REDUCTION

11:40 - 11:45 AM



OPENING REMARKS

ENGR. NANNETTE Z. VILLAMOR-DINOPOL
 MARINA DEPUTY ADMINISTRATOR FOR OPERATIONS

11:45 - 12:10 PM



* UPDATE ON MIDP: OVERRIDING PROGRAM ON PROMOTION OF ENVIRONMENTALLY SUSTAINABLE MARITIME INDUSTRY *

ENGR. RAMON C. HERNANDEZ
 DIRECTOR II, SHIPYARDS REGULATION SERVICE AND MARINE ENVIRONMENT PROTECTION DEV'T SERVICE, MARINA

LUNCH BREAK

1:00 - 2:00 PM



SPONSOR PRESENTATION

NORTHTREND MARKETING CORPORATION
 PRESENTATION BY CASTROL.

2:00 - 2:15 PM



WORKING WITH MARITIME AUTHORITIES TOWARDS ADDRESSING PLASTIC POLLUTION

MS. CZARINA CONSTANTINO-PANOPIO
 WORLDWIDE FUND FOR NATURE (WWF) PHILIPPINES

2:15 - 2:30 PM



UPDATE ON THE IMPLEMENTATION OF NATIONAL PLAN OF ACTION ON MARINE LITTER (NPOA-ML)

DEPARTMENT OF NATIONAL RESOURCES (DENR)

2:30 - 2:45 PM



BEST PRACTICE ON THE BAN ON SINGLE USED PLASTIC COMPLIANCE

PHILIPPINE PORTS AUTHORITY (PPA)

2:45 - 3:00 PM



INITIATIVES ON MARINE PLASTIC LITTER (MPL) MONITORING AND ENFORCEMENT

PHILIPPINE COAST GUARD (PCG)

FUTURE OF GREENER SHIPPING - MARITIME DECARBONIZATION

3:00 - 3:15 PM



MARITIME PHILIPPINE: PATHWAYS FOR DECARBONIZATION OF THE MARITIME TRANSPORT SECTOR

ENGR. JEREMIAH M. PEREZ
 SENIOR SHIPPING OPERATIONS SPECIALIST, MARINA-SRS

3:15 - 3:30 PM



ENERGY EFFICIENCY PROGRAM UPDATES RELATED TO MARITIME SECTOR

DEPARTMENT OF ENERGY (DOE)

3:30 - 3:45 PM



CLIMATE-SMART INDUSTRIES AND SERVICES: NATIONAL CLIMATE CHANGE ACTION PLAN 2028

CLIMATE CHANGE COMMISSION (CCC)

COFFEE BREAK AND VIEWING OF EXHIBITS

4:00 - 4:15 PM



ONGOING RESEARCH AND DEVELOPMENT PROJECTS RELATING TO ENERGY EFFICIENCY OF SHIPS

PCIEERD-DOST

4:30 - 4:45 PM



HULL MAINTENANCE MEASURES TO IMPROVE ENERGY EFFICIENCY

MR. ROHAN SHETTY GENERAL MANAGER
 JOTUN PAINTS

4:45 - 5:00 PM



CLOSING REMARKS

MS. SONIA B. MALALUAN
 MARINA DEPUTY ADMINISTRATOR FOR PLANNING

BLUE ECONOMY: CHALLENGES & OPPORTUNITIES



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VADM EDMUND C TAN PCG (RET)

MASTER OF CEREMONY, CORPORATE SECRETARY, THE MARITIME LEAGUE, INC.

RIBBON CUTTING CEREMONY

VIEWING OF EXHIBITS



ENTRY OF COLORS



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COL CARLITO BUSLON, CHS (MNSA) SPIRITUAL ADVISER, THE MARITIME LEAGUE

NATIONAL ANTHEM



WELCOME REMARKS

VADM EDUARDO MA R SANTOS AFP (RET), PRESIDENT, MARIITME LEAGUE



INTRODUCTION OF THE SPEAKER

MS. MARY ANN PASTRANA, CHAIRPERSON, ARCHIPELAGO PHILIPPINE FERRIES CORPORATION



"SUSTAINABLE COASTAL AND MARITIME TOURISM: A POTENTIAL BLUE ECONOMY AVENUE"
HON. MARIA ESPERANZA CHRISTINA G. FRASCO, SECRETARY OF TOURISM

COFFEE BREAK



INTRODUCTION OF SPEAKER

ATTY. DEMOSTHENES R. ESCOTO, NATIONAL DIRECTOR,
NATIONAL DIRECTOR BUREAU OF FISHERIES AND AQUATIC RESOURCES



**"THE ROLE OF THE WCPFC IN SUSTAINABLE BLUE ECONOMY
IN THE WESTERN AND CENTRAL PACIFIC REGION"**

MS. RHEA MOSS-CHRISTIAN, DIRECTOR WESTERN AND CENTRAL PACIFIC FISHERIES
COMMISSION (CPCP)



"CARBON NEUTRAL MARINE ELECTRIC PROPULSION SYSTEMS BY TORQEEDO"
MR. TAMAS BRUNECKER, SALES MANAGER, TORQEEDO ASIA-PACIFIC

LUNCH BREAK



INTRODUCTION OF THE GUEST OF HONOR AND KEYNOTE SPEAKER

AMBER V HAGADA, ENVIRONMENTAL MANAGEMENT SPECIALIST EMB, DENR



"PAGTANAW 2050: TOWARDS PROSPEROUS ARCHIPELAGIC MARITIME NATION"
HON. RENATO U. SOLIDUM JR, SECRETARY OF SCIENCE AND TECHNOLOGY



INTRODUCTION OF THE RESOURCE SPEAKER

ASEC. MARIA ANGELA A. PONCE, ASSISTANT SECRETARY, MARITIME AND OCEAN AFFAIRS, DAFA

COFFEE BREAK AND VIEWING OF EXHIBITS



"NET ZERO EMISSION BY 2050 SCENARIO"

HIS EXCELLENCY FRANZ-MICHAEL SKJOLD MELLBIN, AMBASSADOR OF DENMARK TO THE
PHILIPPINES



INTRODUCTION OF THE RESOURCE SPEAKER

ENGR. SERGIO O. RAMOS, PRESIDENT, PCI TECH CENTER



"DIGITALIZATION AND DECARBONIZATION"

DR. JAE JUNG JANG, CHAIRMAN, UNI GROUP OF COMPANIES



SYNTHESIS

MS. VICKY VIRAY-MENDOZA, TRUSTEE, THE MARITIME LEAGUE



MARITIME DEFENSE & SECURITY



ARRIVAL OF GUESTS OF HONOR AND SPEAKERS
VADM EDMUND C TAN PCG (RET)
MASTER OF CEREMONY, CORPORATE SECRETARY, THE MARITIME LEAGUE, INC.

RIBBON CUTTING CEREMONY

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COL CARLITO BUSLON, CHS (MNSA) SPIRITUAL ADVISER, THE MARITIME LEAGUE

NATIONAL ANTHEM



WELCOME REMARKS
VADM EDUARDO MA R SANTOS AFP (RET), PRESIDENT, MARITIME LEAGUE



INTRODUCTION OF THE GUEST OF HONOR AND KEYNOTE SPEAKER
VADM TORIBIO D ADACI JR PN
FLAG OFFICER IN COMMAND, PN



SPEECH OF THE GUEST OF HONOR
HON. GILBERTO C. TEODORO JR
SECRETARY OF NATIONAL DEFENSE

COFFEE BREAK



INTRODUCTION OF RESOURCE SPEAKER
RADM RAFAEL G MARAIANO AFP (RET)
FORMER VC, PN/FORMER PHIL-DAFA INDONESIA



"EEZ PROTECTION INDONESIAN EXPERIENCE"
HIS EXCELLENCY AGUS WIDJOJO
AMBASSADOR OF INDONESIA TO THE PHILIPPINES

LUNCH BREAK



INTRODUCTION OF THE RESOURCE SPEAKER
DR. ARLENE ABUID-PADERANGA
PRESIDENT, ASIAN INSTITUTE OF MARITIME STUDIES (AIMS)



"BLUE ECONOMY PROGRAMS: BEST PRACTICES AND CHALLENGING PITFALLS FROM AROUND THE WORLD"
DR. MAXIMO Q. MEJIA JR, PRESIDENT, WORLD MARITIME UNIVERSITY

COFFEE BREAK AND VIEWING OF EXHIBITS



EDCA AND THE WEST PHILIPPINE SEA
ATTY. JAY L. BATONGBACAL,
DIRECTOR, UNIVERSITY OF THE PHILIPPINES INSTITUTE FOR MARITIME AFFAIRS AND LAW OF THE SEA



"UPDATES ON WEST PHILIPPINE SEA"
JUSTICE ANTONIO C. CARPIO
FORMER SENIOR ASSOCIATE JUSTICE, SUPREME COURT OF THE PHILIPPINES



SYNTHESIS
MS. VICKY VIRAY MENDOZA, TRUSTEE, THE MARITIME LEAGUE INC.



THE 3 GOLDEN RULES OF EFFECTIVE SHIPPING COMMUNICATIONS

by SEDNA

Digitization has brought massive benefits to the shipping industry. It's now possible for charterers to make million-dollar deals in a matter of minutes using email alone. But recent years have also seen exponential growth in the volume of messages that shippers send and receive. Charterers, brokers, operators and port agents can sift through thousands of emails a day, and missing just one could mean lost opportunities, compromised revenue and long-lasting reputational damage.

There are other considerations besides. With complex and constantly changing regulations in the maritime industry, missed communications can mean poor compliance and costly fines. And there's also lost productivity to consider. [Studies have shown](#) that office workers typically spend around two hours each day browsing their inboxes – that's 230 hours of productive time lost every year, for every worker, and translated to wages can amount to [millions of dollars](#) wasted.

Managers may think the solution is to impose changes in the way charterers, brokers and other shipping employees communicate, but there's a risk of hindering skilled employees from doing their jobs the way they know best. What managers in shipping need are ways of empowering people to do their jobs better, which is why we're sharing the **three golden rules of effective shipping communications**.

Monitor performance the right way. In a lot of industries, managers will rely on performance monitoring systems like KPIs (Key Performance Indicators) or OKRs (Objectives and Key Results) to improve efficiency, but in shipping these approaches take up employees' valuable time. With pre and post-fixture workers already working at breakneck speed, additional protocols can be a distraction.

The best way to improve performance in shipping is to reduce unnecessary demand on workers, and since so much of their time is spent finding, reading and replying to emails, anything that brings transparency and speed to their communications is a plus. The question is, how can managers tell if their efforts are successful?

The primary metric for success in shipping is profit. If charterers have more time to make deals, businesses will quickly see the

wins for expedited workflows in their bottom lines. But another key metric comes around measuring errors. By monitoring the fulfilment of post-fixture service-level agreements (SLAs) as well as the number and nature of mistakes made, managers can measure the effectiveness of communications without unnecessarily interfering in employees' work.

Collaborate with IT to reduce email volume. We've established that giving employees more breathing space is a surefire way to increase productivity. Simply dictating to maritime operators, charterers and brokers how they should communicate may only add more to their workload, and there's little advantage to making blanket demands of your workforce without knowing precisely where improvements need to be made – a lack of transparency will still impact efficiency.

Due to unclear disconnected communications, missed emails, or siloed information, managers in maritime often get a skewed picture of what's happening under them.

The solution is to collaborate with your IT team to reduce email volume and create greater transparency. However, attempting to do so manually requires significant manpower.

Sedna can be [implemented quickly](#) to centralize a company's email for effective oversight, whilst connecting with core business systems to gain rich insights and automate workflows. This makes it possible to form targeted strategies that don't try to fix what isn't broken.

Encouraging uptake of new technologies is a challenge for any business, but managers can also smooth the process by building networks of **internal champions** among IT staff. These champions can ease the switchover to new products by promoting their benefits, explaining their uses, and lending a hand to anyone with questions or concerns. Employees are more likely to trust product advocates who are also their colleagues, so the earlier you can bring these champions on board, the better.

Our take: Don't change people, change their inboxes. A common assumption about fixture workers like charterers is that they can't change their ways. But the truth is they change thirty times a day. 📩

WHY WE SHOULD BE CAUTIOUS WITH INVASIVE MUSSELS

by Vicky Viray Mendoza

Zebra mussels are an invasive, fingernail-sized mollusk that is native to fresh waters in Eurasia. Their name comes from the dark zig-zagged stripes on each shell.



The zebra mussel (*Dreissena polymorpha*) is a small, non-native mussel originally found in Russia. In 1988, it was transported to North America in the ballast water of a transatlantic freighter, and it colonized parts of Lake St. Clair. In less than 10 years, zebra mussels spread to all 5 Great Lakes in the United States. Photo Credit: Jeff Allen (USGS).

The zebra mussel [Pallas, 1771] is a shellfish named for the striped pattern of its shell. This mussel is typically found attached to objects, surfaces, or other mussels by threads extending from underneath the shells. It is native to the seas of Black, Caspian, and Azov, and the Ural River.

Zebra mussels arrived in the Great Lakes in the 1980s via ballast water that was discharged by large ships from Europe. They have spread rapidly throughout the Great Lakes region and into the large rivers of the eastern Mississippi. They are now also found in Texas, Colorado, Utah, Nevada, and California.

Impacts of invasive mussels. The zebra mussels negatively impact the ecosystems and marine environment. They primarily consume phytoplankton which are microscopic marine algae that native species need for food, and they attach to native mussels to incapacitate them.

Zebra mussels are notorious for their biofouling capabilities by colonizing water supply pipes of hydroelectric and nuclear power plants, public water supply plants, and industrial facilities. Power plants have to spend millions of dollars removing zebra mussels from clogged water intakes.

They colonize pipes, constricting flow, therefore reducing the intake in heat exchangers, condensers, fire-fighting equipment, air conditioning, and cooling systems. Navigational and recreational boating can be affected by increased drag due to attached mussels. Small mussels can get into engine cooling systems causing overheating and damage. Navigational buoys have been sunk under the weight of attached zebra mussels. Deterioration of dock pilings increase when they are encrusted with zebra mussels. Continued attachment of zebra mussels can cause corrosion, affecting structural integrity of ships and pipes.

The U.S. Geological Survey (USGS) documents the geographic distribution of the zebra mussel and studies mussel behavior and biology. The resulting information is critical in helping to develop strategies aimed at containing and controlling the mussel's spread since they are an invasive species.

Catching and transporting zebra mussels for use as bait, food, and aquarium pets is highly discouraged by the USGS. It is also not recommended for human consumption since they are filter feeders, thus mussels can accumulate pollutants in their tissues that may not be healthy for people to consume.



Mytella charruana from the Manila Bay PICES collectors.
Photo Credit: J. Conejar-Espedido.

Invasion of Manila Bay. *Mytella charruana* (d'Orbigny, 1842) is a bivalve, known as the *charru* mussel, and is not native to the Philippines. This species was discovered in 1842 in Central and South America by Alcide d'Orbigny, a French naturalist. The *Charru's* color ranges from brown to black. The *Charru* in the Philippines has been reported in 2017 to be 5.65 cm, unlike the small 2.5 cm zebra mussel. The *Charru* also feeds mainly on phytoplankton, and is an invasive species.

Instead of merely disposing the mussels, the National Integrated Fisheries Technology and Development Center (NIFTDC), in contrast to the USGS, suggests to the fish farmers not to discard the *Mytella charruana* that have flourished, particularly in Dagupan, Pangasinan; the rationale being, this mussel meat is not only a protein-rich edible mollusk that is healthy for families, but also for crabs, tiger prawns, and shrimps raised in captivity.

The tropical Atlantic *Mytella charruana* that was introduced in 2014 into the Philippines is now invasive in the South Harbor of Manila Bay, Cavite, and Pangasinan. The source of invasion is likely through ballast water discharge or fouled ship hulls. The strong biological characteristics of this species are likely to displace both the indigenous and non-indigenous mollusks. The Supreme Court has taken notice of the environmental condition of Manila Bay and through a 2008 Mandamus, ordered the Executive Department of the Philippine Government to restore the environmental quality of Manila bay. The effects of the Mandamus in rehabilitating the bay have yet to be seen, upon which good management of biological marine invasion lies. 🚢

Main References:

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2. Shell Morphology and Anatomy of the Philippine Charru Mussel *Mytella charruana* (d'Orbigny 1842), <https://www.asianfisheriessociety.org/publication/downloadfile>.

IMO CONSIDERS STCW TRAINING PROVISIONS ON BULLYING AND HARASSMENT

by IMO



Photo Credit: favpng

STCW training provisions on bullying and harassment in the maritime sector, including sexual assault and sexual harassment (SASH)

The Sub-Committee on Human Element, Training and Watchkeeping (HTW 9), 6-10 February 2023, agreed to draft amendments to the Standards of Training, Certification and Watchkeeping for Seafarers (STCW) Code, to prevent and respond to bullying and harassment in the maritime sector, including sexual assault and sexual harassment (SASH).

The move follows the agreement by the MSC at its 105th session to instruct the HTW Sub-Committee to develop and finalize, as a matter of priority, relevant STCW training provisions in advance of the completion of the ongoing comprehensive review of the STCW Convention and Code.

It was agreed that, following approval by MSC 107 and consideration by the joint ILO/IMO Tripartite Working Group to Identify and Address Seafarers' Issues and the Human Element (JTWG), the draft amendments should be referred back to HTW 10 in early 2024 for final consideration, with a view to adoption at MSC 108.

The new provisions will apply to all seafarers by means of amendments to the STCW Code, table A-VI/1-4 (Specification of minimum standard of competence in personal safety and social responsibilities), consisting of a new competence: Contribute to the prevention of and response to bullying and harassment, including sexual assault and sexual harassment.

The related Knowledge, understanding and proficiency will include: prevention of bullying and harassment: Basic knowledge of bullying and harassment, including sexual assault and sexual harassment, and the continuum of harm; Basic knowledge of the consequences of bullying and harassment, including sexual assault and sexual harassment on victims, perpetrators, bystanders, stakeholders, and its effects on safety; Understand that power dynamics, drugs or alcohol may be used to create

coercive situations that contribute to bullying, harassment, including sexual assault and sexual harassment; Responding to bullying and harassment:

Ability to identify bullying and harassment, including sexual assault and sexual harassment; Basic knowledge of the action to take to intervene, and report bullying, harassment, including sexual assault and sexual harassment Understand the basic principles of trauma-informed response and how to provide appropriate support to a victim, bystanders and self.

The draft text was developed by the Working Group on the Comprehensive Review of the 1978 STCW Convention and Code and the Sub-Committee noted the discussions and support of the Group to develop and include a standalone competence relating to psychological safety within section A-VI/1 and table A-VI/1-4 during the ongoing comprehensive review of the STCW Convention and Code.

The Sub-Committee endorsed the Working Group's recommendation to add a reference to the Maritime Labour Convention (MLC) provisions on bullying and harassment and to align the language when revising Model Course 1.21 (Personal Safety and Social Responsibility). The Correspondence Group on the review of the STCW Convention and Code, established during the meeting, was invited to prepare draft terms of reference for the revision of Model Course 1.21 to include the competence on prevention and response to bullying and harassment, including SASH.


The Sub-Committee also endorsed the Working Group's agreement to give more detailed consideration concerning the evidence of maintaining the standard of competence on prevention and response to bullying and harassment, including SASH, during the process of the comprehensive review of the STCW Convention and Code.

Comprehensive review of the STCW Convention and Code

The Maritime Safety Committee, at its 105th session in 2022, agreed to conduct a comprehensive review of the STCW Convention and Code and instructed HTW 9 to commence.

Following initial discussion in plenary, and the progress made in the working group established at this session, the Sub-Committee instructed the Correspondence Group on the STCW Convention and Code Review to identify the specific areas to be reviewed and to prepare a roadmap for the review.

As requested by the MSC, the Sub-Committee agreed that discussions on measures to ensure the quality of onboard training; and on measures to facilitate mandatory seagoing service, as required by the STCW Convention, should be included in the comprehensive review of the Convention.

The Sub-Committee considered and agreed to aims and principles to guide the review. 

Source: <https://www.imo.org/en/MediaCentre/MeetingSummaries/Pages/HTW--9.aspx>

BETTER MONITORING AND DATA GATHERING OF HUMAN RIGHTS AT SEA NECESSARY

by SAFETY4SEA

Wilton Park published its report on “Human Rights Law at Sea,” discussing the key themes of discussion, problems identified, and recommendations for possible ways forward concerning [human rights protections at sea](#).

The Wilton Park “Human Rights Law at Sea” Conference, organized in partnership with Human Rights at Sea Advisory Board member Sir Malcolm Evans KCMG, OBE, FLSW, was initiated as a direct response to the 2021 House of Lords United Nations Convention on the Law of the Sea inquiry (UNCLOS), and whether it was fit for purpose in the 21st Century.

Wilton Park enabled selected experts and practitioners to come together with the aim of exploring and articulating the role of human rights law at sea and to deliberate on how practical barriers to their effective application might best be addressed.

We will closely rely on forward-leaning, globally minded states to lead the charge when it comes to protecting human rights at sea. The state level response we had in March 2021 at the launching of the Geneva Declaration of Human Rights at Sea in Switzerland has shown us that potentially there are a number of champion States who are willing to take initial action and take on the Declaration.
Head of Operations, Martyn Illingworth, said.

Industry perspectives and challenges. While industries operating at sea, for example in shipping or fishing, might not be indifferent to the protection of human rights at sea, costs are a significant barrier to be factored in. Economic incentives and responses tailored to the needs and priorities of industry are needed. Industry and market-driven solutions can provide unique approaches to protecting human rights at sea. Business and human rights approaches which emphasize human rights due diligence in supply chains, including with service suppliers such as transportation providers, can contribute to creating incentives for ensuring respect for human rights at sea.

What is a human rights violation at sea? Some situations can be clearly identified as amounting to human rights violations at sea as they involve direct violations of individuals’ human rights by State actors. Examples might include cases of illegal detention or torture at sea. Where these occur, challenges remain for the enforcement of such human rights at sea. However, many other incidents and behaviors at sea – concerning or wrongful – do not necessarily rise to human rights violations, yet are often labelled as such. This could be the case in relation to seafarers’ lack of shore leave which in and of itself is not a human rights violation but over time may evolve into a forced labour. This lack of nuance and clarity often results in a dilution of the meaning of human rights at sea. This highlights that issues may develop into human rights violations, but the nature of the maritime domain makes it complex to determine precisely when this may occur.

The application of human rights at sea. The approaches to jurisdiction under human rights law and the law of the sea do not align. Where human rights law has traditionally favored a territory-based approach to jurisdiction, LOSC has enshrined functional jurisdiction at sea with its associated maritime zones where the concept of sovereignty does not apply in the same way. Even where human rights law recognizes extra-territorial jurisdiction on the basis of effective control over an

area or conduct or persons, this does not easily translate to the sea because ‘effective control’ at sea looks different than on land.

Monitoring and enforcement. There is a lack of knowledge of the extent to which human rights violations occur at sea and more comprehensive and reliable data is needed. This should serve to both better understand the nature of human rights violations that occur at sea, as well as raising awareness, thereby informing risk-based approaches and generating action and political will. Existing and emerging technological solutions may provide new applications for monitoring and surveillance of human rights violations that occur at sea.

Industry perspectives and challenges. Alternative options to protecting human rights at sea should be considered, including economic and market-driven solutions. Similar approaches exist, for example, in relation to product certifications which indicate that a product has been produced in line with social criteria. Notably, these certificates do not extend to the transportation of the same goods. A growing acceptance of business and human rights and mandatory human rights due diligence might create alternative solutions for the protection of human rights.

Political will. There are active challenges to the liberal international order and human rights are seen as a significant feature of this. At the same time, the concept of ‘human rights’ is also being challenged in traditionally liberal and developed States. For example, fear of migration makes it increasingly challenging to discuss human rights in the context of migrants at sea. The facts of economic life and competition are also putting pressure on the protection of supply chain workers’ rights, including on fishing and transport vessels.

Recommendations. In light of the issues described and possible approaches to move forward, the following are the key recommendations in the report:

- There is a need to articulate what a human rights violation at sea entails and to identify all relevant positive obligations that allow for its enjoyment at sea.
- The conceptual basis for how human rights at sea needs to be reconsidered.
- There needs to be better monitoring and data gathering of human rights at sea.
- The ‘genuine link’ needs to be clarified in a manner that enables effective protection of human rights by law of the sea tribunals.
- The right of visit could be expanded to include a reasonable belief of human rights violations.
- There is a need to ensure that human rights are properly applied in the at-sea context during enforcement operations.
- Industry should support human rights at sea by engaging in full human rights due diligence of their own business activities.
- Political leaders and champion States are needed to bring human rights at sea forward.



Source: <https://safety4sea.com/reports-better-monitoring-and-data-gathering-of-human-rights-at-sea-necessary/>

USE OF BIOFUELS IN SHIPPING

by DNV



Photo credit: DNV

The use of biofuels or biofuel blends is one of many ways to comply with the IMO's strategy on the reduction of GHG emissions from ships, and DNV has seen an increasing interest in these new fuels. This news aims to clarify the regulatory status and other considerations on the usage of such fuels.

DNV has received many requests regarding the safe operation of ships using biofuels and/or biofuel blends and how to comply with international regulations when using these fuels. Here is a summary of regulatory, safety, and operational issues.

Types of biofuels

There are three types of biofuels that are relevant for maritime shipping:

- FAME (Fatty acid methyl ester) is produced from vegetable oils, animal fats or waste cooking oils by transesterification, where various oils (triglycerides) are converted to methyl esters. This is the most widely available type of biodiesel in the industry and is often blended with regular marine diesel. International standards: ISO 8217:2017, EN 14214, ASTM D6751, EN 590;
- BTL (Biomass to liquid) fuels are synthetic fuels that are produced from biomass by means of thermo-chemical conversion using the Fischer-Tropsch process or the methanol-to-gasoline process. The final product can be fuels that are chemically different from conventional fuels such as gasoline or diesel but can also be used in diesel engines. International standards: EN 16709, EN 15940;
- HVO/HDRD (Hydrogen vegetable oil / Hydrogenation derived renewable diesel) is the product of fats or vegetable oils – alone or blended with petroleum – refined by a hydrotreating process known as fatty

acids-to-hydrocarbon hydrotreatment. Diesel produced using this process is often called renewable diesel to differentiate it from FAME biodiesel. HVO/HDRD can be directly introduced in distribution and refueling facilities as well as existing diesel engines without any further modification. International standards: ASTM D 975.

Currently, FAME is the most prominently used biofuel in marine applications. It is either used in blends with traditional petroleum fuels or as 100% biofuel

Biofuels and their effect on GHG regulations

The Maritime Safety Committee has invited all relevant IMO bodies to assess their respective involvement in the human element within their remit and report back to the committee with a view to devising an outline for a holistic approach on the human element, taking into account resource and budgetary implications within the IMO. In this regard, HTW 9 invited member states and other interested parties to submit papers to HTW 10 in February 2024.

Model training courses

IMO model courses intend to assist instructors in developing training programs for seafarers as per the International Convention of Standards of Training, Certification and Watchkeeping for Seafarers (STCW), 1978. The model courses are subject to regular review to ensure that they are consistent with the current IMO instruments and reflect best practices and modern technologies.

HTW 9 validated a large number of model courses, as there was a backlog due to time constraints in the remote sessions of the last two years.

The following model courses are now validated and will be published soon:

- EEDI and EEXI. The EEXI and EEDI only consider the so-called tank-to-wake approach, meaning that only the carbon content of standard reference fuels the vessel is designed for is considered. For that reason, the usage of biofuels has no effect on the EEXI or the EEDI.
- CII (Carbon Intensity Index). In view of IMO DCS reporting as well as the CII calculation methodology – as per the 2022 SEEMP Development Guidelines, Resolution MEPC.346(78), and the CII Calculation Methods Guidelines, Resolution MEPC.352(78) – in case of fuel types not covered by the guidelines, the conversion factor Cf is to be obtained from the fuel oil supplier and supported by documentary evidence.
- Any non-standard approach in the determination methodology of tank-to-wake emissions for biofuels is subject to acceptance by the vessel's flag administration as well as the RO handling the IMO DCS and CII verification on behalf of the flag, where an addition to the list of fuel types used and applicable conversion factors needs to be reflected in the SEEMP Part II.
- In case of acceptance of the flag state administration, the usage of biofuels, also in form of blends with traditional petroleum fuels, will have a significant impact on the reduction of the CII value.
- EU MRV
- As per Regulation (EU) 2015/757, in case of alternative fuels, the monitoring plan shall contain "the methodologies for determining the emission factors, including the methodology for sampling, methods of analysis and a description of the laboratories used, with the ISO 17025 accreditation of those laboratories, if any". It is worth noting that Directive (EU) 2018/2001 (EU RED II), Annex V, Part C provides a methodology for greenhouse gas emissions from the production and use of transport fuels, whereas per point 13, the CO₂ emissions of the fuel in use shall be taken to be zero for biofuels and bioliquids.

The proposed method for calculation of the CO₂ emission factor for biofuel and biofuel blends should be included in the ship's MRV Monitoring Plan along with an addition to the list of fuel types used and method for determination of fuel density, with the revised plan being subject to acceptance from the Accredited Verifier, such as DNV.

Biofuels and their effect on NO_x regulations in IMO MARPOL Annex VI

On 10-June-2022, the Marine Environment Protection Committee approved Unified Interpretations (UIs) to Regulation 18.3 of MARPOL Annex VI simplifying the use of biofuels on board ships. It is now generally assumed that marine diesel engines certified in accordance with MARPOL Annex VI Regulation 13 should be permitted to use most liquid biofuels without the challenge of emission testing on board.

There is no need for applying an exemption according to MARPOL Annex VI Regulation 3 for testing the use of biofuels, and there is no need to follow the equivalency procedure under Regulation 4 of the Annex VI to the MARPOL Convention.

A self-check according to the Onboard Verification Procedure (to be found in the engine-specific Technical File) would be sufficient to demonstrate that biofuels do not "cause an engine to exceed the applicable NO_x emission limit."

Appendix 1 contains more details on the application of Regulation 18.3 of MARPOL Annex VI.



Photo credit: DNV

Technical items to be observed and challenges on board

Here are some possible consequences from the use of biofuels:

- Microbial growth: Bacteria and mold may grow, causing filters and piping to clog.
- Oxygen degradation: Biodiesel could form deposits in piping and engine, compromising operational performance.
- Low temperature: The higher cloud point may lead to the clogging of filters at lower temperatures.
- Corrosion: Some types of hoses and gaskets could degrade, leading to loss of integrity, and interact with some metallic material to form deposits.
- Possible degeneration of rubber sealings, gaskets and hoses: Important to verify that these components can be used together with biofuel.
- Conversion: When switching from diesel to biofuel, fuel filters can become clogged.

DNV support

As your DCS verifier, DNV can support you in communication with the flag administration on biofuel topics to support the inclusion of biofuels into your fuel oil consumption reports and CII ratings.

Recommendations

We advise our customers to contact DNV at an early stage to evaluate the individual impact of the intended biofuel usage and to assess the most practical way to ensure safe ship operation whilst staying in compliance with international regulations. 🚢

Source: DNV

https://www.dnv.com/news/use-of-biofuels-in-shipping-240298?utm_campaign=MA_23Q1_TRN_No_05_EXT_TEC_Use%20of%20biofuels%20in%20shipping&utm_medium=email&utm_source=Eloqua

CYBER TRENDS AND INSIGHTS IN THE MARINE ENVIRONMENT 2022 REPORT

by USCG



The United States Coast Guard (USCG) has a strong tradition of collaborating with owners and operators in the Marine Environment (ME) to provide relevant information about best practices to secure their critical systems.

Since December 2020, Coast Guard Cyber Command (CGCYBER) has vastly grown its presence and increased its operational tempo to protect cyber systems underpinning the ME. The observations and findings in this report provide Coast Guard units and their port partners with relevant information to identify and address cyber risks.

Coast Guard Cyber Protection Teams (CPTs) and the Maritime Cyber Readiness Branch (MCRB) developed these findings through technical engagements throughout 2022 with ME partners.

KEY TAKEAWAYS

1. CGCYBER identified similar cybersecurity deficiencies at new organizations assessed in 2022 commensurate with our 2021 CTIME Report recommendations. 2022 CPT missions reinforced many of the same recommendations to ME organizations provided to other organizations in 2021 related to basic cyber hygiene, including implementing a Patch Management Policy, enforcing the principle of Least Privilege, and implementing a Strong Password Policy, or Multi-Factor Authentication (MFA).
2. Emerging technologies introduce new attack vectors to

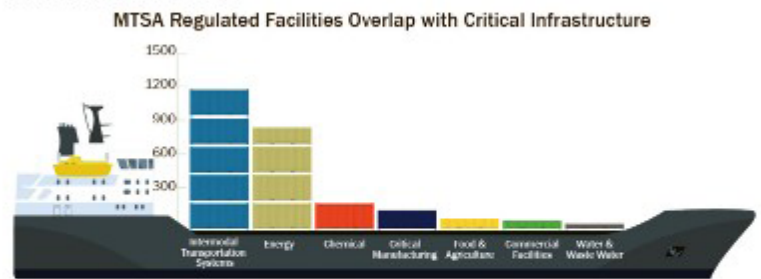
the ME. There is a rapid increase in the use of cloud-based environments and remote-access solutions for ME networks. These new technologies bring many benefits; however, they introduce risks if not implemented correctly. These risks become even more significant when cloud environments are bolted onto legacy systems or services without adequate security controls. It is essential for organizations to understand the risks of new technology and the available safeguards to mitigate those risks.

3. Opportunistic Cyber Criminals and Advanced Persistent Threats (APTs) continue to target the ME. Cyber criminals continue to profit from disruption of critical functions and often gain access by targeting company users with methods such as Phishing for Information or by Compromising Systems with Known Exploitable Vulnerabilities (KEV). APTs are more focused and use a variety of tactics, ranging from exploitation of common vulnerabilities to installation of sophisticated malware. The Cybersecurity and Infrastructure Security Agency (CISA)/CGCYBER Joint Alert AA22-174A provides a sample of techniques discovered by CGCYBER believed to be used by APTs.
4. Importance of Timely Information Sharing: Timely information sharing is the most effective universal action

to strengthen the ME, prevent future cyber-attacks, and enable timely response to exploitable vulnerabilities. CGCYBER observed a promising increase in voluntary reporting in 2022, but many organizations remain reluctant to report or share information with the Coast Guard or other partners. The Coast Guard continues to encourage information sharing through Department of Homeland Security (DHS)-sponsored public-private partnership groups, like Area Maritime Security Committees (AMSCs) or the Maritime Transportation System Information Sharing and Analysis Center (MTS-ISAC). These groups can facilitate this information sharing, while addressing the organization’s privacy concerns.

regulated facilities and what other Critical Infrastructure Sector(s) they represent.

Figure 2: Overlap Between MTSA Regulated Facilities and Critical Infrastructure Sectors



UNDERSTANDING THE MARINE ENVIRONMENT

The ME consists of 25,000 miles of coastal and inland waterways, serving 361 ports, 124 shipyards, more than 3,700 maritime facilities, 20,000 bridges, 50,000 Federal aids to navigation, and 95,000 miles of shoreline that interconnect with critical highways, railways, airports, and pipelines, as well as undersea cables carrying 99% of U.S. communications abroad. Approximately \$5.4 trillion flows through the ME annually, constituting 25% of the United States gross domestic product; 90% of U.S. imports and exports enter or exit by ship. The ME is one of the most crucial elements of the global supply chain.

MARITIME CYBER TRENDS

In 2022, MCRB and local Coast Guard units investigated 59 cybersecurity reports including phishing/spoofing, ransomware attacks, and other cyber incidents. This included several largescale incidents affecting multiple organizations at once. With more than \$5.4 trillion and 90% of U.S. imports and exports flowing through the ME annually, nation state actors wishing to harm the U.S. and opportunistic cyber-criminal and ransomware gangs, consistently target the ME.

During the height of the COVID-19 pandemic, shipping bottlenecks at various U.S. ports, most notably Los Angeles/Long Beach, led to significant delays and rising costs. With transit times from China to Los Angeles, including the time waiting for an open berth, nearly doubling, retailers incurred approximately \$321 million in added interest due to port congestion. This is in addition to the approximate quintuple increase in costs to ship a container due to the increased demand.

Cyber Command Spear-phishing campaigns continue to proliferate across the ME. Malicious cyber actors (MCA) use techniques ranging from typo-squatted domains to account/business email compromises. These campaigns are often able to deliver malware, resulting in MCAs extorting entities within the ME for financial gain. CGCYBER’s observations are bolstered by public reporting of similar campaigns targeting3 and impersonating major shipping entities. Ransomware remains a popular end game for 13 criminal gangs targeting maritime entities around the globe; the Lockbit ransomware attack against the Port of Lisbon is a prime example. Figure 4 provides a visual of the investigated cybersecurity reports.

Figure 1: Critical Infrastructure Sectors with ME Organizations



The ME is comprised of more than ships, ports, shipyards, and other related infrastructure. Of the more than 3,700 waterfront facilities, more than half overlap with at least one other Critical Infrastructure Sector. Regulated Facilities and Critical Infrastructure Sectors provides a depiction of Coast Guard

Figure 4: 2022 Cyber Events Reported to Coast Guard



Furthermore, in 2022, criminals were observed targeting back-up systems to make recovery more difficult and to increase pressure on the executive decision makers to pay the ransoms. In addition to financial extortion, these incidents often result in months of reduced operational capacity and potential reputational impacts.

Maritime shipping companies continue to be the target of all types of cyber criminals, but in 2022, CGCYBER also observed a significant increase in malicious cyber actors targeting liquified natural gas processors/distributors, and petrochemical companies. These efforts included increased reconnaissance, scanning, sophisticated spear-phishing campaigns, and ransomware. The ALPHV ransomware attack against a maritime-based oil company provides an example of the operation-crippling malware that MCAs employ.

In this example, 13 facilities were unable to transfer onload or offload fuel causing economic disruption. Additionally, CGCYBER observed several significant cyber-attacks targeting maritime logistics integrators and technology service providers. These include the ransomware attack that shutdown operations for logistics company, and a separate attack impacting more than 1,000 customers of a maritime technology provider. These types of attacks are particularly concerning due to the extent of the second order impacts in the ME. Because they are integral elements of the supply chain, many other maritime organizations were affected concurrently.

Timely information sharing amongst other government agencies (OGAs), CGCYBER, and ME organizations continued to be key to identifying and disrupting MCA operations. For example, CGCYBER notified a facility of a Known Exploitable Vulnerabilities (KEV) on their network exposed to the public Internet. The subsequent Coast Guard CPT engagement with this organization resulted in the detection and removal of an MCA from the partner’s network (reference Joint Alert AA22-174A, Appendix C: Maritime Cyber Alerts). Further, timely information sharing with Cybersecurity and Infrastructure Security Agency (CISA), led to detection of additional compromises by the same MCA within the U.S. Critical Infrastructure.

As the Coast Guard continues to combat wrongful actions by MCAs, CGCYBER relies on cyber incident reports to the National Response Center (NRC) to activate response capabilities and increase awareness across the ME. The Coast Guard urges organizations in the ME to report all cyber incidents to the NRC. Through free-flowing multi-directional information sharing in the ME, the Coast Guard and ME organizations can best address these evolving cyber threats.

FINDINGS

In a CY21 & CY22 Comparison, Marine Transportation System (MTS) partners Fully or Partially Mitigated 93% of all findings within six-months of receiving a CPT Assess mission, an 11% increase from 2021. Other than a slight decrease in Partially Mitigated findings, which is believed to be a result of the increase in Fully Mitigated, all remediation efforts improved from 2021 to 2022. These metrics validate the conclusion that organizations in the ME can take quick and effective action to reduce their attack surface, particularly if they understand the business impacts associated with the risks.

Phishing for Information Phishing for Information is a sub-technique of the Phishing Technique. Phishing for Information is categorized as a reconnaissance technique by the MITRE Corporation rather than an initial access technique. Instead of attempting to use the email for malicious code execution, Phishing for Information is used to gain useful information, such as a username and password, from the phished user. During Coast Guard CPT missions, 9.3% of all phishing emails sent during threat emulation resulted in a click by a user. Additionally, of those users who clicked the link, 76.4% of users

provided credentials when requested. Due to the unpredictability of a specific user acting after receiving a phishing email, this technique may be more successful for non-targeted phishing campaign compared to a spear-phishing campaign targeting specific users. According to IBM Security’s “Cost of a Data Breach Report 2022,” compromised credentials were the most common cause for data breaches. When MCAs employed Phishing for Information, it took organizations an average of 327 days to detect (longest time to identify compared to other vectors) and had the average highest cost per data breach at \$4.83 million, excluding ransom payments. This data reinforces the severity of the most common finding detected by Coast Guard CPTs.

Related Mitigations:

- Common Mitigation #6: User Training
- Software Configuration (configure Sender Policy Framework (SPF)/Domain Keys Identified Mail (DKIM)/Domain-based Message Authentication Reporting and Conformance (DKIM) for mail server).

Valid Accounts. The most common initial access technique used during Assess missions was Valid Accounts. Valid Accounts were often gathered from publicly available sources or from using related techniques such as Phishing for Information, Adversary-in-the-Middle: LLMNR/NBT-NS Poisoning and SMB Relay, or Steal or Forge Kerberos Tickets: Kerberoasting. Coast Guard CPTs gained initial access to the target networks using gathered account information.

Related Mitigations:

- Common Mitigation #1: Password Policies
- Common Mitigation #4: Privileged Account Management
- Common Mitigation #6: User Training
- Common Mitigation #7: User Account Management
- Application Developer Guidance

Adversary-in-the-Middle: LLMNR/NBT-NS Poisoning & SMB Relay. LLMNR/NBT-NS Poisoning and SMB Relay attacks leverage antiquated features used for host identification to harvest credentials from within a network. LLMNR/NBT-NS Poisoning consists of an attacker inside the network responding to LLMNR (UDP 5355)/NBT-NS (UDP 137) and directing traffic to an adversary-controlled system. Then, once the requestor attempts to access the adversary-controlled system, the adversary can use a myriad of techniques to directly obtain hashed or even sometimes plaintext credentials. If the adversary captures a password hash, they can pivot to the Brute Force: Password Cracking technique to determine plaintext credentials.

Related Mitigations:

- Common Mitigation #3: Filter Network Traffic
- Network Segmentation
- Network Intrusion Prevention
- Disable or Remove Feature or Program

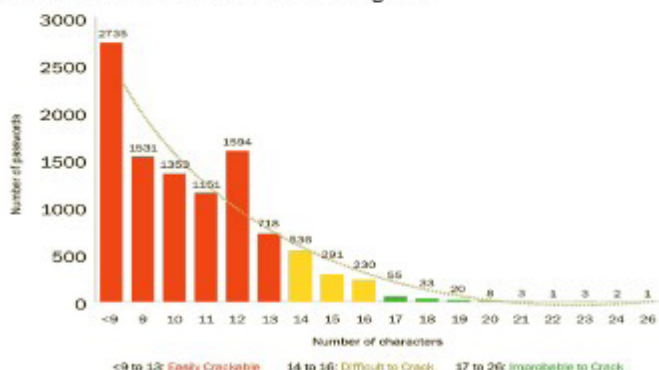


Figure 7: Length of Successfully Cracked Password Hashes from CY22 Missions

Brute Force: Password Cracking. A weak password policy can result in an attacker gaining unauthorized access to a system or application. According to the National Institute of Standards and Technology (NIST) Special Publication 800- 63 Digital Identity Guidelines, a strong password policy includes password length and password complexity. It also contains suggestions for enforcement and consequences when not followed (lost system access). A good password policy can protect an organization from brute force password cracking, guessing, and reuse. Figure 7 illustrates the number of successfully cracked hashes across the length of the password from CPT missions. As can be seen, the longer the password, the more difficult the hash is to crack. For over 17,000 discovered password hashes, CPTs were able to crack hashes for 60.1% of all passwords using hybrid dictionary and ruleset-based password cracking. The median password length of all cracked passwords was ten characters. CPTs were unable to determine the length of any password that was unsuccessfully cracked. CPTs were able to pre-calculate and successfully crack the hashes for all passwords less than eight characters in length. Of the cracked passwords, 97.1% of passwords had at least three complexity requirements (uppercase letter, lowercase letter, number, symbol) showing that most users implement these requirements into their passwords in predictable ways without increasing the overall difficulty to crack the password. Our Assess missions validate NIST’s recommendation that password length is the primary factor in characterizing password strength. Our ruleset-based password cracking was able to detect most complexity techniques used in user-created passwords. Only 198 recovered passwords were seven characters or less. This is attributed to compliance with NIST’s minimum password recommendation of eight characters or more. However, in comparison to the NIST standard, the U.S. Department of Defense (DOD) requires a minimum 15-character password length for all accounts when the user or app cannot support multi-factor authentication.

Related Mitigations:

- Common Mitigation #1: Password Policies
- Common Mitigation #2: Multi-Factor Authentication.

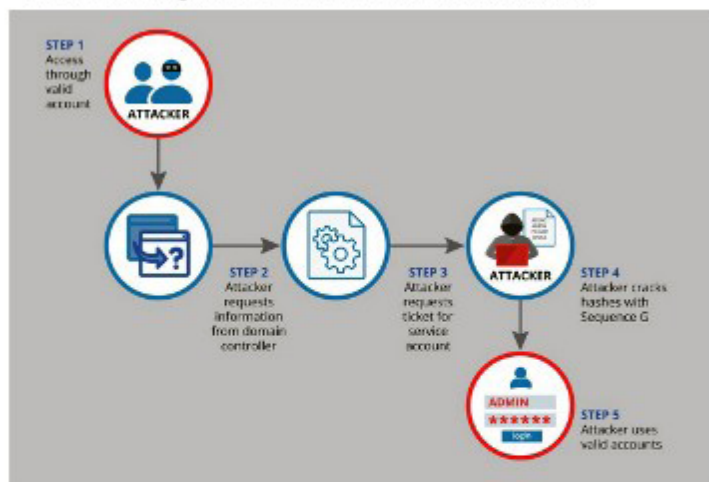


Figure 8: Kerberoasting

Steal or Forge Kerberos Tickets: Kerberoasting. Applications often require user accounts to operate, known as Service Accounts. Service Accounts use elevated privileges to perform a business function. MCAs leverage techniques such as “AS-REP Roasting” (related to Authentication Server Requests) and Kerberoasting to abuse legitimate functionality and attain a copy of the Service Account’s password hash. If the service account has a weak password, the MCA

can crack this password using the Brute Force: Password Cracking technique and access systems using the Service Account credentials. Figure 8: Kerberoasting illustrates the basic process flow of a Kerberoasting attack. For simplicity, administrators often use existing administrator accounts as Service Accounts or create a new account and add the new Service Account to an existing administrator group, such as Domain Administrators. This allows MCAs to leverage these unnecessary permissions to gain full control over an enterprise.

Related Mitigations:

- Common Mitigation #1: Password Policies
- Common Mitigation #4: Privileged Account Management
- Encrypt Sensitive Information (Enable AES Kerberos).

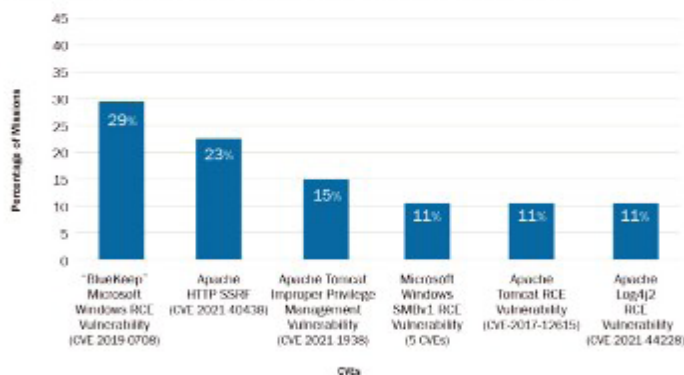


Figure 9: Top KEV Detected During CY22 Assess Missions

Patch Management. Vendors release patches and updates to address existing and emerging security threats and address multiple levels of criticality. Failure to apply the latest patches can leave the system open to attack from publicly available exploits. The risk presented by missing patches and updates can vary; however, the most critical of vulnerabilities are those that are proven exploitable. These vulnerabilities are listed in CISA’s KEV Catalog. Figure 9 represents the vulnerabilities from the KEV Catalog detected during CPT Assess missions. In addition to the presence of KEVs in these networks, CPTs regularly observed a lack of network filtering (see Mitigation #3: Filter Network Traffic) or network segmentation. These security architecture concerns show that if an adversary could exploit a vulnerability at one of these sub-organizations, they could easily pivot into and throughout the internal environment of the organization. Appendix G: Known Exploitable Vulnerabilities Detected on CPT Missions contains descriptions of these vulnerabilities.

Related Mitigations:

- Common Mitigation #4: Privileged Account Management
- Common Mitigation #5: Update Software
- Application Isolation and Sandboxing
- Disable or Remove Feature or Program
- Execution Prevention
- Exploit Protection
- Network Segmentation
- Threat Intelligence Program
- Vulnerability Scanning.

For more details on mitigations and appendices, you may download the full report.



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WHY PNOY AND BBM LEANED ON AMERICA, NOT CHINA

by Andrew J. Masigan

The world's predominant superpower will always create the conditions to perpetuate its global dominance and weaker nations will always be subsumed by these conditions. Like it or not, that's just how the world works. It was true during the ancient Byzantine and Roman empires as it was true during the recent British and American empires.

How do superpowers create the conditions to perpetuate their dominance? They write the rules for global trade and geopolitical engagement; they dominate the world economy; they develop the world's strongest military; they control critical technologies; they become the world's primary source of trade and investments; they form strategic diplomatic alliances and they develop the strongest cultural influence.

Superpowers engage in unethical practices to maintain their global influence too. These include instigating wars, interfering in domestic affairs, enforcing trade sanctions, igniting political instability and installing puppet governments, among others.

America has been the lone superpower for more than a century. But they are now challenged by China. With its growing economic and military gravitas, China aims to install a new world order based on the values of the Chinese Communist Party. They want to re-write global rules and norms to fit their agenda.

The American and Chinese systems

Regardless of who we side with, the Philippines (and other smaller nations) will have to adhere to the world order according to the reigning superpower. It becomes a question of where our values and strategic interest are better aligned.

We already know the rules-of-engagement of America. We lived under her thumb for decades. The good thing is that our values coincide. America perpetuates democracy, free trade, pluralism and diversity. They value the liberty to pursue individual goals and require a justice system that upholds human rights and social order.

There is no denying that America resorts to the unethical practices mentioned above. But thankfully, America counts the Philippines as an important ally whose continued socioeconomic development serves her purpose. Our sovereignty and economic wellbeing are not under threat by America.

China operates with different ideals. Underpinning Chinese values are Marxist-Leninist principles with the Chinese Communist Party as the supreme authority. Chinese patriotism and their national interest are primordial, even at the expense of individual rights. Enforcement of rules could be severe with nary a respect for human rights. They embrace capitalism with the goal of achieving a socialist society.

China operates with its own set of unethical practices. They ignore international laws; they ignore sovereign boundaries, freely sailing in the exclusive economic zones and flying over the air defense identification zones of sovereign nations; they ignore commitments made in word and written declarations; they resort

to bullying tactics, both militarily and through trade sanctions; they buy politicians; they engage in commercial blackmail, among many others.

On Sept. 16, 1991, the Philippines elected not to renew the Philippine-US Treaty of Friendship, effectively ejecting US military bases from the country. American military bases were viewed as a legacy of the colonial era. For 23 years, the U.S. remained a friend and treaty partner, but at arm's length. This was the opportunity for China to win Philippine favor.

But China pushed too hard

Instead of becoming a partner in development, China stabbed the Philippines in the back. In 2005, the Philippine government granted China and Vietnam the rights to conduct seismic surveys on the disputed Spratly island chain. This was the opening that allowed China to illegally grab Philippine sovereign territories.

In 2013, in a unilateral act of aggression, China announced that the Spratlys, Parcel islands and Macclesfield Bank would be administered by Sasha city, a territory of China.

In 2014, the Philippines filed a case against China before the Permanent Court of Arbitration. Many feared that China was preparing to militarize the area – an allegation that China vehemently denied.

But in 2015, satellite images confirmed that China was indeed building an airstrip at Kagitingan (Fiery Cross) Reef. It also showed a second airstrip in nearby Zamora (Subi) Reef. Heavy dredging indicated China's intent to link these small landmasses to build a full-blown military base. This was exactly what happened.

In 2016, the Permanent Court of Arbitration ruled in the Philippines' favor. China refused to recognize the tribunal's decision. It even expanded its territorial grab and accelerated the construction of its military base.

Adding insult to injury is China's relentless and ruthless bullying of our fishermen. They are gunned with water cannons, blinded with laser lights and threatened with gunfire. Our fishermen are bamboozled by Chinese ships, accosted, and their fishing equipment destroyed. In 2022, the Chinese government unilaterally put a stop to all fishing activities in the disputed waters.

The Philippine Conundrum

Unbearable bullying from China left the Philippines with two options. One, strengthen military relations with its former colonizer and live with the advantages and disadvantages of American presence. Or two, give up our sovereignty of the West Philippine Sea, give up our fishing rights, give up our rights to the minerals, natural gas and oil deposits and live with the threat of Chinese annexation of more Philippine territories.

In 2014, the Philippines, under PNoy's leadership, chose to lean-in on the United States. This was manifested in the signing of the Enhanced Defense Cooperation Agreement (EDCA), a

covenant that gave U.S. troops access to five Philippine military bases. The Americans were allowed to pre-position supplies and deploy troops therewith.

Former president Duterte’s reverence for China and the promise of \$24 billion in investments and ODA (which never materialized) were not enough to assuage public distrust for China, the perceived national tormentor. Surveys by SWS and Pulse Asia revealed China as the most distrusted country among Filipinos.

In 2022, the looming threat of China’s expansionism and its relentless bullying compelled PBBM to expand EDCA. As a result, the U.S. now has access to four more military bases in Cagayan, Isabela, Zambales, and Palawan.

So were PNoy and PBBM correct to lean-in on the US? Look, the American and Chinese systems are both flawed. The difference is that America has no interest in annexing Philippine sovereign territories. In fact, they are helping us defend our territorial domain. And as mentioned earlier, we know how

America operates and have proven that we can thrive under the American system. This cannot be said for China.

While a handful may deem the grass greener on China’s side, the majority of Filipinos still cannot fathom living under a world order designed by the Chinese Communist Party. Chinese style authoritarianism goes against Filipino DNA. 🚩

About the Author



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PHILIPPINE NAVY HOSTS THE 17TH ASEAN NAVY CHIEFS' MEETING

by Altamira Reyes



Figure 1. The 17th ANCM Plenary Session at the Grand Ballrooms II and III at Grand Hyatt Manila. (Source: Naval Public Affairs Office)

The year 2023 is a monumental year for the Philippine Navy. What started as a revolutionary independent force that was founded by the first Philippine President, President Emilio Aguinaldo on May 20, 1898¹, grew to become the country's naval warfare service that celebrated its 125th anniversary last May 20, 2023. But before the celebration of its founding anniversary, the Philippine Navy was already busy with an equally important event, one that it has been preparing for since mid-2022 and that is its hosting of the 17th ASEAN Navy Chiefs' Meeting (ANCM) in Manila a decade after its first hosting stint. Under the purview of the 17th ANCM, the Philippine Navy also hosted the 2nd ASEAN Multilateral Naval Exercise (2nd AMNEX) with an ASEAN Fleet Review (AFR) and this was the first time that the Philippine Navy conducted this exercise dovetailed with its official hosting of the ANCM.

ANCM: Origins and Significance

While the ANCM is a familiar platform for Philippine Navy

offices and officers and other government agencies that have direct participation in the Association of Southeast Asian Nations (ASEAN) or ANCM-related initiatives, not everyone has knowledge nor has encountered or participated in meetings or activities related to the ANCM. With the Philippine Navy at the helm of this year's ANCM, there is a need to understand its significance and how it contributes to the strengthening of relations between ASEAN navies over the years.

The ANCM is a military-to-military activity that falls under the purview of the ASEAN. Accordingly, it serves as a platform for ASEAN naval leaders to discuss and exchange ideas about steps that can be undertaken together to maintain maritime security in the Southeast Asian region.

Its origins can be traced to its formal establishment in 2001 with the Royal Thai Navy hosting the activity². During that time, it was originally known as the ASEAN Navy Interaction (ANI) and it was conducted biennially. Subsequent interactions including the

¹Sources

Jarius Bondoc, "Our Navy's Dramatic Birth 125 Years Ago," Philstar.com, accessed June 5, 2023, <https://www.philstar.com/opinion/2023/05/26/2269139/our-navys-dramatic-birth-125-years-ago>.

² "MINDEF_20180804001_1.Pdf," accessed February 8, 2023, https://www.nas.gov.sg/archivesonline/data/pdfdoc/MINDEF_20180804002/MINDEF_20180804001_1.pdf.

2nd iteration hosted by the Royal Malaysian Navy in 2003, the 3rd iteration hosted by the Republic of Singapore Navy in 2005, and the 4th iteration hosted by the Indonesian Navy in 2010 retained the use of ANI³. However, during the 5th ANI meeting in 2011 that was hosted by the Vietnam People's Navy⁴, the discussion concerning its renaming to ANCM was implemented with future meetings to be conducted annually rather than biennially. Such a decision was also related to the implementation of the two-year working plan that was discussed and approved between the Chiefs of the Defense Forces of the ASEAN during the 7th ASEAN Chief of Defense Forces Meeting in Hanoi, Vietnam in 2010⁵. To date, this activity retains its name as 'ANCM' with the 10 ASEAN member states hosting the meeting annually on a rotational basis.

While the ANCM's roots can be traced to more than two decades ago, the AMNEX was a recent concept proposed under the ambit of the ANCM. It was coined by the Royal Thai Navy during the 8th ANCM in 2014 and was officially adopted during the 9th ANCM in the following year. The inaugural exercise was hosted by the RTN in 2017 and the Philippine Navy participated in it by sending BRP Tarlac (LD601) and BRP Gregorio Del Pilar (PS15)⁶. Its second iteration was supposed to be carried out by the Vietnam People's Navy in 2020 but was canceled due to the Covid-19 pandemic. As a result, the next hosting was carried over to the Philippine Navy and dovetailed with its hosting of the 17th ANCM.

Conduct of the 17th ANCM and 2nd AMNEX

Anchored on the theme "*Synergy at Sea: Regional Cohesion for Peace and Stability*" emphasizing the role of ASEAN Navies in preserving Southeast Asia's long peace, the 10 Chiefs of Navies and their respective delegations from all ASEAN member states gathered at The Grand Hyatt Manila from May 08 to 12 to attend a series of activities organized by the Philippine Navy under the 17th ANCM. The roster of activities includes Social Events (e.g., Welcome Cocktails and Gala Dinner), the Maritime Security Symposium 2023 (MSS 2023), Bilateral Meetings, the Plenary Session of the 17th ANCM, and the 2nd AMNEX with AFR.

On the substantive part, the MSS 2023 was part of the 17th ANCM. While the MSS annually forms part of the Philippine Navy's anniversary Activities, this year the MSS served as the strategic scene setter of the 17th ANCM. With the theme "*ASEAN at the Forefront: Emphasizing ASEAN's Perspective, Highlighting its Strength*", the MSS 2023 highlighted the significance of ensuring ASEAN Centrality through cooperation, and contextualized the role of ASEAN Navies amid geopolitical challenges and the rise of external players in the Southeast Asian region. It is also worth noting how Senior Usec. Carlito G. Galvez Jr., Officer-in-Charge of the Department of National Defense graced the activity as the Keynote Speaker. Further, all Chiefs' of Navy attended the said

activity together with their selected Staff Officers. After the MSS 2023, bilateral meetings were conducted on the sidelines of the 17th ANCM.

The 17th ANCM Plenary Session took place on May 10, 2023. The ASEAN Navies were able to cover a total of twelve (12) agenda items divided into three sessions that detail past, present, and future activities under the ANCM. It was also during this session that the approval of the ANCM Guidelines for Maritime Interaction (ANCM GMI) was finalized after its tedious crafting process. With the passing of the ANCM GMI during the 17th ANCM, the PN has become instrumental in the development of a mechanism that may guide ASEAN Navies in promoting safety at sea and the synergy of efforts in pursuit of regional peace and stability.

After the Plenary Session, Day 2 of the bilateral meetings was held. In the evening, the Gala Dinner was hosted to celebrate the meaningful success of the 17th ANCM as well as the continued friendship among ASEAN nations with hopes of continued partnership and cooperation.

The next day, the Chiefs' of Navy and their selected staff departed from Grand Hyatt to attend the AFR in Subic, Zambales. The activity was participated by a total of nine ships from several ASEAN, including two from the Philippine Navy namely BRP Antonio Luna (FF151) and BRP Andres Bonifacio (PS17). Meanwhile, the BRP Davao del Sur (LD602) served as the viewing ship for the activity. While the Royal Cambodian Navy and the Lao People's Army did not send ships to the AFR, they have instead sent observers signifying their gesture of solidarity and support for the Philippine Navy's hosting of the said activity. Similar to MSS 2023, Senior Usec. Galvez served as the keynote speaker for the said event.



Figure 2. VADM Toribio Adaci J PN delivered the MSS 2023 Closing Remarks. (Source: Naval Public Affairs Office)

Lastly, the 2nd AMNEX was conducted from 11 to 16 May 2023 and was divided into two phases, namely the Harbor Phase and the Sea Phase.

The Harbor phase consisted of activities that can familiarize each participating navy with one another. They were also briefed to help prepare the participating vessel and crew before navigating into open waters for the Sea Phase.

The Sea Phase was also participated by the aforementioned nine ships and centered on a notional scenario carried out to harness cooperation and interoperability between participating navies.

³ "Asean Navy Chief Meeting 2023 - Philippine Navy," accessed February 8, 2023, <https://ancm2023.navy.mil.ph/about.php>.

⁴ "MINDEF_20180804001_1.Pdf."

⁵ "Asean Navy Chief Meeting 2023 - Philippine Navy."

⁶ "PH Navy Ships in Thailand for ASEAN Naval Exercise | Philippine News Agency," accessed June 5, 2023, <https://www.pna.gov.ph/articles/1015769>.



Figure 3. The ASEAN Chiefs of Navies aboard BRP Davao Del Sur (LD602) during the AFR at Subic, Zambales. (Source: Naval Public Affairs Office)

The Impact of the Philippine Navy’s Hosting

The Philippine Navy’s hosting of the ANCM contributes to its goal of harnessing purposive engagements and the establishment and maintenance of relations with partner navies. This endeavor is also aligned with the PN’s Active Archipelagic Strategy (AADS) whereby maritime cooperation is one of the strategic approaches. Accordingly, the Philippine Navy should maximize collaboration and cooperation with like-minded navies and partners to address both traditional and non-traditional maritime security threats. It also highlights that given the dynamics of the maritime environment and its geopolitical implications, cooperation among navies is paramount.

The ANCM is an important platform that allows ASEAN navies to discuss developments in the region’s maritime security landscape as well as craft initiatives that promote cohesion among navies. As a platform of collaboration, ANCM also allows ASEAN Navies to synergize efforts centered on practical cooperation such as naval exercises, training exchanges, information sharing, and mutually beneficial dialogues – all of which contribute to the deepening of trust and partnerships between navies of the Southeast Asian region which is certainly crucial in today’s less benign strategic environment.

Regional-led mechanisms such as the ANCM are also important avenues to highlight shared maritime interests as well as common maritime security priorities. The Philippine Navy’s hosting of the 17th ANCM shows that the PN is a significant player and contributor to the ASEAN region’s peace and stability. It contributed to the improvement of ASEAN regional affairs, with the Philippine Navy actively participating in ensuring regional cohesiveness and interoperability among navies.



Figure 4. VADM Toribio Adaci Jr hands out a memento to ADM Muhammad Ali, Chief of Navy of the Indonesian Navy. Indonesia was the ANCM’s host prior to the Philippines. (Source: Naval Public Affairs Office)



Figure 5. Senior Usec. Carlito G. Galvez Jr., former Officer-in-Charge of the Department of National Defense served as the Keynote Speaker to the Maritime Security Symposium 2023 (MSS 2023). This year’s MSS is dovetailed with the 17th ANCM.



Figure 6. BRP Davao del Sur (center) passes RSS Supreme of the Republic of Singapore Navy (left) and KRI GNR 332 (right) of the Indonesian Navy during the ASEAN Fleet Review. (Source: Naval Public Affairs Office)



About the Author

Altamira Reyes is a Defense Research Analyst at the Office of Naval Strategic Studies and Strategy Management (ONSSSM), Philippine Navy. She is currently taking a Master’s Degree at The Asian Center, University of the Philippines Diliman, majoring in Asian Studies and specializing in Northeast Asia (Japan). Her research interests are Japan Studies, Japan and Philippine Relations, Defense and Security in the Indo-Pacific, and Non-traditional Security Issues.

NAVY SHIP CONVERTS SEAWATER TO FRESHWATER FOR MT. MAYON EVACUEES

by Philippine Navy



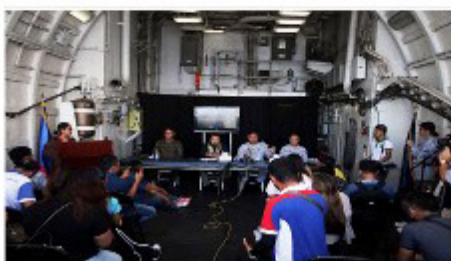
The BRP *Andres Bonifacio* (PS17), one of the Philippine Navy's capital ships under the Operational Control (OPCON) of Naval Forces Southern Luzon, is now at Albay to supply the fresh water needs of evacuees affected by Mt. Mayon's eruption using an onboard Reverse Osmosis Desalination System.

Said deployment is being realized as committed by Defense Secretary Gilberto Teodoro Jr during President Ferdinand Marcos Jr's visit to Albay last 14-June-2023, that the Philippine Navy will deploy its ships that are capable of converting saltwater to fresh water, which are essential in various evacuation centers in Albay. The said system can produce large amounts of fresh water up to 32,000 liters per day which can benefit at least 1,000 affected families.

Along with Commander Task Force SAGIP, BGEN JAIME ABAWAG JR PA, and Commander Naval Forces Southern Luzon, COMMO JOE ANTHONY C ORBE PN, the Honorable EDCEL GRECO LAGMAN JR., Governor of Albay, was invited to witness the said capability. A ceremonial drinking of water produced by onboard Desalination System was also demonstrated to assure the Albayanos of its safety.

Furthermore, in the event of a disaster on land and if the alert level is raised, PS17 can serve as a mobile Command and Control for the local government of Albay.

NAVFORSOL's disaster response efforts during volcanic eruptions exhibit the Philippine Navy's dedication to serving the Filipino people, and in this case, the Bicolanos. 🚢



OUR AMPHIBIOUS WARFARE VESSELS: FROM COMBAT SERVICE SUPPORT TO HUMANITARIAN RESPONSE (PART 2 OF 2)

by CDR Mark R Condeno PCGA

LANDING SUPPORT VESSEL (LSV). It would be 17 years later that the Service Force would have a boost in the arm with the commissioning of the Frank S Besson Class BRP *Bacolod City* (LC-550) on 03-December-1993 and BRP *Cagayan De Oro* (LC-551 later changed to BRP *Dagupan City*) on 05-April-1994. Both are still extant today with a 990-ton capability load for amphibious operations and 150 Marine Corps personnel.

LSV OPERATIONAL HISTORY. BRP *Bacolod City* marks this year (2023) with 30 years of service to Navy and Country, her notable deployments since being commissioned include various missions on territorial defense, maritime patrol, and re-provisioning missions to the various islands in the archipelago and that of the detachments that we have in the Kalayaan Island Group. She and her sister ship BRP *Dagupan City* has been on the forefront of the various Humanitarian Assistance and Disaster Relief (HADR) missions affected by the various typhoons that hit the country such as Typhoon Yolanda. The two vessels were able to bring in the much-needed relief goods and the first to bring in the Navy's heavy equipment in support of the ongoing search and rescue operations in the area. The two LSVs likewise participated in various international naval exercises representing the country during the *Langkawi International Maritime Aerospace Exhibition* in Malaysia, the Bilateral *BALIKATAN* exercises with the Americans, and the *KAKADU* Exercise with the Australian Defense Force.

LANDING CRAFT HEAVY (LCH). More than a score later on 23-July-2015, former Royal Australian Navy (RAN) Landing Craft Heavy HMAS *Tarakan* and HMAS *Brunei* were turned over to the Philippine Navy and became BRP *Batak* (LC-299) and BRP *Ivatan* (LC-298). Almost a year later, the remaining RAN Balikpapan Class were commissioned in the Philippine Navy as BRP *Waray* (LC-288), BRP *Iwak* (LC-289), and BRP *Agta* (LC-290). The donation of *Tarakan* and *Brunei* came to light during the Typhoon Yolanda when it was observed that the Philippines needed to improve its Sealift capability. The last three LCHs were purchased later on.



BRP *BATAK* (LC-299) with an *Abraham Campo* Class Patrol Gunboat and 2 *Jose Andrada* Class Gunboats during Exercise *Pagsasama 2021*. Photo Credit: PN Public Affairs Office Facebook Page. Accessed 15 July 2023.

LCH OPERATIONAL HISTORY. BRP *Batak* is known to perform operational support missions, bringing in supplies and relief goods to the victims of Typhoon Rolly and Ulyses in the Province of Catanduanes three years ago, and to other parts of the country

transporting the much-needed personal protective equipment when the global pandemic struck the country. BRP *Ivatan* on the other hand transported relief goods and other needed materials to the families affected by Super Typhoon Odette last January 2022 in the Visayas where 23,000 families were displaced by force majeure. Two years prior, she also transported 1,827 Philsys kits for the National ID system in the Provinces of Leyte, Negros Occidental, Negros Oriental, Antique, Cebu, Bohol, and Capiz. For BRP *Waray*, some of her known Tabulated Record of Movement and Operational History was her participation in the Community Outreach Program held in Misamis Occidental as part of Civil Military Operations in November 2018. The following month, along with her sister ship BRP *Agta*, and with other naval craft, she supported the Marine amphibious landing in Patikul, Sulu. In midyear 2019, BRP *Waray* apprehended a motor launch off Zamboanga waters involved in Human trafficking, and rescued about 100 persons. Last January 2022, BRP *Iwak* conducted HADR operations in the Province of Surigao Del Norte and Dinagat Islands that were hit hard by Super Typhoon Odette; 50 sacks of rice and 142 5-gallon water and bottled waters were carried by the vessel as donations from Manila.



BRP *TARLAC* (LD-601) and BRP *RAMON ALCARAZ* (PS-16) during Maritime Training *SAMA-SAMA* in 2018. Photo Credit: Petty Officer 2nd Class Joshua Fulton, USN, Defense Visual Information Distribution Service. Accessed 15-July-2023.

LANDING PLATFORM DOCK (LD). A major amphibious vessel of the Fleet BRP *Tarlac* (LD-601) and BRP *Davao Del Sur* (LD-602) is one of the current large tonnage vessel acquisition since the Frank S Besson Class 23 years ago. The contract was awarded to PT PAL Indonesia on 29-August-2014 with both ships commissioned in 2016 and 2017, respectively.

LPD OPERATIONAL HISTORY. Since her commissioning in 2016, BRP *Tarlac* and later her sister ship BRP *Davao Del Sur* were in the forefront of combat service support and HADR missions throughout the country. In September 2016, BRP *Tarlac* was in Zamboanga as part of the naval blockade during operations against Abu Sayaff. During the Marawi Siege, from her deck flew the *Agusta A109s* in support of the operations and as well as a platform for the units of the Naval Special Operations Group. Subsequently, she was also a participant of the various bilateral exercises with the United States Navy such as the Maritime Training Activity *Sama-Sama* and the 2019 *Balikatan*

Exercises. Historic firsts were her voyage to Vladivostok, Russia in September 2018 and the International Fleet Review in South Korea in October 2018.

On her more recent operations, she performed HADR to those affected by heavy rains in the province of Zamboanga last January 2023, and on July 2023 to the people of Albay with the unrest of the Mayon Volcano.

Six years after her commissioning, BRP Davao Del Sur initial operations were to support the initial reconstruction and rehabilitation of the City of Marawi, as well as combat



BRP DAVAO DEL SUR (LD-602) off the Coast of Hawaii, during the 26th Rim of the Pacific (RIMPAC) Exercise in 2018.
Photo Credit: Petty Officer 1st Class Arthurgwain Marquez USN, Defense Visual Information Distribution Service.
Accessed 15-July-2023

LANDING CRAFT UTILITY (LCU). Further, 3 Ex-USN Mark 6 LCUs are still in service namely BRP *Subanon* (LC-291), BRP *Tausug* (LC-295), and BRP *Bagobo* (LC-293) as well as 2 locally designed LCUs: the Tagbanua Class with BRP *Tagbanua* (LC-296) as the lead ship which is also noted as the Philippines' largest-built naval vessel; and the Manobo Class with BRP *Manobo* (LC-297). The latter ships are sometimes considered as Large Landing Craft Utility. The LCU fleet was further augmented by the former Republic of Korea Navy Mk.78 Mulgae Class commissioned in 2021 and named as BRP *Mamanwa* (LC-294). These smaller vessels are essential during various HADR missions as well as Combat Service Support in which they could readily land vehicles and Armored Personnel Carriers on islands with no harbors or piers, as well as enter narrow straits or passageways that cannot be reached by the larger vessels. Also present are 4 smaller LCUs part of the two LPDs and 5 Riverine Utility Craft or RUCs.

SMALLER AMPHIBIOUS VESSELS. Further, 71 smaller vessels comprising 11 LCM-8, 50 LCM-6, 7 LCVPs and 3 LCUs were part of the then Sealift Amphibious Command and later on Service Squadron; and the present Sealift Amphibious Force mostly former units of the United States Navy (USN), Japanese Maritime Self Defense Force (JMSDF). Of the 71, most have been decommissioned.

TIMELINE OF COMMISSIONING

LANDING SHIP TANK

- 1947 - 2 LSTs
- 1948 - 3 LSTs
- 1969 - 3 LSTs
- 1972 - 3 LSTs
- 1975-1976 - 14 LSTs

LANDING SHIP MEDIUM

- 1960 - 1 LSM
- 1961 - 1 LSM

1962 - 1 LSM

1975 - 3 LSMs (Only 2 were commissioned)

LANDING SHIP INFANTRY LARGE

1976 - 4 LSILs

LANDING SHIP SUPPORT LARGE

1975 - 6 (First 4 Ex-SVN) (2 Ex-USN) LSSLS

LANDING SUPPORT VESSEL

1993 - 1 LSV

1994 - 1 LSV

LANDING CRAFT UTILITY (TAGBANUA CLASS)

2011 - 1 LCU

LANDING CRAFT HEAVY

2015 - 2 LCHs

2016 - 3 LCHs

LANDING PLATFORM DOCK

2016 - 1 LPD

2017 - 1 LPD

LANDING CRAFT UTILITY (MULGAE CLASS MK.78)

2021 - 1 LCU (Ex-ROKN)


TOWARDS THE FUTURE. Last June 2022, a contract was signed between the Philippines and Indonesia's PT PAL for the construction of two additional Landing Platform Dock of the Tarlac Class envisioned to enter service in the near future.

CONCLUSION. As the world's second largest archipelago with 11 major and 7630 other islands, the importance and necessity of amphibious vessels both for combat, combat service support, and humanitarian and disaster response is primordial for the navy in reaching out to far flung garrisons all over the country, and as a platform as a first responder during calamities, specifically on islands with no harbors or piers.

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About the Author

AUX CDR Mark R Condano PCG is the Administrative Officer of the Philippine-Korea Friendship Center under the Department of National Defense-Philippine Veterans Affairs Office. He holds a BS degree in Architecture from Palawan State University. He completed the Basic Naval Reserve Officers Training Course with the 420TH NROTCU. He is with Bravo Class of 1999, the Philippine Coast Guard Auxiliary Officers Indoctrination Course, Coast Guard District-Palawan. In 2002, he took the Aerospace Power Course at Air University, United States Air Force and is a 2008 Graduate of the Joint US Military Historical Operations Course. In 2007, he was Research Officer at the Office of the Naval Historian, PN. Lastly, he is with Class 26 of the Executive Course on National Security of the National Defense College of the Philippines. 

DELTAMARIN & BARTECH HULL COLLABORATE TO HARNESS WIND POWER

by DELTAMARIN



DELTAMARIN and BAR Technologies' new optimized hull design to harness wind power for 15% improvement against current fleet

KEY TAKEAWAYS

- *DELTAMARIN and BAR Technologies' new Aframax/LR11 build design improves current performance by 15% through wind propulsion.*
- *Rising uptake of wind propulsion technology underlines the cargo shipping industry's commitment to decarbonization and green innovation.*
- *The focus on hull designs tailored for wind power is the next step in the development of wind propulsion.*

Naval architects DELTAMARIN and innovative marine engineering consultancy BAR Technologies have announced that they are once again partnering to lead the way in wind propulsion innovation with new build design, Aframax (80-120K tons/Long Range II type (LR11)).

The announcement comes off the back of previous collaboration on WindWings, which with savings of approximately 1.5 tons of fuel per wing per day will debut on the Pyxis Ocean soon, fresh from being nominated for the Next Generation Ship Award at Nor-Shipping.

Above deck, there have been great strides in design that harnesses the potential of wind propulsion. The next frontier, recognized in this partnership, is to complement this with hull forms modified specifically to maximize wind power. With this new hull design, BAR Technologies and DELTAMARIN's early predictions suggest that as much as 10 tons of fuel per day can be saved with an Aframax/LR11 hull and 4 WindWings, using a North America-Rotterdam roundtrip as an example.

The use of sails to reduce fuel consumption and thereby help decarbonize shipping is a very popular method employed by innovators and vessel owners. However, progress towards maximum efficiency depends upon full consideration of variable factors, such

as the type of vessel and the route it is taking. To get closer to the best solution in general, there must be more research on how performance can be improved under the water's surface.

Wind is the free fuel, and it is the gauntlet laid down in front of innovators like ourselves to work out how we can displace fossil fuels with wind power. It has been a privilege to partner with the best shipyards to retrofit WindWings, and we are especially excited to partner with the best ocean-going naval architects for big ship design in DELTAMARIN and that the Aframax/LR11 is the first of many announcements.

John Cooper, Chief Executive Officer, BAR Technologies

It is in this area that DELTAMARIN and BAR Technologies are now pooling their concentration having seen first-hand that a large portion of both existing ships and newbuilds lack optimal hull and propulsion designs for significant wind assistance.

Although the project is in its initial phase, BAR Technologies' history of technical excellence and DELTAMARIN's quality in ship design give confidence to the assertion that new hull forms, like the Aframax/LR11, in extracting significantly more thrust will increase average fuel savings and will be the first of many ship designs tailored for wind propulsion.

"The opportunities moving forward with wind power are vast. Being familiar with BAR Technologies' expert innovation in wind propulsion, we are delighted to collaborate on what both companies see as the next vital stage for wind-assisted sea travel: hull optimization. So far, we have made fine progress in harnessing wind power using sails, but we are finding increased performance all the time and, with this hull design, we are witnessing a 15% improvement against our current fleet.

Esa Jokioinen, Director of Sales and Marketing, DELTAMARIN



Source: <https://deltamarin.com/2023/06/deltamarin-bartech-make-hull-collaboration-announcement/>

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- * Photos are from the actual sight.
- * Viewing available on appointment
- * Equipment installed new from 2007 to 2009 at the shipyard



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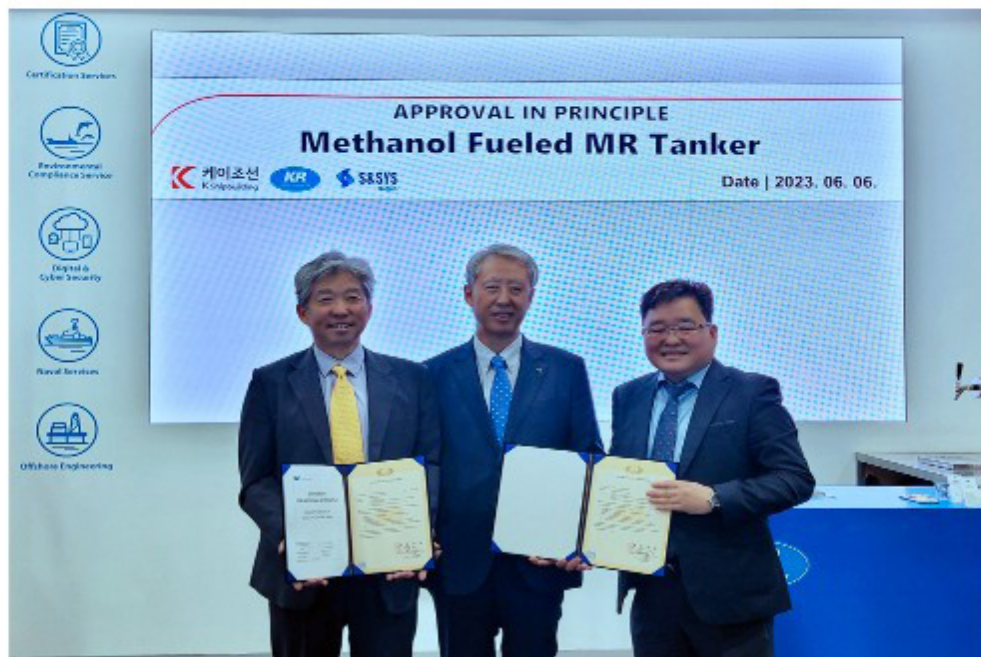
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KR APPROVES JOINTLY DEVELOPED METHANOL-FUELED MR TANKER

by Korean Register



Korean Register (KR) has granted an Approval in Principle (AIP) for a methanol-fueled MR (medium-range) tanker, jointly developed by KR, South Korean Shipbuilders K Shipbuilding and equipment manufacturer S&SYS at Nor-Shipping 2023 in Oslo, Norway on 6-June-2023.

As part of the Joint Development Project (JDP) between the three companies, the MR tanker is designed as a dual-fuel vessel, harnessing the power of marine gas oil (MGO) and methanol. The vessel incorporates two methanol fuel tanks positioned on the port and starboard sides of the open deck.

K Shipbuilding spearheaded the vessel's basic design and the methanol fuel tank design, while S&SYS undertook the development of the fuel supply system. KR ensured the safety and regulatory compliance of the design by thoroughly reviewing national and international regulations, leading to the issuance of the AIP for the methanol-fueled MR tanker.

With an increasing focus on reducing greenhouse gas emissions (GHG) in the maritime industry, the adoption of decarbonized alternative fuels has become imperative.

Initiatives like the EU's "Fit for 55" package, targeting a minimum 55% reduction in GHG emissions by 2030, have underscored the urgency for shipping companies to explore viable solutions. Consequently, many major shipping companies have recently placed orders for methanol dual-fuel vessels.

Methanol possesses significant advantages as a marine fuel.

It is a liquid fuel similar to bunker fuel at room temperature, eliminating the need for pressurization. Compared to extreme temperature fuels like LNG at -162 degrees Celsius, hydrogen at -253 degrees Celsius, and ammonia at -34 degrees Celsius, methanol is easier to store and transport. Furthermore, it is considered a green fuel with strong potential for commercialization in the maritime sector due to its technical feasibility, less toxic nature compared to ammonia, and lower technical requirements compared to LNG fuel.

LEE Hyungchul, Chairman & CEO of KR, said: "KR remains committed to advancing decarbonized alternative fuel technologies, with a particular focus on providing technical support for decarbonization efforts. The 'Methanol-Fueled MR Tanker' joint development project stands as a testament to KR's dedication to driving the industry's transition towards greener solutions."

JANG Yoonkeun, CEO of K Shipbuilding, said: "We are delighted to see that our years of hard work to develop green-fueled vessels has resulted in today's AIP for the methanol-fueled MR tanker. We will further improve our technologies and pursue innovations to contribute to maritime decarbonization."

By granting AIP for the methanol-fueled MR tanker, KR reinforces its position as a leading classification society in championing sustainable and innovative maritime technologies that pave the way for a more environmentally conscious future.



Source: https://www.krs.co.kr/eng/BBS/BF_View.aspx

CHARTING A COURSE TO A GREENER FUTURE FOR SHIPPING: LOW-EMISSION SHIPPING FUELS AND THE DEVELOPMENT OPPORTUNITY FOR THE GLOBAL SOUTH

by TRAFIGURA



Photo Credit: Trafigura

Shipping is an important industry that plays a significant role in global trade and economic growth, but it is also responsible for 3% of all global greenhouse gas emissions.

The industry's current goal of reducing total annual GHG emissions by least 50% by 2050 compared to the 2008 baseline, is not ambitious enough to meet the immense climate challenge we face today. This needs to change and soon.

While technology and biofuels have a role to play, ultimately the only way to achieve deep decarbonization of shipping is by switching to low-emission fuels.

With the right policy settings, we see large potential for producing two of these fuels - green ammonia and green methanol - in countries with access to abundant solar energy, wind power and land.

However, this potential, which could provide developing countries with the chance to develop new export industries

and create thousands of skilled jobs, won't be realized unless the shipping industry can agree on challenging decarbonization targets and crucially implements a price on carbon.

The International Maritime Organization (IMO) has an essential role to play in this regard, as the de facto global regulator of shipping. By agreeing and implementing ambitious science-based decarbonization targets in its revised GHG Strategy, the IMO can accelerate the development of low- and zero-emission fuels, and attract the investment needed to overhaul the infrastructure of the global shipping industry and retrofit a fleet of ships.

Delaying action will only add to the eventual cost of decarbonization. Shipping needs to act now to tackle its emissions footprint and start the journey to a sustainable and resilient future.

For more details, you may access the White Paper here, authored by Margaux Moore and Rasmus Bach Nielsen.



Source: <https://www.trafigura.com/brochure/charting-a-course-to-a-greener-future-for-shipping/>

THE WHOLE OF NATION APPROACH TO THE BLUE ECONOMY

by Karl M Garcia



First of all, I am thankful to be a member of the prestigious Maritime League and being able to attend its Maritime Forum where I have exchanged notes or opinions with some of its members, either through the Forum or private messages.

I am very honored to have exchanged notes with no other than the Former Associate Chief Justice Tony Carpio on more than one occasion, and likewise with the experienced Mariner Jeffrey Solon.

In addition to the Forum, the direct private messages when it comes to the Maritime League is more than small talk –it is an avenue for imparting knowledge and wisdom based on experience. To name a few are Vice Admiral Bobby A Empedrad, former Navy flag officer in command; and Vice Admiral Joel S Garcia, former PCG Commandant, who have given me valuable knowledge and advice.

Recently, I got a series of messages from Mr. Francis Carlos whom I think has been there and done that like the people I mentioned. He encourages me in many ways. He is the new Dean of the UP College of Human Kinetics.

The Blue Economy. On the launching of BEACON 2023, the current PCG Commandant Artemio Abu mentioned another member of the league, Dr. Cora Claudio who wrote on the Blue Economy. In the forum, she always reiterates our being a MAN or a Maritime and Archipelagic Nation. September is MANAMO month but what happens before and after September? We return to our old ways, not aware that we are a “MAN” in more ways than one.

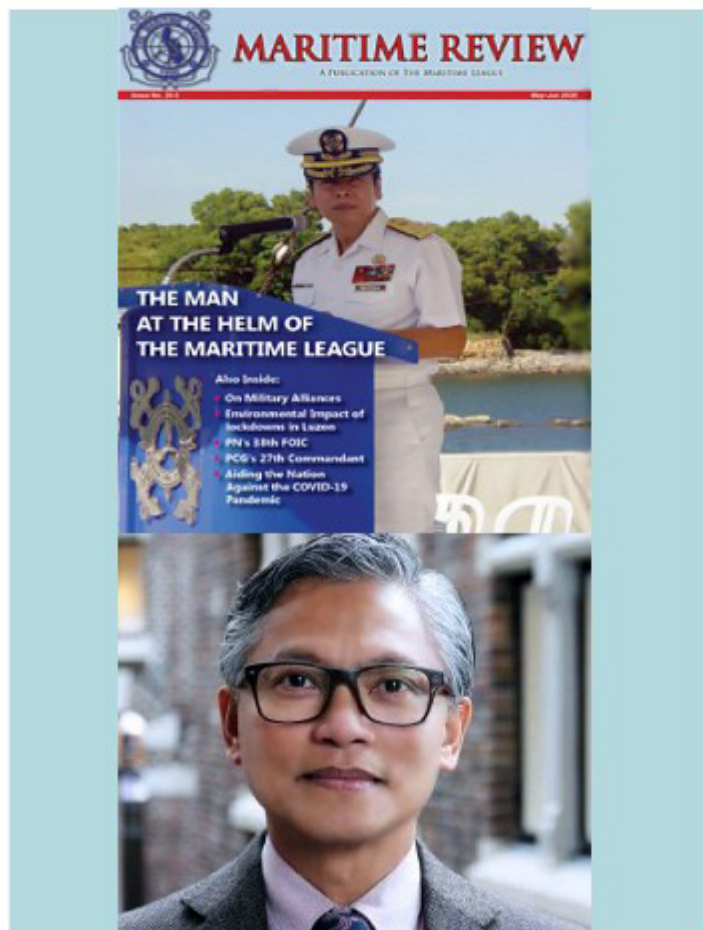
The next generation will thank us if we get our act together and leave a legacy of a maritime domain cared for by environmentally aware citizens whose land area is just a third of its waters.

Maritime Education. The importance of Maritime Education cannot be over or understated. Maritime education is in good hands for the local and international Maritime movers and shakers. We have the Maritime Academy of Asia and the Pacific (MAAP) headed by no other than our very own Vice Admiral Eduardo Ma R Santos, and the World Maritime University (WMU) led by Dr. Max Mejia as its new president.

Beginning in 2006, we were always on our toes walking on eggshells trying so hard not to be banned by the EU, thanks or no thanks to the European Maritime Safety Agency (EMSA).

Since we know our Maritime Domain’s size is more than 3x the area of our land, our Maritime Domain Awareness must be coupled with Maritime Security to have our Maritime Sovereignty always in check.

I have tried to discuss that in my Maritime Education article and my Maritime Security and Sovereignty article.



Here is an article on VADM Eduardo Ma R Santos written by CDR Mark R Condono PCGA. There is a host of degrees that you can aspire to earn at MAAP, and learn its educational objectives and program outcomes. And you could also get to know more about the achievements of Dr. Max Mejia from the WMU.

National Security and Defense. I have written about Amending the National Defence Act (NDA) and the Philippine Navy which happens to be my maiden voyage for the Maritime Review. I found the constructive difference of opinion between Commodore Jay Tarriela and Dr. Jesse Pascasio worth writing about. Commodore Tarriela believes that the NDA needs amending in regards to the tradition of having DND Chiefs from the Army be changed to having DND chiefs from other branches of service, and the Navy is one of those main branches. Dr. Jesse Pascasio thinks we need to have strategic thinking but we need to set aside legislating the amendment for now.

I also wrote about our National Security Interests. As Lord Palmerston said, paraphrasing him loosely, there are no permanent friends, only interests. That quote is the unofficial Foreign Affairs policy of all nations.

National Security and Defense is a broad subject matter, but first we have to define it as the Security and Defense of a sovereign state including its citizens, economy and institutions, which is regarded as a duty of government. Whereas, national Interest is a sovereign state's goal and ambition, taken to be the aim of government.

Our all-government approach mantra is exhibited by our Inter-agency cooperation and coordination of all our government agencies in the blue economy and recently as exemplified by the IATF during the pandemic. But truly, we must think beyond the all government approach by involving the NGOs and the private sector through an Inter-Organizational Coordination.

We can call it an whole-of-nation approach to national security like our issues in the West Philippine Sea (WPS) which seems to be a zero-sum proposition and a winner-take-all scenario, and turn it into a win-win scenario for all parties concerned, short of triggering another world war. Let us all do all what we can for world peace to prevail.

Maritime Safety. I have written about the past IMO conventions and pending legislations for the safety of lives at seas. As of this writing I have an article pending approval about the Maritime Legislation and the Marine Environment. It is about some pending legislations that have to do with the Blue Economy.

Marine Environment. The Marine environment accordingly means those areas and ocean waters, and their connecting waters and submerged lands thereunder.

In my article on **Maritime environment**, I wrote about the following: Coral reefs annihilation; Manila Bay reclamation; Plastics and other pollutants; The Ocean Savior project; Ammonia powered ships; and Ship Recycling

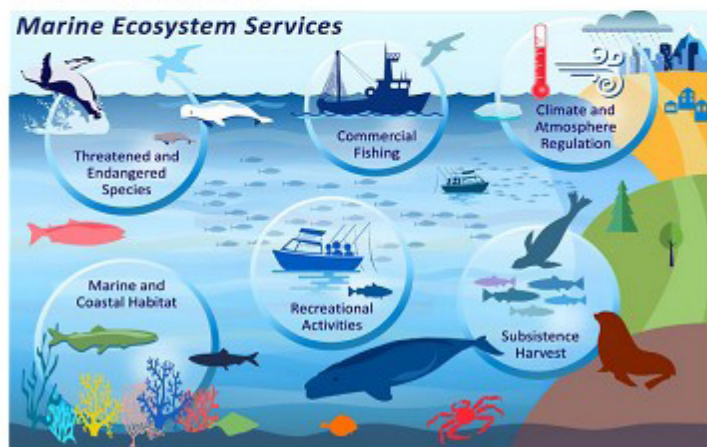
Our coral reefs are the habitat of fish, our BFAR has programs like the LAMBAKLAD Development as a way to promote sustainable fishing technologies to enhance fisheries production while minding resource capability.

We must continue to monitor against dynamite and cyanide fishing and other destructive practices.

The Manila Bay reclamation should also be reconsidered because to protect our coastal lands, and avoid instances where ground water's pace of replenishment will be more difficult.

Much has said about the Philippines' contribution to ocean pollution in the world as being in the top 3 list of polluters. A whole-of-nation approach is needed in this endeavor led by the DENR, our Coast Guard, and the Local governments.

In addition to Boyan Slat's ocean clean-up project, there is the Ocean Savior project that collects ocean debris and has a built-in plastic recycling system.



The shift from fossil fuel-powered ships is starting to progress with the Ammonia-run ships and other alternatives like Hydrogen and Methanol which are already happening. Other non-fossil-based fuel alternatives that may bring the maritime industry closer to net zero emissions are Biofuel, Ethanol, as well as renewable energy like Offshore Wind Turbines and Wind Sails.

Ship Recycling. The Aircraft carrier of Brazil had to be sank because it was already a danger to the coastline and no country wanted to recycle it like having too much asbestos and other dangerous materials. If our shipbuilding expands exponentially, it would be best to have a greener and safer way to recycle ships.



Mindoro Oil Spill. This unfortunate event happened recently and it is another lesson learned. Our leaders might review the existing regulations, procure more search and rescue equipment and other needed equipment for such disasters.

This writer and all of the writers of the Maritime Review having explored the elements of our Blue economy, this is our contribution to make Maritime Awareness not only during September but all year round, the BEACON 2023.



Kudos to the Maritime League for a wonderful and successful launch of the September big event called BEACON 2023 onboard BRP Gabriela Silang, hosted by PCG. I am looking forward to the success of the event itself co-sponsored by DOTr.

About the Author:

Karl Misa Garcia's interest in the Maritime Industry goes way back when he was an employee of Asian Terminals, a port operator at the South Harbor Port of Manila. But his interest in everything maritime maybe in his DNA being a son of a former Navy Officer. He also had a stint as a consultant to Senators Biazon and Trillanes. He is a graduate of BS Computer Science from AMA Computer University. He earned his MBA from De La Salle University Graduate School of Business. 🚢



Due to the reorganisation of the Shipyard, formerly owned by

HANJIN PHILIPPINES SHIPYARD SHIPYARD EQUIPMENT FOR SALE



PRIVATE SALES ONGOING
ONLINE AUCTIONS
FROM JULY 2023

Amsterdam-based Hilco Industrial Acquisitions, an operating company of US-based Hilco Global, announced the Sale of Surplus Equipment of the formerly owned HANJIN PHILIPPINES SHIPYARD, located in Subic Bay, Philippines, following its strategic acquisition.

Consistent with the new business direction of revitalizing the operations of the renowned Shipyard into a Multi-Purpose Facility, the surplus assets are now up for sale on HilcoBid.com

Hanjin Philippines Shipyard is recognized among the 10th Largest Shipyards in the world with 300 Ha/740 acres of area for the entire manufacturing unit, and 35000 Staff employed during the height of the Shipyard. Equipment in this sale are installed new from 2007 to 2009 at the shipyard. Hanjin successfully built the first ship in 2009 at the shipyard.

Featured Equipment:

- Goliath Cranes; Jib (Dockyard) Cranes; Bridge Type Cranes; Gantry and Overhead Cranes
- CNC Plasma Cutting Machines, Oxygen Cutting Machines, Hydraulic Shipyard Presses, Panel & T-Bar Fabrication Lines
- 5000+ Welders, Welding Cable
- 5000+ Dockyard Equipment
- 100+ Forklifts
- Hydraulic & Crawler Cranes, Aerial Platforms, Boomstackers, Tractor & Trailers, Trucks, Vans, Buses, Cars, and much more
- Vessels: Tugboats, High Speed Passenger Vessels, Roll-on Roll-off Passenger/Transport Vessels.

Robert Bouland, CEO at Hilco Industrial Acquisitions, stated, "This sale represents an outstanding opportunity for buyers

seeking to purchase high-quality shipbuilding equipment." Bouland also mentioned that they expect significant interest from Asia and the Americas, and are open to considering offers to purchase a comprehensive package of substantial assets.

To arrange an inspection, access more detailed information about the assets which are being sold, or learn specific details on the sales process, please contact: **Margot Ter Bogt** (mterbogt@hilcoglobal.com)

About Hilco Industrial Acquisitions

Hilco Industrial Acquisitions (www.hilcohia.com) is based in Amsterdam in the Netherlands and provides industrial asset acquisition and disposition services, specializing in machinery, equipment and inventory auctions and negotiated sales. It sells a broad range of industrial assets found in manufacturing, wholesale, and distribution companies. The company buys and sells assets through on-site, online and combination webcast auction sale events as well as negotiated (private treaty) sales. In addition to providing services on a fee or commission basis, Hilco Industrial Acquisitions, puts capital at risk and often acquires assets or provides guarantees.

Hilco Industrial Acquisitions is part of Northbrook, Illinois-based Hilco Global (www.hilcoglobal.com), the world's leading authority on maximizing the value of business assets by delivering valuation, monetization, and advisory solutions to an international marketplace. Hilco Global operates more than twenty specialized business units offering services that include asset valuation and appraisal, retail and industrial inventory acquisition. 

IN MEMORIAM

CAPTAIN TOMAS D BAINO PN (RET)

by Vicky Viray Mendoza



CAPT TOMAS D BAINO was a Trustee, a member of the Executive Committee (EXECOM) of the Maritime League, and a member of the Editorial Board of the Maritime Review.

CAPT Baino was a registered naval architect and civil engineer in the Professional Regulation Commission in the Philippines.

He was the former Commanding Officer of the Naval Shipyard, Philippine Navy and was involved in co-production of the 78-Foot Gunboat with Halter Marine Shipyard of USA and Patrol Craft Escort Refit Program of the Philippine Navy and the Joint United States Military Advisory Group.

Upon his retirement from the NAVY in 2004, he served as consultant with the Bureau of Fisheries and Aquatic Resources (BFAR) for the acquisition of Fishery Monitoring Control Vessels from Spain, and also with the Department of Transportation (DOTr) for the acquisition of 12 Multi-Role Response Vessels for the PCG under a JICA Loan Grant. He also served with the Development Bank of the Philippines (DBP) Maritime Leasing Corporation in 2006 for local construction of RORO Vessels.

He earned a post graduate diploma in Naval Architecture at the University College of London specializing in Submarine Design, under the sponsorship of the UK Ministry of Defense; as well as

training in Hydrodynamics with the Defense Evaluation Research Agency in the UK. He has also undergone an orientation seminar with Blomh and Voss in MEKO Warship Design and Construction in Hamburg, Germany.

CAPT Baino was a SEAMEO-SPAFA scholar in Underwater Archeology by HQ Naval Construction Force in FY79-FY80.

In July 2016, CAPT Baino together with VADM Emilio C Marayag Jr (AFP)(Ret) and I set forth on a mission to visit the Cavite Naval Shipyard in Fort San Felipe in Cavite. There, we met up with Commodore Jande Franciso PN (NSSC).



In January 2017, CAPT Baino gave a presentation at the NAMEI Polytechnic Institute titled "A Technical Evaluation of a Ship – A Naval Architect's Perspective." He helped in the planning of BEACON 2023, Maritime League's first exposition that includes trade representatives.

During January 2016 to May 2023, CAPT Baino was a regular writer for every Maritime Review publication, mainly about ship design and submarines. His dream was to have all his articles published in a book. I promised we would do this but we never got around to do so because he kept writing articles, even when he already had a serious illness and had undergone his first dialysis. CAPT Baino was truly dedicated to make his readers aware that should we procure a submarine, we must begin with a small one, get trained to run it, and master its upkeep and maintenance, before thinking of procuring a big submarine. In regard to coast guard vessels, he adamantly said that our country needs vessels with a length of not less than 200 meters in order for the ship to tackle the rough sea states in the WPS.

CAPT Tomas D Baino is survived by his wife Joyce Mayuga Baino, and children —Erwin, Aileen, and Abigail. CAPT Tom was a follower of Jesus Christ, and read the Holy Bible regularly. All of him was focused on God. He and his family are Born-Again Christians. To CAPT Tom's family and clan, the Maritime League warmly sends their deep and heartfelt condolences. 🚢



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To be a successful cooperative engaged in Construction Engineering and Manpower provider in the Construction Industry, that provides Livelihood Assistance and additional Financial Resources for Seabees Retirees, their dependents and other members of SERGS Cooperative.

Our Mission:

To undertake Quality Construction Engineering Projects, or provide Skilled Labor and Construction Management and other Engineering Services, in order to provide Livelihood Assistance and additional Financial Resources to Retired Seabees and other members of SERGS Cooperative.

Objective:

To engage in General Services particularly in Construction Engineering, Repair and Maintenance of Facilities and Buildings.

SURVEYING • PLANNING • DESIGN • ESTIMATES
CONSTRUCTION • REPAIR • AIRCONDITIONING

IN PARTNERSHIP WITH:



ARISTOS CONSTRUCTION

PCAB License No.: 45198
Classification: General Engineering

RADM MARGARITO V SANCHEZ JR AFP (RET)
President

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

For Inquiries and other concerns:

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Bayani Road, Fort Bonifacio, Taguig City

Tel No.: 8 7157412 / 09770338155

E-Mail: sergscooperative@yahoo.com

Our Clients:



and many more...



AMOSUP - PTGWG - ITF

Maritime Academy of Asia and the Pacific - Kamaya Point

Associated Marine Officers' and Seamen's Union of the Philippines-PTGWG-ITF

Kamaya Point, Brgy. Alas-asin, Mariveles, Bataan, Philippines

Tel. No.: (02) 784-8100

Mobile No.: (0917) 533-8263

Fax No.: (02) 741-1006

URL: www.maap.edu.ph

E-mail: info@maap.edu.ph



Welcome Aboard!



Courses Offered:

- BSMT - Bachelor of Science in Marine Transportation
- BSMarE - Bachelor of Science in Marine Engineering
- BSMTE - Bachelor of Science in Marine Transportation and Engineering

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.

Courses Offered:

Master of Science in Marine Transportation
(Marine Superintendent)

Master of Science in Marine Engineering
(Technical Superintendent)



Full Mission Bridge Simulator



Full Mission Engine Simulator



AMOSUP Seamen's Training Center



Full Mission Bridge Simulator on Motion Platform



Japanese Compact Ship Handling Simulator

Our Curricula

FROM SEA TO SHORE:

Gothong Southern Group of Companies Innovates for the Future

The **Gothong Southern Group** stays ahead of the curve with its innovative solutions and appetite for exploring new opportunities in emerging markets - all while maintaining its core values and commitment to excellence.

COMMITMENT AND EXCELLENCE

From shipping to logistics, we offer a wide range of services to meet your every need. Let us be your partner on land and sea, and together, we will sail towards a brighter future.

