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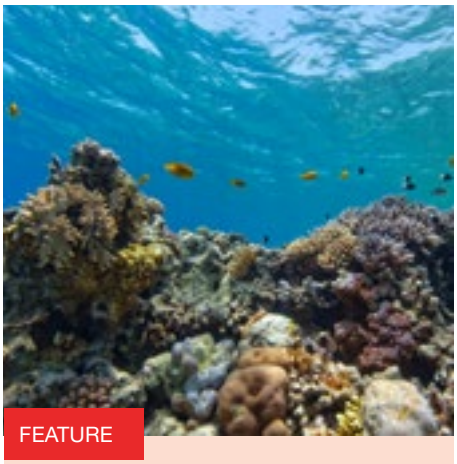

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Forging ahead to sustainability

As we all know, from a business perspective, this is a difficult time to be in shipping. Even though the global economy has returned to growth after the financial crisis of 2008, and so has world seaborne trade, overcapacity is keeping freight and charter rates low. According to recent estimates, the world fleet has grown by 50 per cent since the 2008 crisis.

Profit has been hard to find for shipping companies. Indeed, for most, survival has been the priority.

Yet the industry must find a sustainable and viable way forward. Because shipping, as the only really cost-effective way to transport the vast majority of international trade, will be central to global sustainable development and growth in the future.

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But, because shipping and related maritime activities are essential components of future sustainable growth for the earth's 7 billion-plus inhabitants; and because they are key enabling factors in many of the 17 global Sustainable Development Goals, we do have a keen interest in helping shipping achieve its own sustainability – and that means being economically sustainable, too.

As a United Nations specialized agency, our mission is to promote safe, secure, environmentally sound, efficient and sustainable shipping. And we set about this in two ways.

First, we develop and adopt the highest practicable standards of maritime safety and security, efficiency of navigation and prevention and control of pollution from ships.

And, second, we back this up with an extensive programme of technical assistance and capacity building to ensure that, once adopted, the standards can be implemented evenly and effectively.

Why is it so important for shipping to be regulated globally? Because global regulations apply equally to all participants. They do not allow anyone to gain an advantage either by cutting corners or by imposing unilateral requirements. They create a level playing field. And, perhaps most importantly, they ensure that ships have to comply with the same rules and technical standards wherever in the world they operate and regardless of which flag they fly.

Imagine how impractical it would be if different regulations applied to the same ship at either end of its voyage. It would place shipowners in an impossible situation and seriously jeopardize the flow of global trade.

These are important principles. Everybody suffers if they are undermined, not just the shipping industry but the billions of people all over the world who depend on it.

Ensuring that shipping is safe, environmentally sound, energy-efficient and secure are common objectives for both IMO and for the society as a whole. And there is no shortage of evidence to show that we have been successful in working towards many of these.

Nevertheless, we continue to look for further improvements in areas such as reducing harmful emissions from ships; implementing the Ballast Water Management Convention; the application of the Polar Code, which becomes mandatory from the beginning of next year; the development of e-navigation, and the continuing efforts to address security, piracy and other maritime crime.

Finding consensus on these and other issues, through a process of discussion, is one of the great strengths of IMO.

2020 set for global fuel oil sulphur cap

In a landmark decision for both the environment and human health, 1 January 2020 has been set as the implementation date for a significant reduction in the sulphur content of the fuel oil used by ships.

The decision to implement a global sulphur cap of 0.50% by mass in 2020 was taken by the IMO's Marine Environment Protection Committee (MEPC) in October.

It represents a significant cut from the 3.5% m/m global limit currently in place and demonstrates a clear commitment by IMO to ensuring shipping meets its environmental obligations.

IMO Secretary-General Kitack Lim welcomed the decision which he said reflected the Organization's determination to ensure that international shipping remains the most environmentally sound mode of transport.

"The reductions in sulphur oxide emissions resulting from the lower global sulphur cap are expected to have a significant beneficial impact on the environment and on human health, particularly that of people living in port cities and coastal communities, beyond the existing emission control areas," Mr. Lim said.

Further work to ensure effective implementation of the 2020 global sulphur cap will continue in the Sub-Committee on Pollution Prevention and Response (PPR).

Regulations governing sulphur oxide emissions from ships are included in Annex VI to the International Convention for the prevention of Pollution from ships (MARPOL Convention). Annex VI sets progressive stricter regulations in order to control emissions from ships, including sulphur oxides (SO_x) and nitrous oxides (NO_x) – which present major risks to both the environment and human health.

The date of 2020 was agreed in amendments adopted in 2008. When those amendments were adopted, it was also agreed that a review should be undertaken by 2018 in order to assess whether sufficient compliant fuel oil would be available to meet the 2020 date. If not, the date could be deferred to 2025. That review was completed in 2016 and submitted to MEPC 70. The review concluded that sufficient compliant fuel oil would be available to meet the fuel oil requirements.

Under the new global cap, ships will have to use fuel oil on board with a sulphur content of no more than 0.50% m/m, against the current limit of 3.50%, which has been in effect since 1 January 2012. The interpretation of "fuel oil used on board" includes use in main and auxiliary engines and boilers. Exemptions are provided for situations involving the safety of the ship or saving life at sea, or if a ship or its equipment is damaged.

Ships can meet the requirement by using low-sulphur compliant fuel oil. An increasing number of ships are also using gas as a fuel as when ignited it leads to negligible sulphur oxide emissions. This has been recognised in the development by IMO of the International Code for Ships using Gases and other Low Flashpoint Fuels (the IGF Code), which was adopted in 2015. Another alternative fuel is methanol which is being used on some short sea services.

Ships may also meet the SO_x emission requirements by using

The global sulphur cap will have a particularly beneficial effect where ships and people are in close proximity

approved equivalent methods, such as exhaust gas cleaning systems or "scrubbers", which "clean" the emissions before they are released into the atmosphere. In this case, the equivalent arrangement must be approved by the ship's Administration (the flag State).

The new global cap will not change the limits in SO_x Emission Control Areas (ECAS) established by IMO, which since 1 January 2015 has been 0.10% m/m. The ECAs established under MARPOL Annex VI for SO_x are: the Baltic Sea area; the North Sea area; the North American area (covering designated coastal areas off the United States and Canada); and the United States Caribbean Sea area (around Puerto Rico and the United States Virgin Islands).

Global treaty to halt invasive aquatic species to enter into force in 2017

The International Convention for the Control and Management of Ships' Ballast Water and Sediments (BWM Convention) will enter into force on 8 September 2017, marking a landmark step towards halting the spread of invasive aquatic species, which can cause havoc for local ecosystems, affect biodiversity and lead to substantial economic loss. Under the Convention's terms, ships will be required to manage their ballast water to remove, render harmless, or avoid the uptake or discharge of aquatic organisms and pathogens within ballast water and sediments.

Accession by Finland triggered the entry into force of this key international measure. It brought the combined tonnage of contracting States to the treaty to 35.1441%, with 52 contracting Parties. The convention stipulates that it will enter into force 12 months after ratification by a minimum of 30 States, representing 35% of world merchant shipping tonnage.

The BWM Convention was adopted in 2004 by IMO. In October, Panama acceded to the convention bringing the number of States to 33, with 53.28% of world tonnage.

"This is a truly significant milestone for the health of our planet," said IMO Secretary-General Kitack Lim.

"The spread of invasive species has been recognized as one of the greatest threats to the ecological and the economic well-being of the planet. These species are causing enormous damage to biodiversity and the valuable natural riches of the earth upon which we depend. Invasive species also cause direct and indirect health effects and the damage to the environment is often irreversible," he said.

He added, "The entry into force of the Ballast Water Management Convention will not only minimize the risk of invasions by alien species via ballast water, it will also provide a global level playing field for international shipping, providing clear and robust standards for the management of ballast water on ships."

Ballast water is routinely taken on by ships for stability and structural integrity. It can contain thousands of aquatic microbes, algae and other organisms, which are then carried across the world's oceans and released into ecosystems where they are not native.

Untreated ballast water released at a ship's destination could potentially introduce a new invasive aquatic species. Expanded ship trade and traffic volume over the last few decades has increased the likelihood of invasive species being released. Hundreds of invasions have already taken place, sometimes with devastating consequences for the local ecosystem.

The Ballast Water Management Convention will require all ships in international trade to manage their ballast water and sediments to certain standards, according to a ship-specific ballast water management plan. All ships will also have to carry a ballast water record book and an International Ballast Water Management Certificate. The ballast water performance standard will be phased in over a period of time. Most ships will need to install an on-board system to treat ballast water and eliminate unwanted organisms. More than 60 type-approved systems are already available.

Shipboard ballast water management systems must be approved by national authorities, according to a process developed by IMO.

IMO has worked extensively on the development of guidelines for the uniform implementation of the Convention and to address concerns of various stakeholders, such as with regards to the availability of ballast water management systems and their type approval and testing.

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New requirements for international shipping as IMO continues to address greenhouse gas emissions

An important milestone on the road to controlling greenhouse gas emissions from international shipping has been achieved with the adoption of new mandatory requirements by IMO's Marine Environment Protection Committee (MEPC) in October.

Under the new requirements, ships of 5,000 gross tonnage and above will have to collect consumption data for each type of fuel oil they use, as well as other, additional, specified data including proxies for transport work. These ships account for approximately 85% of CO_2 emissions from international shipping. The data collected will provide a firm basis on which future decisions on additional measures, over and above those already adopted by IMO, can be made.

IMO Secretary-General Kitack Lim said the new requirements sent a clear signal that IMO was ready to build on the existing technical and operational measures for ship energy efficiency.

The new mandatory data collection system is intended to be the first in a three-step approach in which analysis of the data collected would provide the basis for an objective, transparent and inclusive policy debate in the MEPC. This would allow a decision to be made on whether any further measures are needed to enhance energy efficiency and address greenhouse gas emissions from international shipping. If so, proposed policy options would then be considered.

The MEPC also approved a roadmap for developing a "Comprehensive IMO strategy on reduction of GHG emissions from ships", which foresees an initial GHG strategy to be adopted in 2018.

It contains a list of activities, including further IMO GHG studies, with relevant timelines and provides for alignment of those new activities with the ongoing work by the MEPC on the three-step approach to ship energy efficiency improvements mentioned above. This alignment provides a way forward to the adoption of a revised strategy in 2023 to include short-, mid-, and long-term further measures, as required, with implementation schedules.

In 2011, IMO became the first international body to adopt mandatory energy-efficiency measures for an entire industry sector with a suite of technical and operational requirements for new and existing vessels that entered into force in 2013. By 2025 all new ships built will be 30% more energy efficient than those built in 2014.

Under the new data collection system, aggregated data will be reported to a ship's flag State after the end of each calendar year. The flag State, having determined that the data has been reported in accordance with the requirements, will issue a Statement of Compliance to the ship. Flag States will be required to subsequently transfer this data to the IMO Ship Fuel Oil Consumption Database.

The IMO Secretariat would be required to produce an annual report to IMO's MEPC, summarizing the data collected. Data would be anonymized so individual ship data would not be recognized.

The MEPC adopted the mandatory requirements as amendments to Annex VI of the International Convention for the Prevention of Pollution from Ships (MARPOL). They are expected to enter into force on 1 March 2018, under the tacit acceptance procedure. Other regulations are amended to cater for the new requirement, including those related to certificates, surveys and port State control.

All ships of 5000 gross tonnage and above will fall under the new fuel oil data collection scheme

New guides for effective implementation of energy-efficiency regulations

Three new guides that will support States in effectively implementing IMO's mandatory energy-efficiency measures for shipping have been rolled out during a training activity under the GloMEEP project, paving the way for further work in climate change mitigation by the maritime sector.

The GloMEEP Project is part of IMO's continued work to support developing countries to prevent air pollution and address greenhouse gas emissions from ships. During the training, in Batumi, Georgia, three draft guides, developed in collaboration with IMarEST, were launched.

The guides are: Rapid Assessment Guide for determining the country's maritime energy efficiency and emissions status (Guide 1); Guide for maritime energy efficiency strategy development (Guide 2); and Guide for incorporation of MARPOL Annex VI into national law (Guide 3).

Feedback from the training will enable the draft guides to be finalised and made freely available on the GloMEEP website to member States and other stakeholders.

The guides aim to support developing countries in strengthening and developing national regulatory frameworks related to the prevention of air pollution and reduction of greenhouse gas emissions from ships.

The GloMEEP Project has earmarked a significant portion of its resources, including in-kind support from participating countries, for development of these guides and this training. It is expected that this training will lay the foundation for further work in the GloMEEP countries and that the lessons learned and output of the national activities will serve as examples for other countries which plan to undergo similar processes to support effective implementation of MARPOL Annex VI.

GloMEEP is a GEF-UNDP-IMO project aimed at supporting the uptake and implementation of energy efficiency measures for shipping, thereby reducing greenhouse gas emissions from shipping. It supports ten Lead Pilot Countries to implement the IMO-adopted measures, through legal, policy and institutional reforms; awareness-raising and capacity-building activities and establishing public-private partnerships to encourage technology transfer.

The project's Lead Pilot Countries are Argentina, China, Georgia, India, Jamaica, Malaysia, Morocco, Panama, Philippines and South Africa.

Technical measures such as propeller and hull design (above) have a significant effect on ships' energy efficiency

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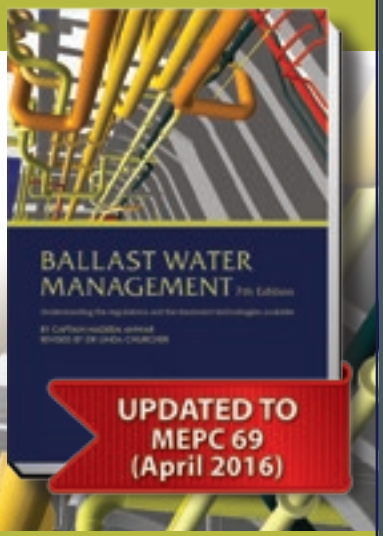

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‘Lessons learned’ highlight importance of lookout

The importance of keeping a proper look-out at all times was among the Lessons Learned from Marine Casualties approved by the Sub-Committee, for dissemination via the IMO website. Other cases involving fatalities highlighted the need for enclosed space entry and rescue drills; risk assessment; and appropriate training and familiarization on board to ensure the correct handling procedure for the anchor windlass and vessel.

The Sub-Committee reviewed access rights to casualty-related information for seafarers’ training and education, in particular, reports of investigations into serious casualties, which are available on the publicly accessible casualty module of IMO’s Global Integrated Shipping Information System (GISIS). It was agreed that, in future, reports of investigations into casualties required under the Casualty Investigation Code would be made public, by default, while allowing reporting States to amend the release status of their own reports.

Member States were reminded to submit their investigation reports into serious and very serious maritime incidents, in order to assist a more global analysing process, and were encouraged to submit reports on near-misses.

The Sub-Committee also agreed to request the Secretariat to look into how a simplified reporting format might be used for providing information on investigations into less serious casualties and near misses.

Casualty investigations confirm a good lookout is key to maintaining navigational safety

Analysis of consolidated audit reports

The Sub-Committee reviewed the consolidated audit summary reports (CASRs) relating to audits of Member States carried out under the Voluntary IMO Member State Audit Scheme (VIMSAS), as well as those conducted under transitional arrangements prior to the commencement of mandatory audits from the beginning of 2016.

From the analysis of 75 audits, legislation, policy and procedures, management and implementation were identified as the four broad areas contributing to the lack of effective implementation in the major areas identified in audits.

Areas where improvement could be made included those related to management systems; policies; technical instruction and guidelines; national provisions and capacity to promulgate national legislation and to keep it updated; processes; resources (both human and financial); training programmes, awareness, understanding or interpretation of the requirements; and coordination among various entities.

To address these areas, the Sub-Committee recommended that the technical Committees of IMO endorse a number of areas where assistance could be provided to Member States and for them to be forwarded to the Technical Cooperation Committee for consideration of current technical assistance activities. The areas where assistance could be offered relate to: training of flag State surveyors (FSS); delegation of authority; Initial actions/ legislation (for example, assistance in drafting national legislation); implementation; and enforcement.

Procedures for port State control

The Sub-Committee established the correspondence group on Measures to Harmonize Port State Control (PSC) Activities and Procedures Worldwide to review and update the Procedures for Port State Control. It was agreed that the draft *Guidelines for Port State Control Officers on Certification of Seafarers, Hours of Rest and Manning* should be referred to the Sub-Committee on the Human Element, Training and Watchkeeping (HTW) for review prior to their inclusion into the revised Procedures.

Analysis of PSC data

The correspondence group on Measures to Harmonize Port State Control (PSC) Activities and Procedures Worldwide was also tasked with preparing a methodology to carry out the analysis of PSC reports provided by the PSC regimes and to make relevant recommendations. The aim would be to establish a means to identify trends from the submission of overall PSC regime data, such as the total number of inspections, total inspections by ship type, total deficiencies by deficiency group, total detentions by ship and total inspections by flag Administration. The Secretariat was also requested to look into the matter as well as to consider ways to resume the convening of PSC workshops for PSC MoU/Agreement Secretaries and Database Managers.

Safety concerns related to cargoes that may liquefy

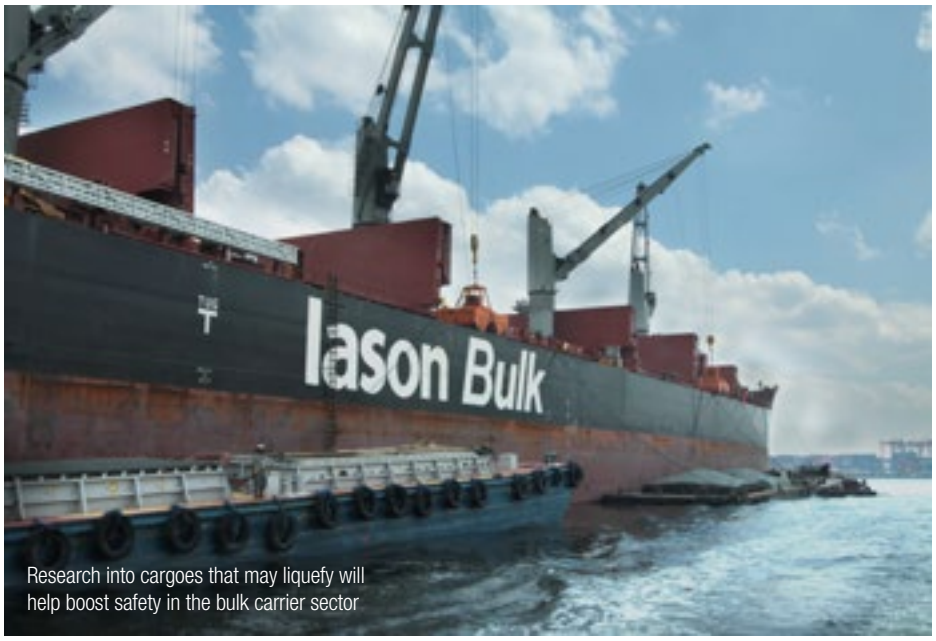
The report of a Correspondence Group on Evaluation of Properties of Bauxite and Coal, in Light of their Potential to Liquefy, was reviewed.

The Sub-Committee endorsed a draft revised individual schedule for coal, with a view to its inclusion in the next set of amendments to the International Maritime Solid Bulk Cargoes Code (IMSBC Code), which will be submitted for adoption by the MSC. The draft amendments to the schedule point out that coal may liquefy if shipped at a moisture content in excess of its transportable moisture limit (TML) and state that due consideration shall be given to moisture migration and formation of dangerous wet base when blended coals are loaded.

The Sub-Committee noted that a Global Bauxite Working Group (GBWG) has been established by the Australian, Brazilian and Chinese bauxite research groups, with the aim of ensuring that industry research on the behaviour of bauxite during shipping is aligned, globally applicable and peer reviewed. Having noted that the GBWG report would be finalized and submitted for peer review in March 2017, the Sub-Committee established a Correspondence Group on Evaluation of Properties of bauxite and revision of the existing individual schedules for seed cake to consider the draft report and the final report of the GBWG prior to consideration by the Sub-Committee at its next session.

Whilst the work on bauxite continues, the Sub-Committee agreed that the circular CCC.1/Circ.2 on Carriage of bauxite that may liquefy, which the Sub-Committee had approved at its previous session, should remain in effect. CCC.1/Circ.2 warns shipmasters of the possible dangers of liquefaction associated with carriage of bauxite, following consideration of findings from the investigation into the loss of the 10-year-old Bahamas flag bulk carrier Bulk Jupiter, which was carrying 46,400 tonnes of bauxite when it sank rapidly with 18 fatalities in January 2015.

In the meantime, having noted the concern regarding the continued loss of life at sea in connection with cargoes that may liquefy, the Sub-Committee finalized draft amendments to paragraphs 4.5.1 and 4.5.2 of the IMSBC Code to emphasise the responsibility of the shipper for ensuring that a test to determine the transportable moisture limit (TML) of a solid bulk cargo as well as sampling and testing for moisture content are conducted, for submission to MSC 97 as an urgent matter, with a view to approval and subsequent adoption by MSC 98 together with the next set of amendments to the IMSBC Code.



Research into cargoes that may liquefy will help boost safety in the bulk carrier sector

Amendments agreed on substances harmful to the marine environment

The Sub-Committee also endorsed draft amendments to the IMSBC Code related to substances which are harmful to marine environment, for submission to the MSC for approval and subsequent adoption, as part of the next set of amendments, subject to the endorsement of the Marine Environment Protection Committee (MEPC), at its 71st session in 2017.

The amendments would require the shipper to declare whether or not a solid bulk cargo, other than grain, is harmful to the marine environment if discharged. Associated draft amendments to the *2012 Guidelines for the implementation of MARPOL Annex V* (resolution MEPC.219(63)) were also agreed and will be submitted to MEPC 71 for approval.

Draft amendments to the IMSBC Code agreed

In addition to draft amendments related to cargo liquefaction and substances that are harmful to the marine environment, the Sub-Committee reviewed the next set of draft amendments (for adoption in 2017) to the IMSBC Code, updating various provisions, including those to individual schedules, and forwarded them to the Editorial and Technical (E&T) Group for finalization and submission to MSC 98 for adoption.

Cargo spaces containing vehicles with fuel in their tanks

The Sub-Committee endorsed draft amendments to SOLAS regulations II-2/20-1 and II-2/20-2 to clarify the fire safety requirements for cargo spaces containing vehicles with fuel in their tanks for their own propulsion, specifically vehicles which do not use their own propulsion within the cargo space.

IGF and IGC Code matters

Development of safety provisions for ships using fuel cells

The Sub-Committee made progress on the development of safety provisions for ships using fuel cells, with the preliminary drafting of a proposed new part E on fuel cell power installations to the International Code of Safety for Ships using Gases or other Low-flashpoint Fuels (IGF Code). Part E would cover installation, fire safety and other relevant matters. The IGF Code Correspondence Group was tasked with finalizing the provisions.

Draft unified interpretations to IGF and IGC Codes agreed

The Sub-Committee endorsed a draft MSC circular on unified interpretations to the IGF Code relating to: tank connection space equipment and the use of a tank connection space for tanks on open deck; the fuel preparation room; the appropriate location of premixed engines using fuel gas mixed with air before the turbocharger; protection against cryogenic leakage and control of hazardous zones in fuel preparation rooms on open deck; the design features to be included as a minimum in the special consideration within risk assessment of closed or semi-enclosed bunkering stations; the ventilation of machinery spaces; the ventilation of double piping and gas valve unit spaces in gas safe engine-rooms; the ventilation inlet for double wall piping or duct; control and maintenance of pressure and temperature of liquefied gas fuel tanks after the activation of the safety system; and the external surface area of the tank for determining sizing of pressure relief valve.

The Sub-Committee also endorsed a draft MSC circular on unified interpretations to the IGC Code, relating to:

- closing devices for air intakes, cargo tank clearances; pump vents in machinery spaces;
- the safe means of emergency isolation of pressure relief valves;
- the application of fire safety requirements in SOLAS chapter II-2 to cargo machinery spaces and turret compartments;
- back-flushing of the water-spray system;
- the external surface area of the tank for determining sizing of pressure relief valve.

Correspondence group on high manganese austenitic steel

A correspondence group was established to further consider the suitability of high manganese austenitic steel for cryogenic service, with a view to the possible inclusion of high manganese austenitic steel in the IGC and IGF Codes. High manganese austenitic steel is a material that has been proposed as being suitable for use in cryogenic applications such as cargo tanks, fuel tanks and piping of LNG carriers and LNG-fuelled ships. The correspondence group was tasked with:

- developing test acceptance criteria for high manganese austenitic steel for cryogenic service;
- further considering the suitability of high manganese austenitic steel for cryogenic service;
- developing draft amendments to the IGC and IGF Codes to include high manganese austenitic steel for cryogenic service, if appropriate.

Recommendations endorsed for liquefied hydrogen in bulk

The Carriage of Cargoes and Containers Sub-Committee endorsed draft Interim recommendations for carriage of liquefied hydrogen in bulk, for submission to the Maritime Safety Committee for approval.

The draft interim recommendations have been developed as the International Gas Carrier (IGC) Code does not specify requirements for liquefied hydrogen in bulk. They are based on the results of a comparison study of similar cargoes listed in the IGC Code, e.g. liquefied natural gas. They are intended to facilitate the establishment of a tripartite agreement for a pilot ship that will be developed for the research and demonstration of safe long-distance overseas carriage of liquefied hydrogen in bulk.

The draft interim recommendations highlight general requirements and special requirements for liquefied hydrogen, such as the provision of a portable hydrogen detector for each crew member working in the cargo area; selection of fire detectors for detecting hydrogen fire; and appropriate safety measures to prevent formation of explosive mixture in the case of a leakage of hydrogen.

High rate of compliance with new SOLAS requirements reported

The Sub-Committee noted information from the World Shipping Council (WSC) regarding the experience of WSC member companies with the new SOLAS requirement for the gross mass of a packed container to be verified before it is loaded onto a ship. The amendments to SOLAS regulation VI/2 entered into force on 1 July 2016 and require the verified gross mass (VGM) of each packed container to be provided by the shipper prior to loading.

The WSC informed the Sub-Committee that a high number of packed containers – 95% or more – were being accompanied by VGM information prior to initial vessel loading; the rate of compliance has steadily increased since 1 July 2016 and is expected to continue to rise; and that there is a high degree of awareness amongst supply chain parties about the VGM requirements, with carriers systematically engaging with shippers who were still not providing VGM information.

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Preserving the environment while striving for sustainable development

PART ONE*

Dr Stefan Micallef
Director, Marine Environment Division, IMO

Mankind, as a whole, has come to understand that the planet that sustains us is a fragile entity and our actions can and do have repercussions on a large scale, threatening our longer-term survival. Global warming and the resulting climate change manifestations are pertinent examples.

The most daunting environmental challenge facing mankind is how to meet societal expectations about economic development and prosperity in a sustainable manner. As improved living standards and the benefits of a modern lifestyle become more widespread, pollution is also increasing.

The concept of sustainable development first emerged in 1987, with the publication by the United Nations World Commission on Environment of Our Common Future. This was meant to go beyond the ecosystem approaches of the past, which put environmental issues on the political map but did not take fully into account the other two key pillars: economic growth and social progress.

Sustainable development and sustainable environment come with a shared responsibility. In an age of interdependence, there is little chance of protecting the environment without a greater sense of mutual responsibility and a willingness to engage and to cooperate. This is especially important given that the environmental footprint left by some societies is so much larger than others.

The international community has not been found wanting. On 25 September 2015, the United Nations General Assembly formally adopted the universal, integrated and transformative 2030 Agenda for Sustainable Development along with 17 Sustainable Development Goals (SDGs) and 169 associated targets. Over the next fifteen years, guided by these new Goals, which universally apply to all countries, governments around the world as well as international organizations and NGOs will be mobilizing efforts to end all forms of poverty, fight inequalities and tackle climate change, while ensuring that no one is left behind and economic and social progress is sustainable in a truly global sense.

The SDGs and the 2030 Agenda find their origins in the United Nations Conference on Sustainable Development, which took place in Rio de Janeiro, Brazil in June 2012 and is generally known as Rio+20, because it took place twenty years after the United Nations Conference on Environment and Development that was also convened in Rio de Janeiro, in 1992. Rio+20 produced a focused political outcome in the form of a document setting out clear and practical measures for implementing sustainable development. In Rio, Member States decided to launch a process to develop a set of SDGs, to build on the Millennium Development Goals (MDGs) and converging them with the post-2015 development agenda.

So what are the implications of the sustainable development agenda for shipping and the IMO, as the shipping industry's international regulatory body?

It is important to understand that shipping fulfils a vital role in the service of world

Seventeen key goals are setting the global sustainability agenda

trade and the global economy. More than 80% of world trade involves sea transport. Furthermore, the sector has been long aware of its impact on – and indeed significant contribution to – sustainable development as it provides the most economical and environmentally responsible choice for the mass transport of all manner of cargoes, products and goods. It also provides a social dimension through direct and indirect employment for many.

Sustainability

The concept of sustainability is nothing new for IMO. Over many decades, it has built up a record of environmental protection measures, balancing considerations of the economic cost of their implementation with its social responsibility as a regulatory body to err on the side of safety when there is a plausible risk of environmental harm.

There are 17 Sustainable Development Goals and a number of them have particular resonance for IMO. But SDG 14 is at the heart of sustainable use of the oceans, complementing IMO's goal to eliminate, or reduce to the barest minimum, all adverse environmental impacts from ships, both marine and atmospheric impacts.

SDG 14 concerns the goal "*to conserve and sustainably use the oceans, seas and marine resources for sustainable development*".

Target 14.1 under this SDG is to prevent and significantly reduce marine pollution including marine debris. This has been part of IMO's mandate for a long time. Although IMO's original mandate was principally concerned with maritime safety, the Organization assumed responsibility for marine pollution issues related to maritime transport operations soon after it began functioning, in 1959, when it also became the custodian of the International Convention for the Prevention of Pollution of the Sea by Oil – or OILPOL Convention, which had entered into force in 1958.

PSSAs

Another target under SDG 14 is to increase coverage of marine protected areas. Here, IMO has already made significant progress through the identification and formal designation of so-called Particularly Sensitive Sea Areas, or PSSAs. In 1990 there was only one IMO-designated PSSA, related to Australia's Great Barrier Reef. But PSSAs were designated in quick succession throughout the first decade of the 2000s. Today, there are 14 (counting the two extensions of the Great Barrier Reef as part of the Great Barrier Reef PSSA), in waters across the globe, ranging from, for instance, the Florida Keys, the Galapagos Archipelago and Western European Waters.

Proposals for the designation of PSSAs by IMO must be accompanied by proposals for Associated Protective Measures. These may extend to measures specifically related to the safety of shipping traffic, such as Areas To Be Avoided (ATBAs), recommended ships' routes and mandatory traffic separation schemes.

MARPOL Convention

The most serious problem at the time IMO began to address pollution issues, in the early 1960s, was the spillage of oil into the sea, either through accidents or as a result of poor operating practices. Spurred by some spectacular oil pollution incidents, such as the Torrey Canyon disaster off the south-west coast of Great Britain in 1967, nearly 50 years ago, the Organization embarked on an ambitious programme of work, which culminated, among others, in the adoption, in 1973, of the International Convention for the Prevention of Pollution from Ships, now known universally as MARPOL.

More than 40 years later, and much expanded, amended and updated, the MARPOL Convention remains the most important, as well as the most comprehensive, international treaty covering the prevention of both marine and atmospheric pollution by ships, whether from operational or accidental causes. The Convention's continued relevance is due to it providing the solid foundation for substantial and continued reductions in vessel-source pollution – and this despite a massive increase in world seaborne trade and the concomitant increase in both the number and

PSSAs are a vital measure in marine environment protection

the size of ships.

The MARPOL Convention boasts six separate annexes setting out regulations addressing a wide range of pollution types: oil pollution (covered in Annex I); Annex II covers pollution from the bulk carriage by sea of noxious liquid substances, which include chemicals and certain oil products; Annex III covers marine pollutants carried in packaged form; Annex IV covers sewage discharges into the sea; Annex V covers the disposal at sea of ship-generated garbage, with a general prohibition applying to the discharge of all garbage, while the discharge of plastics is subject to a total, globally applicable ban; and, finally, Annex VI is the only IMO instrument dealing with atmospheric pollution from ships and addresses air pollution from sulphur and other harmful emissions such as nitrogen oxides and particulate matter; it further addresses energy efficiency of ships and greenhouse gas emissions.

MARPOL Annex VI also incorporates regulations for ozone-depleting substances, volatile organic compounds, shipboard incinerators, reception facilities and fuel oil quality. All these measures have a significant beneficial impact on the atmospheric environment, and also on human health for people living in or near port cities and coastal communities.

MARPOL's six annexes provide a comprehensive package of protective measures for the world's oceans

Special Areas

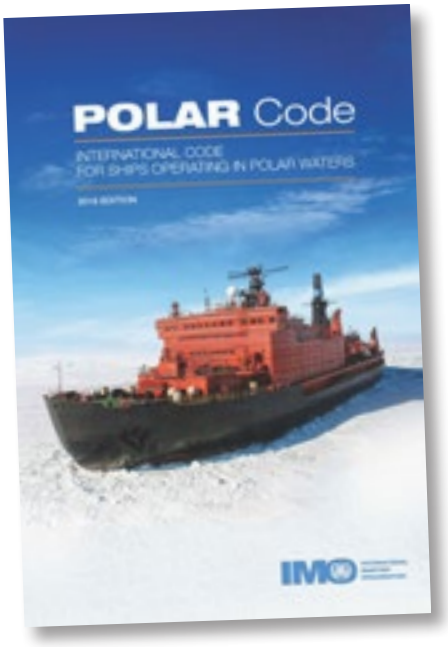
MARPOL is also a unique regime because of its recognition of the need to establish so-called Special Areas requiring the adoption of special measures that are binding for technical reasons relating to their oceanographical and ecological condition and to their sea traffic.

The MARPOL concept of Special Areas builds on the zero-tolerance approach of the so-called Prohibited Zone, which was first introduced under the 1954 OILPOL Convention. A total of 19 Special Areas are in force today. A Baltic Sea Special Area designated under MARPOL Annex V will be the twentieth once it takes effect.

The Antarctic has enjoyed Special Area status since 1992. Oily discharges into the sea and garbage disposal overboard are totally prohibited. Its Special Area status was extended in 1994 to discharges of residues or mixtures of noxious liquid substances. In addition, a total ban on the carriage or use of heavy fuel oils took effect on 1 August 2011, under a new MARPOL Annex I regulation.

Polar waters also benefit from special measures under the new IMO Polar Code, adopted in 2014 and due to enter into force on 1 January 2017 for ships operating in both the Antarctic and the Arctic. It covers the full range of matters relevant to safety of maritime navigation and prevention of pollution from ships in the uniquely pristine but extremely remote and often hostile environment surrounding the two poles.

The geographical spread of Special Areas around the world has steadily widened over the years. It is not confined to enclosed or semi-enclosed seas, such as the Mediterranean Sea, Baltic Sea, Black Sea and Red Sea areas, but also extends into much



Polar waters get special protection from the new Polar Code

Emission Control Areas can be used to limit the detrimental effect of air pollution on human health

larger ocean expanses, such as the Southern South Africa waters and the Western European waters. This is a clear indication of a strong IMO awareness of – and total commitment to – the fundamental importance of protecting and preserving the world's seas and oceans as vital life support systems for all peoples.

Emission Control Area (ECA)

Built on the same concept of according a higher level of protection to certain sea areas is the Emission Control Area or ECA. Designated under MARPOL Annex VI, ECAs are protected by special mandatory measures to prevent, reduce and control harmful atmospheric emissions of sulphur and nitrogen oxides and particulate matter.

IMO is fully cognizant of the detrimental impact of air pollutants from ships on both environmental and human health. There are currently four ECAs in force (the Baltic, North Sea and North American ECAs and the United States Caribbean ECA). ECA compliance requires ships to use cleaner fuel oils or, as an equivalent alternative, emission abatement technologies, such as exhaust gas cleaning systems or so-called 'scrubbers', capable of meeting tighter restrictions than those stipulated under the overall applicable, global emission limits.

In October 2016, IMO agreed to lower the globally applicable limit of sulphur emissions from ships' fuels to 0.5% from 2020 onwards, from the current global cap of 3.5%.

Linked to the protection of the atmospheric environment is the ongoing effort of the IMO membership to address the impact of emissions of greenhouse gases (GHGs). Thirty percent of all man made CO_2 emissions dissolve into the oceans, leading to ocean acidification. If the Paris Climate Agreement is implemented successfully, this will lead to a sizeable reduction in CO_2 emissions. This, in turn, would mean substantial progress towards Target 14.2 under SDG 14 – which is concerned with minimizing ocean acidification.

IMO's own, long-standing and well-established sole mandate to pursue GHG emission regulation for international shipping can be traced back to the International Conference for the Prevention of Pollution from Ships, held in September 1997, which not only adopted Annex VI to MARPOL on Regulations for the prevention of air pollution from ships but also adopted a resolution on CO_2 emissions from ships.

A great deal of progress has already been made. IMO is the first organization to adopt energy-efficiency measures that are legally binding across an entire global industry and apply to all countries. The mandatory Energy Efficiency Design Index (EEDI) and the Ship Energy Efficiency Management Plan (SEEMP) entered into force under new MARPOL Annex VI regulations in 2013. By 2025, all new ships will be at least 30% more energy efficient than those built in 2014. This is more than just a target, it is a legal requirement.

The Third IMO GHG Study, published in 2014, estimated that during the five years to 2012 the total contribution from international shipping to global CO_2 emissions actually decreased from 2.8% to 2.2%. This was despite significant overall growth in seaborne trade and a corresponding growth in cargo-carrying capacity during the same period.

Nonetheless, while the mandatory energy-efficiency measures are firmly in place, and they have also been extended to more ship types, they alone may not be enough to stem emissions adequately. So we need to look at further measures and focus on establishing a culture of "low-carbon" shipping to further encourage full and effective implementation of those energy-efficiency measures. Governments at the IMO's Marine Environment Protection Committee have now adopted mandatory requirements for ships to record and report their fuel consumption. These new requirements are expected to enter into force as early as 2018.

** This article is based on a presentation given at the India Clean Seas Conference, September 2016.*

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IMO WORLD MARITIME DAY 2016

SHIPPING
INDISPENSABLE TO THE WORLD

In a series of events taking place throughout the week of 26-30 September, IMO led the annual celebrations of World Maritime Day, culminating in the traditional diplomatic reception, which, this year, was held on 29 September.

World Maritime Day is an official United Nations day. Every year, it provides an opportunity to focus attention on the importance of shipping and other maritime activities and to emphasize a particular aspect of IMO's work.

Each World Maritime Day has its own theme. For 2016, the theme was "Shipping: indispensable to the world" – chosen to focus on the critical link between shipping and the everyday lives of people all over the planet, and to raise awareness of the role of IMO as the global regulatory body for international shipping. The importance of shipping in supporting and sustaining today's global society gives IMO's work a significance that reaches far beyond the industry itself.

According to the United Nations Conference on Trade and Development (UNCTAD), around 80% of global trade by volume and over 70% of global trade by value are carried by sea and are handled by ports worldwide. These shares are even higher in the case of most developing countries.

A single ship can carry enough grain to feed nearly four million people for a month; another, enough oil to heat an entire city for a year, and others can carry the same amount of finished goods as nearly 20,000 heavy trucks on the road. Ships are among the engineering wonders of the modern world.

Shipping is the only truly cost-effective and sustainable delivery mechanism for international trade and the global economy. People all over the world rely on ships to transport the commodities, fuel, foodstuffs,

IMO's World Maritime Day forum brought fresh insight to the theme chosen for the year

goods and products that are so vital in their everyday lives.

"As the World Maritime Day theme for 2016 so rightly acknowledges, shipping is indispensable to the world – and is set to remain central to world economic growth as we make the inevitable transition towards an era of clean and sustainable development," said IMO Secretary-General Kitack Lim in his annual World Maritime Day Message.

"This is a message that needs, and deserves, a wider audience. Almost everyone in the world today relies on shipping to some extent – but very few are aware of it," Mr. Lim said, urging all all those involved in shipping to take the opportunity to highlight this vital industry, on which so many depend.

United Nations Secretary-General Ban Ki-moon also issued a message for World Maritime Day,

"The importance of shipping in supporting and sustaining today's global society makes it indispensable to the world, and to meeting the challenge of the 2030 Agenda for Sustainable Development," Mr. Ban said.

World Maritime Day was celebrated across the globe on Thursday 29 September. From Trinidad and Tobago, where celebrations in Port of Spain involved the whole community with ship visits and maritime themed activities, to the Pacific, where school children in the Cook Islands got the chance to visit a merchant ship.

Maritime training institutes, seafarers, shipping companies and organizations as well as Governments from South Africa to Canada shared their stories via social media using the hashtag #WorldMaritimeDay .

A stimulating debate on shipping's future challenges took place at IMO Headquarters in London, with thousands tuning in worldwide via online participation and hundreds of people submitting their questions to the panel, from Peru to New Zealand. On social media, hundreds of thousands of people engaged with the theme – Shipping: indispensable to the world.

The day was rounded off with the traditional evening reception at IMO Headquarters for the maritime and diplomatic communities in London.

The traditional diplomatic reception at IMO Headquarters rounded off the World Maritime Day celebrations

Governments reaffirm commitment to protect marine environment

Parties to the London Convention and Protocol, meeting for their 38th/11th session, expressed concern around the issue of litter and plastics in the marine environment, but also acknowledged that there has been progress by a number of Contracting Parties in highlighting and addressing the particular problems of plastics pollution through measures applied both in the environment and at source.

States were encouraged to make every effort to combat marine litter, including through the identification and control of marine litter at source and to encourage monitoring, additional study and knowledge-sharing on this issue.

Dumping plastics from ships is banned under the garbage regulations of the International Convention for the Prevention of Pollution form Ships (MARPOL) and the London Convention and Protocol prohibit the disposal of plastics at sea.

A number of countries have taken action to reduce the use of plastics and to address the problem of microbeads and microplastics entering the marine environment.

Litter and plastics in the ocean – a cause for concern

Nonetheless, further work was needed including information and research. The recently published *Review of the current state of knowledge regarding marine litter in wastes dumped at sea under the London Convention and Protocol*, for example notes that it is very difficult to identify the sources of marine litter present in dredged material. The majority of permits for the dumping of waste at sea relate to dredged material.

Ban on dumping radioactive waste upheld

The meeting finalized its 25-year scientific review of all radioactive wastes and other radioactive matter. The review is required under the treaties, which ban the dumping of radioactive waste at sea.

The meeting thereby agreed that the requirement for the review had been fulfilled, and confirmed the commitment to maintaining the 1994 ban on dumping of radioactive wastes at sea in place, ensuring ongoing protection of the marine environment for future generations.

The prohibition on dumping of radioactive wastes was prohibited under amendments to the London Convention adopted in 1993, but both the London Convention and Protocol allow for the dumping of certain permitted materials so long as they do not contain levels of radioactivity greater than de minimis (exempt) concentrations as defined by the International Atomic Energy Agency (IAEA). The scientific review is required to be undertaken within 25 years of 20 February 1994 (date of entry into force of the 1993 LC amendments), and at each 25 year interval thereafter.

Strategic Plan adopted

The meeting adopted a new Strategic Plan for the London Convention and Protocol, which sets out the strategic directions and targets for the Contracting Parties out to 2030, coinciding with the 2030 Agenda for Sustainable Development.

The strategic plan aims to ensure that the London Convention and Protocol are, and will continue to be, proactive, progressing, and forward-looking. The plan also sets out the commitment ensure that a truly universal membership that can be achieved in the foreseeable future.

Revised assessment guidelines

The meeting approved the Revised Specific Guidelines for the assessment of vessels, further modernizing this guidance and harmonizing it with relevant provisions in the Hong Kong Ship Recycling Convention, and thus ensuring a modern and more complete framework with respect to the disposal of vessels.

Low cost, low technology compliance monitoring guidance approved

The meeting approved the Low cost, low technology compliance monitoring guidance, which provides practical information about approaches that are useful for monitoring compliance with permit conditions associated with disposal of waste or other matter at sea. The primary audiences are countries that are in the early stages of developing waste assessment and monitoring actions in concert with permit programmes for disposing wastes at sea.

Women in the maritime sector – achieving training, visibility, recognition


Improving gender equality is one of the 17 Sustainable Development Goals

The Committee was updated on the latest activities supported by IMO's Programme on the Integration of Women in the Maritime Sector, which supports Goal 5 (gender equality) and has been running for 28 years. One of the programme's successes has been the establishment of grass roots women in maritime associations across the regions, drawing on the United Nations principle of implementing from the field-level upwards.

Since 2002, IMO has supported the establishment of regional women in maritime associations, thereby strengthening the formal regional linkages between women managers in the maritime and port sectors, to provide a permanent channel for the exchange of information relating particularly to the effective implementation of IMO's instruments. These associations also provide a springboard for developing regional training opportunities, to match the specific needs and requirements of women, taking into account the socio-cultural elements which may determine access to training and career developments.

IMO has helped champion national associations and has supported the establishment of regional women in maritime associations, including the Women in Maritime Association, Caribbean (WiMAC); the Pacific Women in Maritime Association (PACWIMA); International Women's Maritime Forum for Middle East and North Africa and Africa; Network of Professional Women in the Maritime and Port Sectors for west and central Africa; Association for Women Managers in the Maritime Sector, Asia (WIMA Asia); and the Association for Women in the maritime sector of east and southern Africa (WOMESA).

Strong national associations are also feeding into the regional associations. For example, the Women in Maritime Philippines Association (WIMAPHIL) has taken action to promote maritime safety through its "WIMA on Watch" (WOW) programme; supported women seafarers through the "She to Sea" Campaign and signed an MoU with the Filipino Association for Mariners' Employment (FAME). WIMAPHIL has also supported WIMA Asia on "Green shipping" and "Promoting women's advocacy for domestic ferry safety".

Meanwhile, the World Maritime University Women's Association (WMUWA) is actively collaborating with regional networks, notably with PacWIMA, WIMA Asia, and WiMAC.

IMO is currently developing the gender maritime education and training programme (GENMET), to include education and training material based on the principles and targets of UN SDG 5 Achieve gender equality and empower all women and girls.

Supporting SDG implementation

How IMO's integrated technical cooperation programme can support the implementation of the UN Sustainable Development Goals (SDGs) was one of the key items on the agenda of the Technical Cooperation Committee.

Several goals have particular resonance for IMO including Goal 5 (gender equality); Goal 13 (combat climate change); Goal 14 (use of the oceans, seas and marine resources); and goal 17 (partnerships).

The Committee recognized that IMO's Strategic Plan, Strategic Directions and High-level Action Plan also needed to link in to the SDGs.

It was agreed that an intersessional working group should be held to discuss the linkages with IMO's technical assistance work, and specifically in terms of planning the next Integrated Technical cooperation Programme (for 2018-2019.

Regional presence success

The success of the regional presence scheme, with IMO Regional Presence Officers in Africa and East Asia and the Regional Maritime Adviser in the Caribbean, was recognized. The Committee expressed its appreciation to the host countries of the IMO Regional Presence Offices (Côte d'Ivoire, Ghana, Kenya, the Philippines and Trinidad and Tobago) for their financial and in-kind contributions to support the scheme, which had been shown to be very effective in supporting the delivery of the integrated technical cooperation programme activities and in supporting Member States in their efforts towards becoming parties to and implementing IMO instruments.

It was noted that review and possible expansion of the scheme could be considered at a later date, in the context of discussions relating to linking IMO's work and its technical cooperation activities with the UN sustainable development goals.

Meanwhile, the Committee agreed to ring-fence provision in the 2018-2019 Integrated Technical Cooperation Programme budget for the IMO partner in the Pacific region, the Pacific Community (SPC), to hire and employ one professional. This person would be utilized by the Pacific Community (SPC) and the Secretariat of the Pacific Regional Environment Programme (SPREP) for the delivery of IMO's technical assistance programme in the region.

Training package for national maritime transport policy nearing completion

The Committee was informed that a new training package for the development, adoption and updating national maritime transport policies was nearing completion, following a series of pilot regional workshops and seminars around the world. The package is being developed in conjunction with the World Maritime University (WMU).

The promotion and development of national policies to guide planning, decision making and relevant legislative actions is a good governance practice of many governments. The development of a National Maritime Transport Policy is seen as crucial in serving as a fundamental guidance document, for successive governments, to provide a long-term sustainable vision for the future of the maritime sector, given its critical importance to the socio-economic development and environmental well-being of a country.

The IMO Secretariat urged countries who have adopted a national maritime transport policy to provide a copy to the Secretariat, in order to share these policies with Member States who are in the process of developing such a policy.

Updating of country maritime profiles

The Committee noted that more than half of IMO Member states had populated their country maritime profiles with data and statistics relating to their maritime activities. Country maritime profiles are seen as a means to capture and reflect the maritime profile and needs of individual States.

However the Committee acknowledged there was currently a lack of consistency, which the Secretariat and countries needed to address.

Successful year in 2015

During 2015, 235 technical cooperation activities were delivered, ranging from advisory and needs assessment missions and national and regional training courses through to the development of model legislation, review and updating of training packages, and meetings of heads of maritime administrations.

Some 3,370 people worldwide completed training activities and a further 71 completed fellowships in the maritime field, while 1,079 officials attended events aimed at developing and harmonizing regional strategies on maritime technical matters.

Funding costs amounted to some US$13 million, with half of this coming from IMO's Technical Cooperation Fund. On top of this, non-financial contributions contributed greatly to the overall success in the delivery of activities.

Ballast water sampling and analysis – training successfully delivered

Impact assessment shows positive results

The meeting consider the report of the Impact Assessment Exercise (covering the 2012-2015), which looks at the impact of capacity-building exercises on, and their relevance to, the needs of beneficiary countries. Overall, the report showed positive outcomes.

In assessing training evaluations, 84 % of the trainees felt that the objectives of the training activity were met while 89% believe they will be able to use the information they have gained during the training when they return to their work. Ex-post evaluation data reveal that 25% of participants had a positive impact on the post of the trainees, 96% felt the training activity improved the quality of the performance, 88% were able to transfer the knowledge, 80 % applied their new skills and 67% were able to take new action; all of which indicate a high level of impact of the integrated technical cooperation programme.

Generally, the Impact Assessment recommended further investment in technological solutions (such as online and multimedia material), enriching its content and activities, reaching out more to governments, networks, maritime professionals and other UN agencies to each other more, and devising an improved monitoring and evaluation system.

The Committee agreed to consider the recommendations in detail in an intersessional working group.

IMO Member State Audit Scheme (IMSAS) under way

The Committee received an update on the IMO Member State Audit Scheme (IMSAS), noting that 16 of the planned 19 mandatory audits scheduled for this year had already been completed, with preparatory work underway for the 23 audits scheduled for 2017.

All 19 Member States being audited in 2016 had consented for their executive summary reports, corrective action plans and future comments on the implementation of their plans to be made available to all Member States via the IMO shipping information system module. This is expected to assist the membership in future technical cooperation planning.

Maritime Magazine

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Energy efficiency of international shipping

The Committee considered the report of a correspondence group on the status of technological developments relevant to implementing Phase 2 (1 Jan 2020-31 Dec 2024) of the EEDI (Energy Efficiency Design Index) regulations. The energy-efficiency regulations require IMO to review the status of technological developments and, if proven necessary, amend the time periods, the EEDI reference line parameters for relevant ship types and reduction rates.

Following discussion in a working group, which reviewed the status of technological developments relevant to implementing phase 2 of EEDI requirements from 2020, the Committee agreed to retain the phase 2 requirements (other than ro-ro cargo ships and ro-ro passenger ships), and on the need for a thorough review of EEDI phase 3 (1 January 2025 and onwards) requirements, including discussion on its earlier implementation and the possibility of establishing a phase 4. Currently, Phase 3 requirements provide that new ships be built to be 30% more energy efficient compared to the baseline.

The work to review the phased implementation of EEDI requirements will continue at the next session.

Meanwhile, updated guidelines for calculation of the EEDI were adopted, as amendments to the 2014 Guidelines on the method of calculation of the attained EEDI for new ships.

IMO was the first Organization to adopt, in 2011, energy-efficiency measures that are legally binding across an entire global industry. Energy-efficiency design standards for new ships and associated operational energy-efficiency measures for existing ships became mandatory in 2013, with the entry into force of the relevant amendments to MARPOL Annex VI.

Data received by the IMO Secretariat identifies that so far more than 1,900 ships have been certified as complying with the new energy efficiency design standards.

New ships must comply with stringent energy-efficiency standards to help control greenhouse gas emissions from ships

Fuel oil consumption data collection to be mandatory

The MEPC adopted mandatory requirements for ships to record and report their fuel oil consumption. Under the amendments, ships of 5,000 gross tonnage and above will be required to collect consumption data for each type of fuel oil they use, as well as other, additional, specified data including proxies for transport work. The MEPC also approved a roadmap for developing a comprehensive IMO strategy on reduction of GHG emissions from ships, which foresees an initial GHG reduction strategy to be adopted in 2018. (Full story, page 9)

North Sea and Baltic Sea emission control areas for nitrogen oxides (NO_X) approved

The MEPC approved the designation of the North Sea and the Baltic Sea as emission control areas (ECA) for nitrogen oxides (NO_X) under regulation 13 of MARPOL Annex VI. The draft amendments to formally designate the NO_X ECAs will be put forward for adoption at the next session of the Committee (MEPC 71).

The draft amendments to MARPOL Annex VI would see both ECAs enter into effect on 1 January 2021. Designation as a NO_X ECA would require marine diesel engines to comply with the Tier III NO_X emission limit when installed on ships constructed on or after 1 January 2021 and operating in the North Sea and the Baltic Sea. Furthermore, provisions were approved to allow ships fitted with non-Tier III compliant marine diesel engines to be built, converted, repaired and/or maintained at shipyards located in the NO_X Tier III ECAs. Both areas are already ECAS for SO_X.

Bunker delivery note amendments approved

Bunker delivery – under the spotlight at MEPC 70

The MEPC approved, with a view to adoption at MEPC 71, draft amendments to the MARPOL Annex VI bunker delivery note relating to the supply of marine fuel oil to ships which have fitted alternative mechanisms to address sulphur emissions requirements.

The draft amendments to appendix V of MARPOL Annex VI are intended to address situations where the fuel oil supplied does not meet low sulphur requirements, but has been supplied to a ship which is using "equivalent means" (for example, abatement technology such as scrubbers) to reduce the sulphur oxide emissions of the ship in order to comply with MARPOL requirements.

The MEPC approved Guidelines for onboard sampling for the verification of the sulphur content of fuel oil used on board. The guidelines provide an agreed method for sampling to enable effective control and enforcement of liquid fuel oil used on board ships under the provisions of MARPOL Annex VI.

2020 global sulphur cap implementation date decided

In a landmark decision for both the environment and human health, 1 January 2020 was confirmed as the implementation date for a significant reduction in the sulphur content of the fuel oil used by ships.

The decision to implement a global sulphur cap of 0.50% by mass in 2020 represents a significant cut from the 3.5% m/m global limit currently in place and demonstrates a clear commitment by IMO to ensuring shipping meets its environmental obligations. *(Full story, page 6).*

Other amendments to MARPOL

The MEPC adopted the following with an expected entry into force date of 1 March 2018:

- Amendments to MARPOL Annex I to update Form B of the Supplement to the International Oil Pollution Prevention Certificate, in relation to segregated ballast tanks;
- Amendments to MARPOL Annex V related to products which are hazardous to the marine environment (HME) and Form of Garbage Record Book. The amendments provide criteria for the classification of solid bulk cargoes as harmful to the marine environment and are aimed at ensuring that such substances are declared by the shipper if they are classed as harmful and are not discharged.

PSSA designated in Papua New Guinea

The MEPC designated the region surrounding Jomard Entrance, part of the Louisiade Archipelago at the south eastern extent of Milne Bay Province, Papua New Guinea, as a Particularly Sensitive Sea Area (PSSA). The PSSA includes established routeing systems (four two-way routes and a precautionary area) which were adopted in 2014 and entered into force on 1 June 2015.

Revised Guidelines for approving BWM systems adopted

The Committee welcomed the news that the conditions for entry into force of the International Convention for the Control and Management of Ships' Ballast Water and Sediments (BWM Convention), 2004, were met on 8 September 2016 and consequently the treaty will enter into force on 8 September 2017.

The MEPC adopted revised Guidelines for approval of ballast water management systems (G8), which update the Guidelines issued in 2008.

The revision to the guidelines updates the approval procedures for ballast water management systems (BWMS), including more robust test and performance specifications as well as more detailed requirements for type approval reporting and control and monitoring equipment, among others.

The type approval process was expanded, with detailed requirements for land-based, shipboard, and other tests set out in an annex. A ballast water management system which in every respect fulfils the requirements of the Guidelines may be approved by the Administration for fitting on board ships. The approval should take the form of a Type Approval Certificate for BWMS, specifying the main particulars of the BWMS and any limiting operating conditions.

The MEPC recommended application of the revised Guidelines (G8) as soon as possible and agreed that BWMS installed on ships on or after 28 October 2020 should be approved taking into account the revised guidelines. Systems installed prior to that date could be approved using the existing guidelines or the revised guidelines.

Sampling and analysis are key aspects of the guidance prepared by IMO

It was also agreed that the approval process should be made mandatory and the MEPC instructed the IMO Secretariat to prepare the Code for approval of ballast water management systems as well as draft amendments to the BWM Convention making the Code mandatory, for circulation with a view to adoption following entry into force of the Convention.

The MEPC also further discussed the agreed roadmap for implementation of the BWM Convention and agreed to instruct a correspondence group to develop a structured plan for data gathering and analysis of experience gained with the implementation of the BWM Convention.

Submissions were invited to MEPC 71 in relation to developing guidance on contingency measures under the BWM Convention and amendments to the Guidelines for risk assessment under regulation A-4 of the BWM Convention (G7) to incorporate the "same risk area" concept, which the Committee agreed may already be applied to grant exemptions under the Convention.

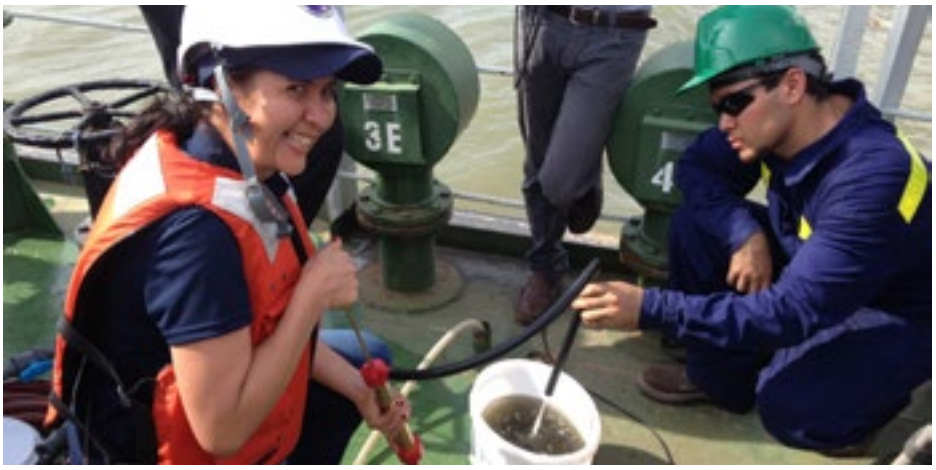
Further work on the implementation of the Convention will also take place at the next session of the Sub-Committee on Pollution Prevention and Response (PPR 4), in January 2017, including the review of guidance on sampling and analysis and the completion of the "Ballast Water Management – How to do it" manual.

With regards to the dates of implementation of the BWM Convention, the MEPC recalled that proposed draft amendments to regulation B-3 of the Convention relating to the time scale for implementation of its requirements had been previously approved at the last session of the Committee (MEPC 69) for circulation upon entry into force of the Convention, with a view to subsequent adoption. The draft amendments would provide for compliance with regulation D-2 (Ballast water performance standard) of the Convention by a ship's first renewal survey following entry into force.

A proposal for alternative draft amendments which would allow for compliance by the second renewal survey in certain circumstances was put forward. It was agreed that the alternative proposal would be debated at the next Committee session (MEPC 71) in mid-2017.

The Committee granted Final Approval to one BWMS that makes use of active substances and Basic Approval to one system. The Committee noted that the total number of type-approved BWMS stands now at 69.

Bunker delivery – under the spotlight at MEPC 70



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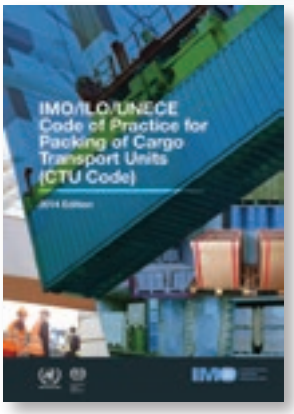

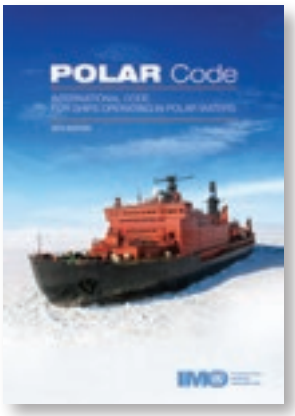

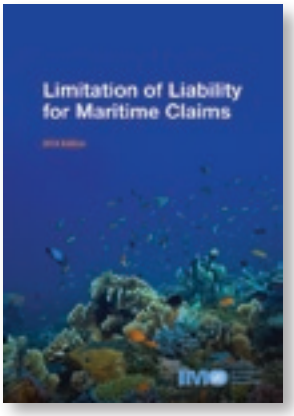

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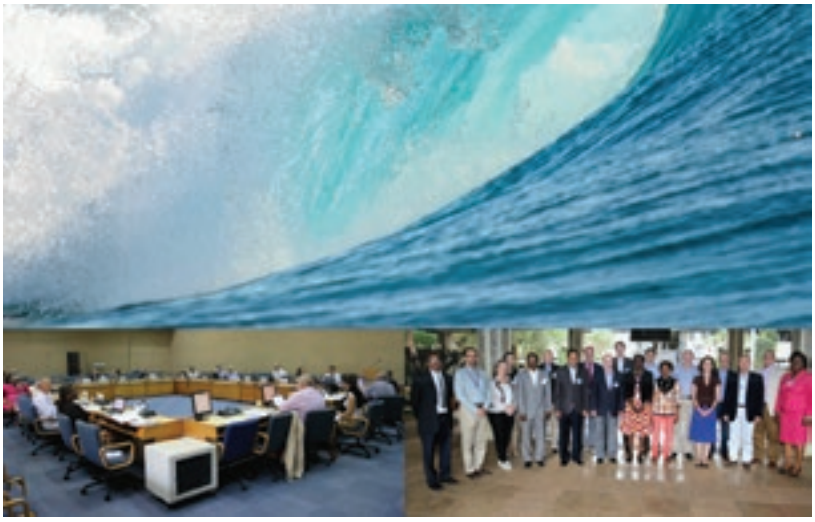

Disposal of mining wastes at sea – new expert group

New work to assess the environmental impacts of wastes from mining operations which have been disposed into the marine environment is set to begin shortly. The work will be undertaken by a dedicated working group, established by the Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP). GESAMP, which is a UN advisory body, set up the working group when it met for its 43rd annual session, in Nairobi, Kenya (14-18 November). IMO hosts the GESAMP secretariat. The move to assess the impacts of mining wastes at sea comes in response to a request from the Parties to the London Convention and Protocol, which regulate the dumping of wastes at sea. GESAMP's annual meeting was attended by scientists and representatives of GESAMP's UN sponsoring organizations.

Towards safe, clean ship recycling

Nine West and Central African countries have agreed to start working towards ratifying IMO's ship recycling treaty, the Hong Kong Convention, following a workshop in Accra, Ghana (14-16 November).

The event allowed for in-depth discussions and provided details on the specific requirements of the Convention and its Guidelines, with representatives from Cabo Verde, Gambia, Ghana, Guinea-Bissau, Equatorial Guinea, Liberia, Nigeria, Sao Tome & Principe and Sierra Leone taking part.

The Ghana Maritime Authority hosted the workshop and IMO was represented.

Port security training exercises in Argentina

An IMO workshop on advanced port security drills and exercises took place in Buenos Aires, Argentina (25-28 October). Participants from national port facilities, recognized security organizations and various authority officials were trained to plan, conduct and evaluate security exercises, so that IMO maritime security measures can be better implemented – specifically, the measures specified in the International Ship and Port Facility Security (ISPS Code), taking into account the recommendations contained in the Asia-Pacific Economic Cooperation (APEC) Manual of Drills and Exercises. The workshop was organized by IMO, in collaboration with the Argentine Maritime Authority (Prefectura Naval Argentina).

Training for better ballast water management

Work to implement IMO's Ballast Water Management (BWM) Convention in developing countries took place in Zagreb, Croatia, with two training activities under IMO's GloBallast project. A seminar looking at risk assessment, and inventories of marine life in and around commercial ports – a concept also known as Port Biological Baseline Surveys – concluded 17 November.

Marine biologists, Port State Control Officers and maritime authorities from Croatia, Egypt, Ghana, Jordan and Nigeria discussed issues including exemptions, ship targeting for compliance monitoring and enforcement and the development of decision support systems. The activity was co-organized with the Ministry of the Sea, Transport and Infrastructure of Croatia, REMPEC and PERSGA.

Earlier in the week (14-15 November) the first Croatia-GloBallast National Global Industry Alliance (GIA) Seminar provided an update on the implementation status of the Convention by all stakeholders involved – including ship owners, Member States, BWM system manufacturers and testing organisations. More than 100 international participants and speakers took part in the event, which was organized by GloBallast, the GIA, the Ministry of the Sea, Transport and Infrastructure of Croatia and the Croatian Shipowners Association – CSA Mare Nostrum.

East Asia environmental treaties project mulls next steps

Participating States in a highly successful IMO-Norad environmental project attended a final meeting, during which they pledged to continue to forge ahead with the implementation of key IMO marine environmental conventions. During the meeting in Bali, Indonesia (9-11 November), the six east Asian beneficiary countries highlighted the major goals reached during the project, including the development of national legislation for the ratification of key treaties.

The countries expressed an interest in developing a follow-up project concept which would cover the entire ASEAN region and focus on the effective implementation of the IMO conventions that the countries have recently acceded to.

Following gap analysis and formation of national task forces, supported by two regional consultants and national government focal points, the four-year project has directly led to the countries concerned (Cambodia, Indonesia, Malaysia, the Philippines, Thailand and Viet Nam) making substantial progress in terms of implementation and/or ratification of the International Convention for the Prevention of Pollution from Ships (MARPOL); the Anti Fouling Systems Convention; the London dumping of wastes convention and protocol; and the Ballast Water Management Convention.

Seychelles training

A three-day National Maritime Transport Policy (NMTP) workshop was held in Victoria, Seychelles (4 November). The event provided valuable knowledge and skills to those involved in the development, adoption and review of a NMTP in the country.

The exercise is part of a series of workshops and seminars being delivered in various regions of the world to test a maritime transport policy training package developed by IMO and the World Maritime University (WMU). The goal is to provide training to interested IMO Member States in the development, adoption and updating of such policies, which are key to a coordinated and integrated approach to maritime transport. The 27 participants represented various government agencies and stakeholders.

Also in Seychelles, an eight-day IMO training course on the latest tools, processes and procedures in the investigation of marine incidents (7-15 November). focussed, in particular, on how to carry out such investigations in accordance with the mandatory IMO Casualty Investigation Code.

Twenty five participants were drawn from the Seychelles Marine Accident Investigation Board, Department of Transport, Seychelles Maritime Safety Administration, Marine Police, the Coastguard, Legal experts, Health professionals, Fire Service, Civil Aviation Authority, Division for risk and incident management, amongst others.

No more homework

The maritime leaders and experts of tomorrow have graduated from the World Maritime University (29 October). The class of 2016, boasting graduates from over 50 countries, has been equipped to contribute to safe, environmentally sound, energy efficient and secure shipping on clean oceans. The graduates will now return to their home countries to utilize the education and training they have received at the IMO-affiliated University and contribute to the effective implementation of IMO's goals and objectives, as well the United Nations Sustainable Development Goals.

Argentina workshop promotes energy efficiency measures

Energy efficiency and the control of GHG emissions from ships were on the agenda at an IMO workshop in Buenos Aires, Argentina (8-10 November). Officials from Argentina's maritime administration, maritime training institutes and various ministries were in attendance as IMO experts highlighted measures in the Organization's MARPOL Annex VI.

The event, hosted by the Prefectura Naval, is the latest in a series of workshops organized in lead pilot countries under IMO's GloMEEP project, which supports uptake and implementation of energy efficiency measures for shipping in developing countries.

Arctic indigenous leaders meet IMO Secretary-General

The safety and environmental impact of arctic shipping was on the agenda as IMO Secretary-General Kitack Lim received a delegation of arctic indigenous leaders at IMO Headquarters, London (25 October). In the first meeting of its kind, a wide-range of issues surrounding climate change and the subsequent increase in number of ships operating in arctic waters were discussed. Secretary-General Lim outlined IMO's work in this field, in the form of IMO's Polar Code, which will enter into force in January 2017.

The Code applies to ships operating in Arctic and Antarctic waters, provides for safe ship operation and protects the environment by addressing the unique risks present in polar waters but not covered by other treaties.

Mr. Lim expressed his appreciation to the leaders for meeting him and providing their valuable input, and iterated his support for United Nations Secretary-General Ban Ki-moon's recent address to the Arctic Circle Assembly, in which Mr. Ban highlighted the importance of the UN Declaration on Rights of Indigenous Peoples as "our inspiration for how to recognize and respect indigenous peoples through our actions and initiatives".

The delegation was formed of representatives from the Pacific Environment, WWF, Friends of the Earth International, Kawerak, Bristol Bay Native Association, Inuvik Hunters and Trappers Committee, Chukotka Marine Mammal Hunters Association and business leader. Secretary-General Lim was joined by IMO directors Frederick Kenney and Ashok Mahapatra.

Additionally, a special panel discussion in IMO's main conference hall (26 October) saw the indigenous leaders speak directly to IMO about living on the front line of expanding Arctic shipping.

Winning for ship efficiency

IMO's continuing efforts to promote environmentally sound shipping have been recognized with the 'Lloyd's Register Outstanding Contribution to Ship Efficiency' award, which celebrates improvements made in energy efficiency in the maritime industry through training and education. Technical Adviser Astrid Dispert received the award (2 November) for work being done under the GEF-UNDP-IMO Global Maritime Energy Efficiency Partnerships (GloMEEP) project to support developing countries to prevent air pollution and greenhouse gas emissions from ships.

With capacity-building at the heart of the project, this year has seen a host of training workshops in the 10 lead pilot countries as well as the development of training guides to help countries implement the key IMO regulations for preventing air pollution from ships and reducing emissions in MARPOL Annex VI.

Speaking at the awards ceremony, organized by Fathom Maritime Intelligence in London, Ms. Dispert raised the importance of promoting a global energy-efficiency culture, which should "lie at the heart of a sustainable maritime transportation system". Ms. Dispert thanked all those involved in the project and emphasized that "a lot of excellent work has been done in the respective countries in a very short period of time. And it is encouraging to witness with how much dedication and energy these countries have embraced this project."

Strengthening oil spill response in SE Asia

Training for oil pollution preparedness, response and cooperation (OPRC) took place in Jeju Island, Republic of Korea (7-11 November). On completion of the course, Government officials from seven* Southeast Asian countries will be able to play a significant role in advancing their respective countries' OPRC capability, as well as regional and international cooperation in the case of major oil spills. The course included a focus on the OPRC capacity in the Republic of Korea as an example of the level of oil spill preparedness and response in developed countries.

The event was organized by IMO and the Korea Marine Environment Management Corporation (KOEM), supported by the Republic of Korea through the Ministry of Oceans and Fisheries. **Cambodia, Indonesia, Malaysia, Myanmar, Philippines, Thailand and Timor Leste*.

Workshop promotes IMO liability and compensation regime

A national workshop on the IMO liability and compensation conventions was held in Bangkok, Thailand (8-11 November). The workshop provided a comprehensive overview of the IMO liability conventions, including those covering the wreck removal, salvage, carriage of hazardous and noxious substances, CLC, Fund and Bunkers Convention. In looking at the history of the treaties' development, their principles, implementation and practical implications – IMO is supporting the implementation and enforcement of the full liability regime in the country.

Attending participants included government legal officers and legislative drafters as well as stakeholders from the private sector and representatives from the IOPC Funds and the International Group of P&I Clubs. The workshop was organized by the IMO and Marine Department of Thailand in Bangkok.

Next step for ship recycling in Bangladesh

IMO's work to promote safe and environmentally sound ship recycling made further progress (6-8 November) in Dhaka, Bangladesh, where a roundtable meeting of donors discussed next steps in IMO's SENSREC project. At the meeting, the Government of Bangladesh announced plans to take on phase II of the project, which will establish a Treatment Storage and Disposal Facility (TSDF) in the Chittagong region.

The facility will help to manage hazardous materials derived from ship recycling and other industries in the region. Participants also visited the ship recycling yards in Chittagong and had a practical overview of the country's ship recycling industry.

The meeting was organized by the Government of Bangladesh, in cooperation with IMO and the Secretariat of the Basel, Rotterdam and Stockholm Conventions (BRS).

Shipping CO_2 developments highlighted at COP 22

The recent progress made by IMO towards reducing greenhouse gas emissions from international shipping was presented to the UNFCCC Subsidiary Body for Scientific and Technical Advice (SBSTA 45), which met as part of the COP 22 Marrakech Conference. IMO's Marine Environment Protection Committee (MEPC 70) recently adopted a mandatory data collection system on fuel oil consumption of ships and approved a Roadmap for developing a 'Comprehensive IMO strategy on reduction of GHG emissions from ships'.

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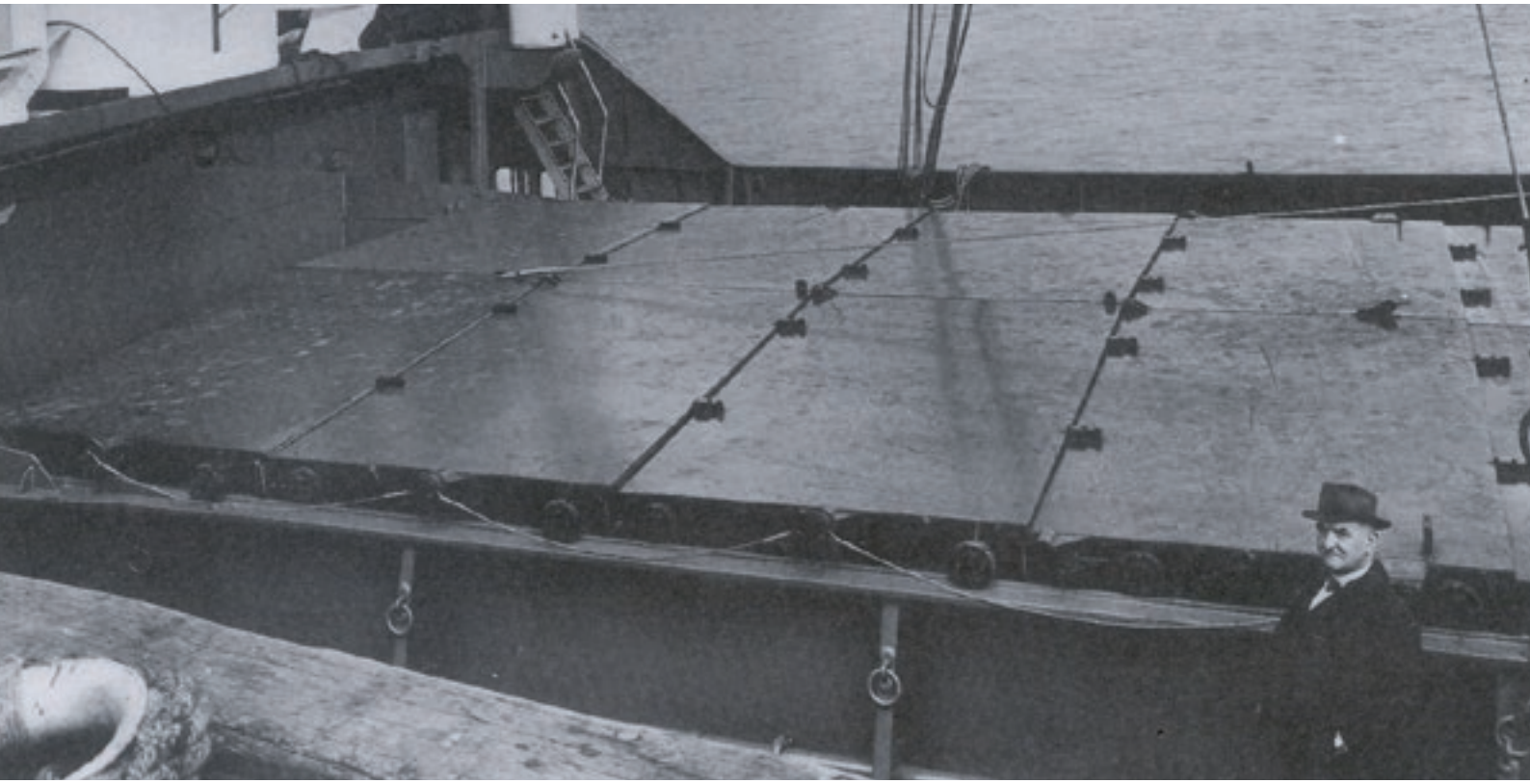

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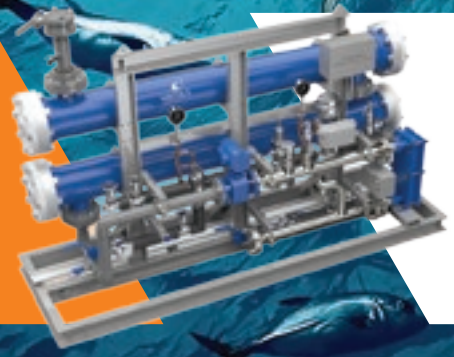

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