TOUCH OF **CLASS**

01 OF 2013 | INDIAN REGISTER OF SHIPPING

Contents

From the Chairman's desk

Since its inception in 1975, occupying one half of a floor at 245 Madame Cama Road, Mumbai, Indian Register of Shipping has grown both in acumen and space to its current location at 52A, Adi Shankaracharya Marg, Powai. The journey through various ups and downs, nevertheless has been interesting.

Despite all odds, it achieved recognition as member of IACS in June, 2010 and as we speak, is getting ready for an audit by European Maritime Safety Agency by fall of this year, a step closer to recognition by the European Union. While rationale for existence of Class is broadly the same today as it was at its birth in 1760; the preservation of life and property at sea and on land, the work at any Classification is constantly changing driven by the advancement of Science and Engineering and ever increasing demands of industry.

At IRS while we endeavor to increase our existing business, one has to also clearly look at the changing demands of industry and its expectations from the Classification. Hence the need to diversify into new areas such as Consultancy. Today, IRS needs to provide services as 'Class', and also very specifically those which are 'beyond Class'.

It has been decided to re-launch the 'Touch of Class' which will give all of us within IRS and outside, a view of IRS, 'A Class Organization'.

All of us will need to gear up with all our innovative engineering skills and determination to face new challenges and find the right answers to complex problems posed by industry in general as we move forward at an ever increasing pace.

70T bollard pull tug built by Kanagawa Dockyard ltd. for Adani Hazira Port pvt. ltd. undergoing sea trials at Japan.

57,000 DWT bulk carriers
built at STX Dalian
for Shipping Corporation of India Ltd.

Training Department 2012

In-house safety trainings were carried out together with soft skill training for our staff

The Trainings were imparted in accordance with the objectives of IRS. Induction training was held in the months of March and October for surveyors from Survey stations and Head office. Management Training, NDT training and Mentored On Job Refresher Training for New Construction were conducted for our surveyors at Goa, Kolkata and Vizag.

In-house safety trainings were carried out together with soft skill training for our staff. Trainings like Aluminium Welding, ISO 17020 & 17021 and Train the Trainer were imparted too.

Ship Visits were arranged for Plan Approval Staff. Special Survey HULL CBT (Computer based training) was developed and put on Intranet. Training on LNG/ LPG at Mangalore and Ship familiarization for staff were conducted.

ISM, ISPS and MLC 2006 trainings were conducted both for our surveyors as well as external participants.

Apart from in-house training, external trainings were conducted for other organisations like Indian Coastguard, Mumbai Port Trust, Greatship (India) Ltd. at Lonavala, Larsen & Toubro and Indian Oil Tanking Company at Uran.

A training was held on EEDI and SEEMP, with over 100 participants from the industry, at IRS Head Office, Mumbai.

Two-thirds of the world's pol

as global warming con

ar bears could disappear by 2050

tinues to melt the Arctic's sea ice

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Shipping and Climate Change

a classification society perspective

An increase in global temperature has a direct impact on the complex web of systems that allow life to thrive

EEDI Team - NC Division

There is a growing concern that the earth's atmosphere is being altered by human activities, resulting into global Climate Change. Policy measures to combat Carbon dioxide (CO_2) emissions were on the agenda of International Maritime Organization (IMO) for quite sometime which has resulted into mandatory regulations in the form of technical (Energy Efficiency Design Index - EEDI) and operational measures (Ship Energy Efficiency Management Plan- SEEMP). EEDI and SEEMP, though considered as a challenge to the Shipping Industry, are opportunities waiting in the wings for various stakeholders including IRS to collaborate with each other to meet the mandatory requirements in a timely and cost-effective manner and still remain competitive in the international market. IRS, being directly involved with ship owners, defense bodies such as Indian Navy & Indian Coast Guard, ship builders and Flag Administration, feels that it has a vital role to play in creating a synergy to develop energy efficient shipping.

GHG emissions and Shipping

It is widely acknowledged that an increase in global temperature has a direct impact on the complex web of systems that allow life to thrive on earth.

Under the auspices of IMO, the second IMO GHG Study 2009 was undertaken at a global scale by a consortium of universally renowned scientific experts. The report revealed that international shipping contributes approximately 2.7% of the global CO_2 emissions. With the current rise in international shipping and the expected high growth in demand for the sector, international shipping is likely to contribute to about 18% of global CO_2 emissions in 2050, if the emissions are left unabated. This enabled IMO to base its decisions on sound scientific advice.

The extensive work undertaken by all the stakeholders since then has resulted in the recent developments at IMO in the form of making EEDI mandatory for all new ships, and SEEMP for the control of CO_2 emissions from existing ships.

international shipping contributes approximately 2.7% of the global CO_2 emissions

The aftermath of above regulations has made industry to take serious note of words like sustainability, global warming, green technologies, carbon footprints etc. and not to just merely confine them to research studies. Innovative technologies which are in the development stage are being put to test before realizing their impact to reduce green house gas emissions from ships.

This clearly indicates that the greening trend has picked up momentum in the maritime industry and has forced ship owners & operators to place energy efficient performance as one of their Key Result Areas.

IMO's Initiatives

IMO's CO_2 abatement initiative is a three pronged approach consisting of Energy Efficiency Design Index (EEDI), Ship Energy Efficiency Management Plan (SEEMP) and Market Based Measures (MBMs). A new Chapter 4 has been included in MARPOL Annex VI making EEDI & SEEMP mandatory instrument with effect from 1st January 2013. Out of the three proposed measures the technical measures have been included in the MARPOL Annex VI, however the market based measure is still being widely debated amongst member countries to arrive at a consensus regarding its method of implementing the same.

Energy Efficiency Design Index (EEDI)

Energy Efficiency Design Index expresses the quantity of CO_2 emitted by a ship to transport one tonne of cargo for one nautical mile. It is expressed in grams of CO_2 per tonne-mile. In a nutshell, it is a measure of a ship's performance, which reflects the emissions against benefit to society.

In a simplified form, it is expressed as follows:

$$EEDI = \frac{\text{Engine Power(kw)} * \text{SFC (g / kwh)} * CO_2 \text{ conversionfactor}}{\text{Deadweight} * \text{Shipspeed}}$$

EEDi will by far become the most important technical measure which will require a minimum energy efficiency level per capacity mile (tonne-mile) for different ship type & size segments. EEDI, as of now, applies to the most energy-intensive segments of the international shipping fleet, representing the following ship types:

- Container ships
- General cargo ships
- Refrigerated cargo carriers
- Gas tankers
- Oil tankers
- Bulk carriers
- Combination carriers

EEDI calculated for a ship is termed as "Attained EEDI" which is to be less than the "Required EEDI". "Required EEDI" is obtained from the reference line. Reference lines for each ship type mentioned above have been developed by IMO. It represents the baseline EEDI values of that ship type and is expressed as a function of ship's deadweight. Although "attained EEDI" is to be calculated for the following types of ships also, reference line values have not yet been finalized for these ship types

- Passenger ship
- Ro-ro passenger ship
- Ro-ro cargo ship (vehicle carrier)
- Ro-ro cargo ship

The EEDI standards for new ships expressed as percentage reduction from the reference line will be implemented through four phases from 2013 to 2025.

Verification and Certification

Compliance to the regulation on EEDI would be verified and each ship would be issued an International Energy Efficiency (IEE) certificate. The certification of EEDI basically follows two stages i.e. design stage and sea trial stage. Following flow charts exhibit the activities involved in each of these stages.

Design Stage

- Request from shipyard for International Energy Efficiency Certificate
- Conducting Model ship tank test by shipyard / tank test organization
- Submission of EEDI technical file & supporting documents by shipyard
- Verification of EEDI computation by IRS
- Issuance of pre-verification Report by IRS

Sea Trials Stage

- Submission of documents prior to sea trial
- Sea trials witnessed by IRS
- Submission of sea trial report & final EEDI technical file by shipyard
- Final EEDI technical file reviewed by IRS
- Issuance of IEE certificate by IRS


WYŻ GUJANSKA
AMERYKA
POŁUDNIOWA

Ship Energy Efficiency Management Plan (SEEMP)
SEEMP is a tool to improve a ship's energy efficiency through four steps: planning, implementation, monitoring, and self-evaluation and improvement. It enables monitoring an individual ship's energy efficiency as well as that of a fleet's performance over time and improving it with a PDCA (Plan-Do-Check-Act) cycle. It pushes the ship-owner, to incorporate new technologies and adopt best management practices to ensure an energy efficient ship operation.

Best management practices like improved voyage planning, weather routing, optimized port operation, practicing virtual notice of arrival, optimization of speed and shaft power, optimized trim and ballast, hull maintenance with new advanced coating system, propeller cleaning and polishing, improved propulsion system, waste heat recovery, use of alternative fuels are some of the options available for improving efficiency of the ships. Although the number of alternatives is many, one must look at the feasibility of the chosen method, which is dependent on a number of factors like type of the ship, trading pattern of the ship, etc. Thus there is no single perfect combination and therefore one has to judiciously and intelligently choose the emission reducing measures which best fits to a particular ship.

IRS as an Enabler
Being an international classification society, IRS can act as a service provider in certification of EEDI both at the design stage and sea trials stage in a professional manner acting as an RO on behalf of flag administration. IRS has been actively participating in IMO's Marine Environment Protection Committee meetings right from the time when discussions were initiated on GHG emissions from shipping. It was also part of the IACS Joint Working Group on EEDI and was involved in preparing Industry Guidelines on calculation and verification of EEDI.

IRS can act as an institution for database management for ship owners in ascertaining the EEDI values of their current fleet for comparison with the IMO baseline.

We have published Information brochures on EEDI & SEEMP, for the benefit of the stakeholders of the shipping industry. We are dedicated to collaborating with interested parties in the industry to carry out joint research studies for development of energy efficient technologies and implementing them in a cost effective way.

Challenges and Opportunities
With energy efficiency regulations coming into force from 2013, IMO envisages that CO_2 emissions from shipping will be reduced by 45-50 million tonnes annually by 2020 and 180-240 million tonnes annually by 2030, compared with the current emission rates. There is enough evidence in history to suggest that the shipping sector comes up with innovations amidst challenging circumstances.

Perhaps this is the time when new innovations will be put to test. Due to the mandatory regulations on energy efficiency and a constant endeavour to minimize fuel bills in the wake of rising fuel costs, ship owners are more than willing to invest in new technologies. The challenge for the designers and ship-builders is to provide solutions in a cost-effective way. EEDI being a non-prescriptive, performance based mechanism leaves the choice of technologies to use in a specific ship design, to the ship designer, builder & owner.

IRS views the current regulations on emission reductions as a technical challenge to the shipping sector and appeals to all stake holders to put collaborative efforts, so that their ships comply with the demands of the regulations in a timely and cost-effective manner to maintain their competitive position in international shipping. "If we do it right environmentally, we will be doing it right financially too."

As rightly stated by Mr. Andrew Spyrou in his book, "Global climate change is not a morality play, it is a technical challenge!"

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Staghorn coral, or Acropora ce

has lost 80 to 90 percent of its

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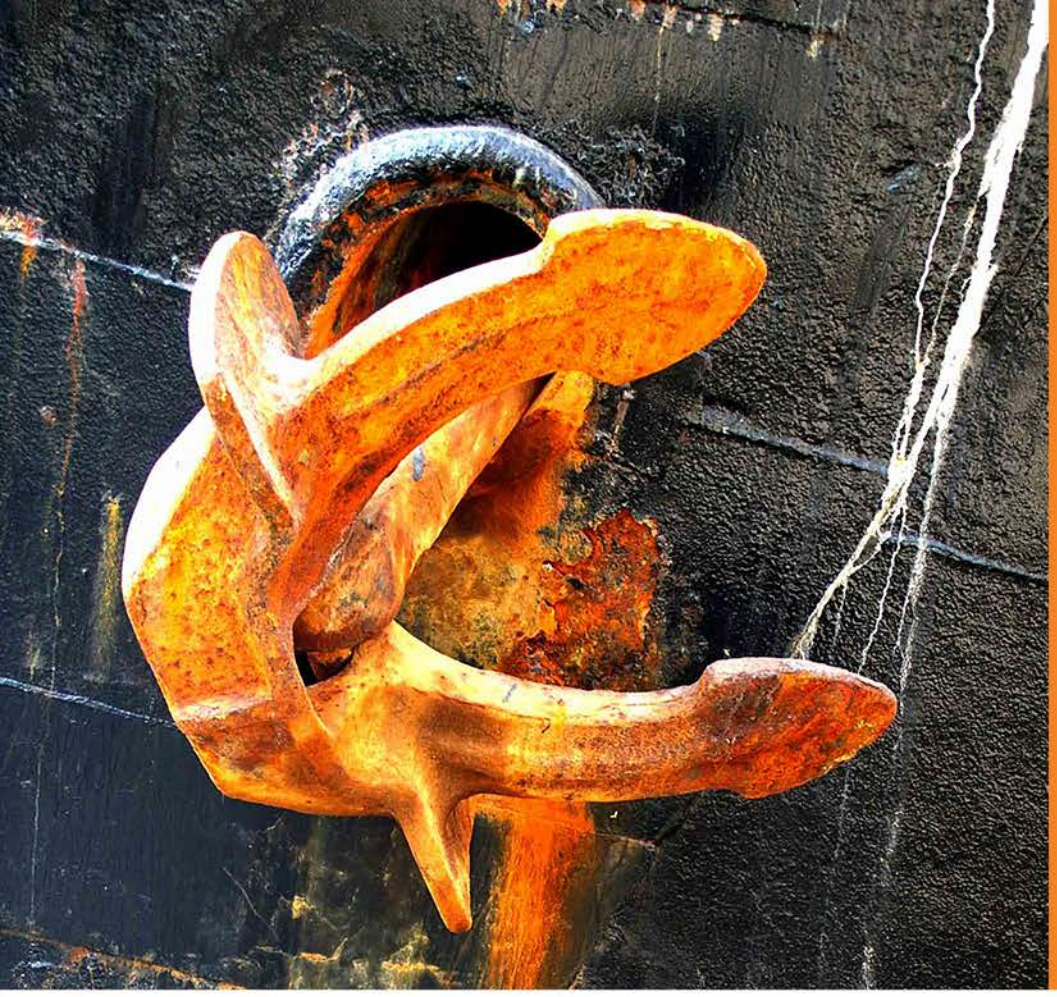
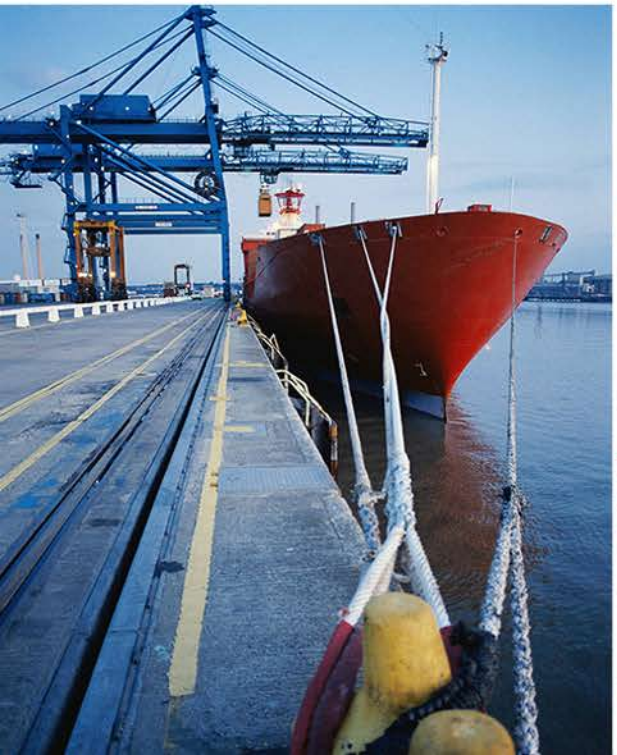
reef populations around the world in the past few decades





Maritime Labour Convention 2006

Aiming to provide seafarers with the fundamental right to decent living and working conditions on board the ship

Capt. V.J. Makuden - Senior Surveyor

Background

Since the foundation of the International Labour Organization in 1919, about 72 ILO maritime Conventions have been adopted. However, all these ILO maritime Conventions had a poor record of ratification and poorer record of enforcement. All these ILO maritime Conventions were applicable only to ships, whose flag had ratified the concerned maritime Conventions. Thus, there was no level playing field for shipowners who ply their ships conforming to the requirements of those ILO's maritime Conventions. The governments found it difficult to ratify and enforce the ILO Maritime Convention due to it being very detailed and many were out of date and did not reflect the contemporary working and living conditions. A need was felt to develop a more effective enforcement and compliance system that would eliminate substandard ships and to work within the well established international system for enforcement of the international standards for ship safety, security and environmental protection that have been adopted by International Maritime Organization.

Introduction to MLC 2006:

The Maritime Labour Convention also called MLC 2006, is a new International Labour Organization Convention adopted, on 7th February 2006 unanimously. It is also considered as the "Fourth Pillar of international maritime law", the other three being the Safety of Life at Sea (SOLAS), Standard of Training, Certification and Watchkeeping (STCW) and Prevention of Marine Pollution (MARPOL). MLC 2006 is also often described as a charter for decent work or "bill of rights" for the world's maritime workers, because its main aim is to provide seafarers with the fundamental right to "decent living and working conditions on board the ship". The other fundamental rights that are taken care of under MLC 2006 are:

- Freedom of association and the effective recognition of the right to collective bargaining.
- The elimination of all forms of forced or compulsory labour
- The effective abolition of child labour; and
- The elimination of discrimination in respect of employment and occupation.

MLC 2006 contains comprehensive set of global standards based on those that are already found in 68 maritime labour instuments (conventions and recommendations) adopted by the ILO since 1920.

The novel aspects of the MLC 2006 are:
(i.) Firstly, the provisions of MLC 2006 must be given effect through national laws and regulations to allow for more effective implementation by flag State which is primarily responsible for the enforcement of and compliance with the MLC 2006.

(ii.) Secondly, the certification system of the MLC, 2006 is designed to be more in line with other international conventions developed under the IMO.

(iii.) Thirdly, Compliance and Enforcement clause is included in the Convention itself to ensure that the ratifying countries can enforce the requirements of MLC 2006, and

(iv.) Lastly, the "no more favorable treatment" clause ensures that Member States establish a level playing field by treating all ships equally irrespective of whether or not the flag State of a ship has ratified the MLC 2006.

Envisaging the difficulties that may arise in implementing MLC 2006, ILO has published various guidelines such as,

(i.) Guidelines for Port State Control Officers (Resolution IV),

(ii.) Guidelines for Flag State Inspections (Resolution XIII),

(iii.) Guidance on implementing the MLC, 2006 and Social Security for Seafarers (Resolution XVI).

Ratification:
MLC 2006 having met the requirements of ratification on 20th August 2012, will come into force internationally on 20th August 2013. As on date the following countries have ratified the Convention:

ANTIGUA AND BARBUDA	GREECE	PHILIPPINES
AUSTRALIA	KIRIBATI	POLAND
BAHAMAS	LATVIA	RUSSIAN FEDERATION
BENIN	LIBERIA	SAINT KITTS AND NEVIS
BOSNIA AND HERZEGOVINA	LUXEMBOURG	SAINT VINCENT AND GRENADINES
BULGARIA	MALTA	SINGAPORE
CANADA	MARSHALL ISLANDS	SPAIN
CROATIA	MOROCCO	SWEDEN
CYPRUS	NETHERLANDS	SWITZERLAND
DENMARK	NORWAY	TOGO
FINLAND	PALAU	TUVALU
GABON	PANAMA	


decent living and working conditions on board the ship

Structure of MLC 2006:

The Maritime Labour Convention 2006 is laid out containing firstly, the Articles and the Regulations which sets out the core rights and principles and the basic obligations of the members ratifying the Convention and secondly, the Code containing the required Standard and Guidelines. The Standard or Part A of the Code is mandatory and the Guidelines or Part B of the Code is non-mandatory.

The requirements of the Convention are further divided into 5 Titles. Under each Title there are various Regulations and each Regulation (except Regulation 1.3 and 5.1.6) has a purpose specified followed by the mandatory Standard (Part A) requirements and non-mandatory Guidelines (Part B) for implementing the Standards requirements. The various Titles and the Regulations under it are as follows:

Title 1. Minimum requirements for seafarers to work on a ship

Regulation 1.1. Minimum Age
Regulation 1.2. Medical Certificate
Regulation 1.3. Training and qualifications
Regulation 1.4. Recruitment and placement

Title 2. Conditions of employment

Regulation 2.1. Seafarers' employment agreements
Regulation 2.2. Wages
Regulation 2.3. Hours of work and hours of rest
Regulation 2.4. Entitlement to leave
Regulation 2.5. Repatriation
Regulation 2.6. Seafarers compensation for the ship's loss or foundering
Regulation 2.7. Manning levels
Regulation 2.8. Career and skill development and opportunities for seafarers'

Title 3. Accommodation, recreational facilities, food and catering

Regulation 3.1. Accommodation and recreational facilities
Regulation 3.2. Food and catering

Title4. Health protection, medical care, welfare and social security protection

Regulation 4.1. Medical care on board ship and ashore
Regulation 4.2. Shipowners' liability
Regulation 4.3. Health and safety protection and accident prevention
Regulation 4.4. Access to shore-based welfare facilities
Regulation 4.5. Social Security

Title5. Compliance and enforcement

Regulation 5.1. Flag State responsibilities
Regulation 5.1.1 General principles
Regulation 5.1.2 Authorization of recognized organization
Regulation 5.1.3 Maritime labour certificate and declaration of maritime labour compliance
Regulation 5.1.4 Inspection and enforcement
Regulation 5.1.5 On- board compliant procedures
Regulation 5.1.6 Marine casualties
Regulation 5.2. Port State responsibilities
Regulation 5.2.1 Inspections in port
Regulation 5.2.2 Onshore seafarer compliant-handling procedures
Regulation 5.3. Labour-supplying responsibilities

Inspection and Certification Process:

MLC 2006, applies to all seafarers and all ships whether publicly or privately owned, ordinarily engaged in commercial activities and irrespective of size. All ships are subject to inspection. However, inspection and certification is required only for ships of 500 gt or more engaged in international voyage or operating from a port, or between ports, in another country which are issued with Maritime Labour Certificate.

The Maritime Labour Certificate, is complemented with two parts of the Declaration of Maritime Labour Compliance (DMLC). The DMLC Part I is issued by the flag State wherein the national requirements are stated for compliance with MLC 2006 for the 14 mandatory areas for inspection and certification. DMLC Part II is filled in by the shipowner wherein, the measures and procedures for ongoing compliance with the national requirements are stated. The DMLC Part II may be reviewed and approved by the Administration or by the Recognized Organization, if authorized to do so. The DMLC Part II will be endorsed subject to a full and satisfactory inspection and verification on board for the compliance with the requirements of MLC 2006, and the ship issued with a Maritime Labour Certificate for a maximum period of five years and is required to be subjected to an Intermediate Inspection between the 2nd and 3rd Anniversary Date of the certificate.

Ratification Status of Government of India:

A gap analysis has been carried out and till ratification of MLC 2006 by India, the Government of India has encouraged the shipowners to carry out voluntary inspections to obtain "Statement of Compliance for Maritime Labour Convention 2006" with a view to avoid delays or detentions of Indian flag ships in foreign ports. The Maritime Administration of the Government of India has identified Indian Register of Shipping as the Recognized Organization to carry out inspection and issue "Statement of Compliance for MLC 2006" to all Indian flag ships.

Besides Government of India, IRS has received authorization from the following flag States for MLC 2006 inspection and certification for the ships flying its flag:

(i)Republic of Marshall Islands
(ii) Republic of Kiribati
(iii) Government of Tuvalu
(iv) Republic of Vanuatu, and
(v) Republic of Liberia

Republic of Panama have principally agreed to authorize IRS pending certain documentation requirements.

Indian Register of Shipping is fully geared to undertake inspection and certification of ships for compliance to MLC 2006 requirements. IRS has trained its three surveyors at ILO's International Training Centre at Turin, Italy, who in turn have trained and qualified forty two surveyors in IRS and has prepared necessary work instruction for the inspectors to carry out the inspections in an uniform manner.

Although killer whales (also known as

they have a

orcas) look beautiful and happy,
sad secret- they are endangered

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Indian Register of Shipping

Challenges for the Effective Implementation of BWM Convention

Presently, ratified by 36 states constituting 29.07% of the world's merchant shipping fleet

P.K. Mishra - Vice President & Senior Principal Surveyor

1.Ballast Water Management Convention

The Ballast Water Convention has been developed to regulate discharges of ballast water and reduce the risk of introducing non-native species.

1.1 Applicability

Convention applies to all new and existing ships which are designed to carry ballast water and are entitled to fly the flag of a Party to the Convention.

Convention shall not apply to any warship, naval auxiliary or other ship owned or operated by a State and used, only on Government non-commercial service.

1.2 Treatment Standards

The Convention includes two regulations that define ballast water management standards; Regulation D-1 addresses the Ballast Water Exchange standard and Regulation D-2 details the Ballast Water Treatment Performance standard.

Ballast water exchange is founded on the principle that organisms and pathogens contained in ballast water taken on board from coastal waters will not survive when discharged into deep oceans or open seas, as these waters have different temperatures, salinity and chemical composition. Similarly the deep ocean waters or open seas, when compared to the coastal waters, contain fewer organisms and pathogens and those that do exist are less likely to adapt to the new coastal or freshwater environment. Therefore the probability of organism and pathogen transfer through ballast water is significantly reduced. Ships performing ballast water exchange are required to do so with an efficiency of at least 95 percent volumetric exchange. Acceptable methods for ballast water exchange are the Sequential Method, the Flow-through Method and the Dilution Method.

Regulation D-2 defines the performance standard for the ballast water treatment system. This criterion is in

the form of specific limits on aquatic life in the ballast discharge: Ships conducting ballast water management in accordance with this regulation shall discharge:

- Less than 10 viable organism per m3 > 50μ in minimum dimension, and
- Less than 10 viable organisms per ml < 50μ and >10μ in minimum dimension, and
- Similarly treatment standards are given for indicator microbes.

The D-2 standard is the metric used to measure the efficacy of the treatment system and it applies to the system as installed on board and used in actual operations.

1.3 Entry In to Force:

The Convention will come into force 12 months after the date by which not less than 30 states (the combined merchant fleet of which constitutes not less than thirty-five percent of the gross tonnage of the world's merchant shipping) have ratified it. Presently, it has been ratified by 36 states constituting 29.07% of the world's merchant shipping fleet.

Implementation schedules based on ship's year of construction has been shown in the table below:

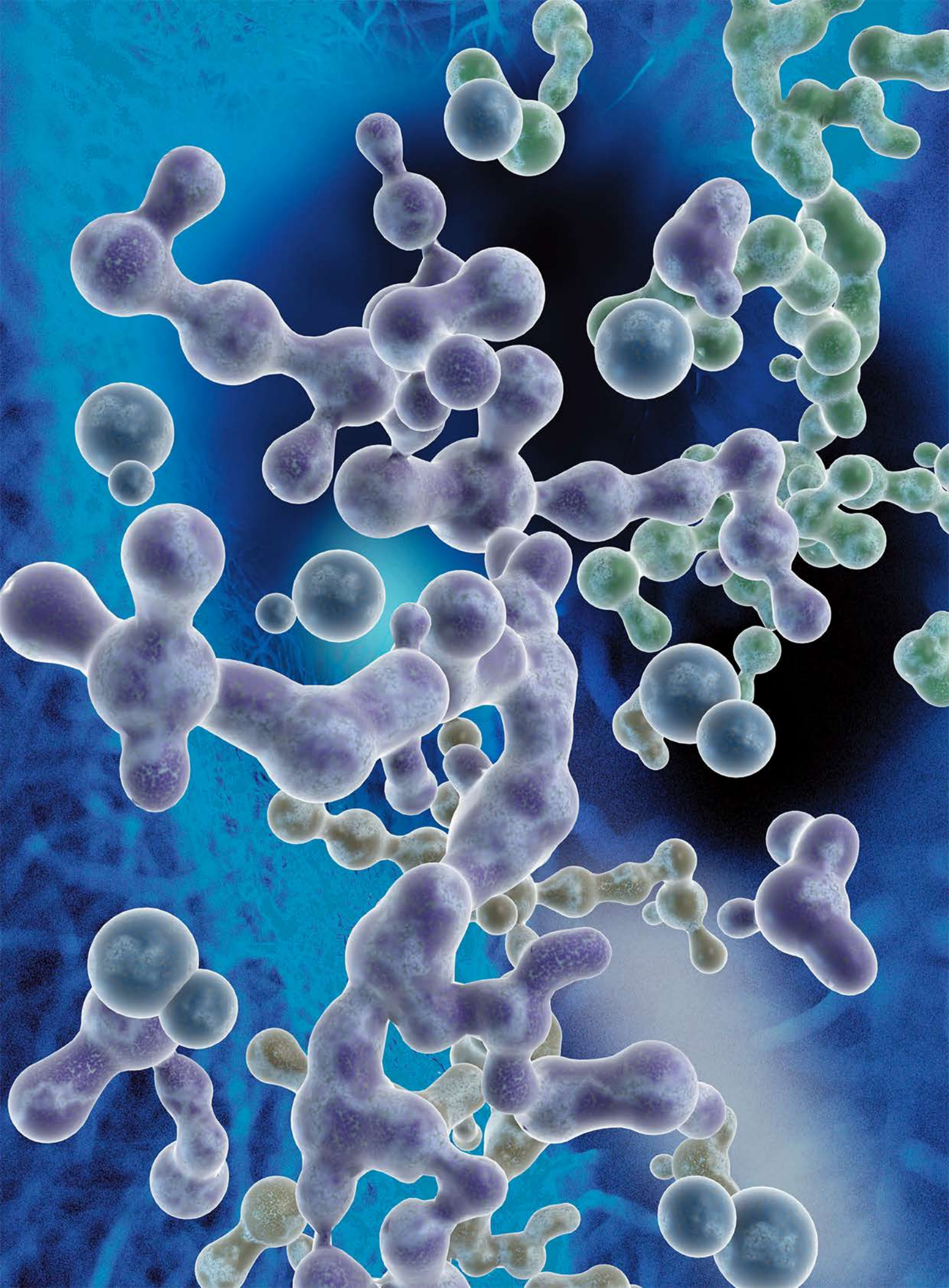
SUMMARY OF CONVENTION B-3 COMPLIANCE SCHEDULE

<table>
<tr><th rowspan="2">Ballast Capacity (m^3)</th><th rowspan="2">Build Date</th><th colspan="9">*First Intermediate or Renewal Survey, whichever occurs first, after the anniversary date of delivery in the respective year</th></tr>
<tr><th>2009</th><th>2010</th><th>2011</th><th>2012</th><th>2013</th><th>2014</th><th>2015</th><th>2016</th><th>2017</th></tr>
<tr><td rowspan="3"><1,500</td><td>Before 2009</td><td colspan="8">D - 1 or D - 2</td><td>D - 2*</td></tr>
<tr><td>in 2009</td><td colspan="9">Note: D - 1; D - 2 by 2nd Annual but not beyond 31st Dec. 2011 or EIF, whichever is later)</td></tr>
<tr><td>After 2009</td><td colspan="9">D-2 (at delivery or EIF, whichever is later)</td></tr>
<tr><td rowspan="3">≥1,500 or ≤5,000</td><td>Before 2009</td><td colspan="7">D - 1 or D - 2</td><td colspan="2">D - 2*</td></tr>
<tr><td>in 2009</td><td colspan="9">Note: D - 1; D - 2 by 2nd Annual but not beyond 31st Dec. 2011 or EIF, whichever is later</td></tr>
<tr><td>After 2009</td><td colspan="9">D-2 (at delivery or EIF, whichever is later)</td></tr>
<tr><td rowspan="2">>5,000</td><td>Before 2012</td><td colspan="8">D - 1 or D - 2</td><td>D - 2*</td></tr>
<tr><td>After or in 2012</td><td colspan="3">N/A</td><td colspan="6">D - 2 (at delivery or EIF, whichever is later)</td></tr>
</table>

2 Challenges for ratification and Implementation:

There are a number of issues that are affecting ratification and implementation of the BWM Convention and these issues need to be addressed by the MEPC and the IMO Member States to ensure proper and effective implementation. The major concerns are :

1. Need for revision of the Guidelines for approval of ballast water management systems (G8) to improve transparency and ensure appropriate robustness of Ballast water management systems (BWMS);
2. Availability of BWMS and sufficient facilities to install BWMS;
3. Survey and certification requirements for ships constructed prior to entry into force of the BWM Convention;
4. Sampling and analysis procedures for port State



control purposes;

5. Ships with large ballast water capacities

6. Specialist ship types;

3.Issues raised at MEPC 64 on Ballast Water Management:

Following conclusions were reached after discussion at MEPC 64:

3.1 Implementation dates of the D-2 Standard (Treatment)

It was agreed that a Correspondence Group (CG) would examine whether Regulation B- 3 should be reviewed, in order to ease the entry into force of the BWM Convention for existing ships.

The correspondence group will prepare an Assembly Resolution addressing above issue. The main two proposed actions are following:

• Consider ships built before the entry into force of the Convention to be regarded as "existing ships" and postpone the requirement for those ships to install treatment systems until their periodical surveys after 2014/2016.

• Remove the requirement to retrofit a treatment system at the intermediate survey after 2014/2016, and keep only the requirement that ships must retrofit a treatment system by the first renewal survey after the anniversary date of the delivery of the ship in 2014/2016.

3.2 Revision of the G8 Guidelines

The MEPC decided that the G8 Guidelines (type approval of treatment systems) do not require amendment at the current stage. However, agreement was made to enhance the BWM.2/Circ.28, which guides the administrations on how to conduct type approval in compliance with the G8 Guidelines.

At the same time, the MEPC recognised that the treatment systems available in the market face operational challenges and agreed to upgrade the type approval certificates so that they include more information on the treatment systems' operational limitations.

The MEPC also called for papers illustrating cases where treatment systems are not working as approved and where the failures are due to principal faults in the technologies and not the wrong installation or wrong usage.

3.3 Availability of treatment systems

The MEPC agreed that there are enough ballast water treatment systems in the market, with 28 systems already type approved.

4. Outcome of BLG 17 with respect to B.W.M. Convention:

Following two important issues have been concluded (as proposals to the MEPC 65 for final approval) at BLG 17 :

• Sampling of Ballast Water
• Optional methods of compliance for offshore supply/support vessels

4.1 Port state control - sampling of ballast water:

The Ballast Water Management Convention stipulates requirements for the sampling of the ship's ballast water in Article 9c and details on how sampling is to be done are given in G2 guidelines (MEPC.173(58)).

Based on a recommendation by the Chairman of BLG, it was agreed to propose a recommendation asking parties to the BWM Convention to apply sampling only for the purposes of validating testing methods and not


ROTO GEAR
2 SPEED 14/36
ROTO HAMMER

for sanctioning purposes.

It is important here to note that the proposal does not exclude PSC completely as regards to documentation checks and physical inspections that the system is operating according to its type approval certificate.

This proposal will be applied for a period of up to three years following entry into force of convention until validation results are robust enough to conclude whether PSC sampling can be applied or not. The proposal also includes a list of scientific methods that are currently scientifically valid for sampling.

4.2 Optional methods for OSV compliance with the BWM Convention

The BLG working group also finalised a proposed circular on optional methods (other than treatment) for OSVs (offshore supply/support vessels). All these methods are covered by regulations already in the BWM Convention, such as delivery to shore and the delivery of fresh water for drilling purposes, etc.

The above circular also includes a clause stating that the described methods apply to any ship, in line with the requirements of the BWM Convention. This proposal is to be reviewed by the MEPC in May 2013 for final approval.

5. Conclusion

There are still a number of issues that are affecting ratification and implementation of the BWM Convention. These concerns need to be addressed by the MEPC and the IMO Member States to ensure proper and effective implementation of the Convention.

6. References:

1. MEPC 63/INF.9, dated: 22/12/2011
2. MEPC 63/2/17, dated: 11/01/2012
3. MEPC 63/2/19, dated: 05/01/2012
4. MEPC 63/2/20, dated: 09/01/2012
5. BLG 16/16, dated: 09/03/2012
6. MEPC 63/23, dated: 10/04/2012
7. MEPC 64/2/16, dated: 07/08/2012
8. MEPC 64/2/18, dated: 09/08/2012
9. MEPC 64/23, dated: 26/10/2012
10. BLG 17-18, dated: 08/02/2013

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If sea turtles go extinct, there
and a decline in all the other s

would be a serious decline in sea grass beds

species that are dependant on the grass beds for survival

Inspection of Extra High Voltage (EHV) Power Transformers abroad

These transformers are very critical in nature and require very high quality standards during manufacturing

Sanjoy Basu, Associate Vice President, IRS - Industrial services

Inspection at Hyundai Heavy Industries Co. Ltd. Korea

We were entrusted with an assignment by M/s Bhopal Dhule Transmission Co. Ltd. for inspection of 14 Nos. Single Phase, 50 Hz., Subtractive (YNa0d11), 300/400/500 MVA,ONAN/ODAF,765/√3/400/√3/33 KV Auto Transformers which were manufactured by M/s Hyundai Heavy Industries Co. Ltd.,Ulsan, Korea. These transformers are very critical in nature and require very high quality standards during manufacturing.

Activities at Hyundai involved review of document including manufacturing procedure and QAP.

In order to ascertain quality of Transformer, customer requested to witness stage inspection also.

Therefore during manufacturing we witnessed Core Coil Assembly of Transformer.

Routine and Type Tests were also witnessed by us at the works of M/s Hyundai Heavy Industries Co. Ltd., Ulsan, Korea in Dec.'12. Other than standard routine tests, as conducted on such transformers, following special tests were conducted on the transformers and the same were witnessed by us:

- Measurement of Harmonics
- Measurement of Sound Level
- Temperature Rise Test using Fiber optic Temp. Indicator with Thermal scan on hourly basis
- Switching Impulse Voltage Test
- Lightning Impulse Voltage Test
- Induced Overvoltage Withstand Test with Partial Discharge measurement
- 105% Over excitation Test for 12 Hours
- Oil Leakage Test

- Frequency Response Analysis
- Gas Analysis of Dissolved Gas in Transformer Oil

Inspection at Shandong Power Equipment Co. Ltd. (SPECO), China

We were entrusted with the order by M/s Lanco International (for their Amarkantak TPP Project) for inspection of 7 Nos. 1 Ph.,50 Hz., Ii0 (YNd11 For Three Phases), 260/260 MVA, ODAF, 420/√3/20 kV Transformers which were manufactured by M/s Shandong Power Equipment Co. Ltd., China.

Various Routine/Type Tests were witnessed by us at the works of M/s Shandong Power Equipment Co. Ltd., China in Jul.'12. Other than standard routine tests , as conducted on such transformers, following special/type tests were conducted on the transformers and the same were witnessed by us :-

- Measurement of Harmonics
- Measurement of Insulation Resistance to Earth of the Windings and Measurement of Dissipation Factor (tan δ) of the insulation system capacitances (Before Dielectric Test)
- Switching Impulse Voltage Test
- Lightning Impulse Voltage Test (including Chopped Wave Test)
- Measurement of Capacitance and Dissipation Factor (tan δ) of the Bushings
- Long Duration Induced AC Voltage Test
- Determination of capacitance between Windings
- Winding Deformation Test

These Transformers were meeting the required parameter and after thorough review of all test reports and test results transformers were accepted and inspection certificates were issued.

These were the largest capacity transformers inspected by us. IRS was selected as inspection agency after thorough scrutiny and interview of inspection engineers.

Customers have appreciated our contribution and promised more such assignments. It is one more feather on our cap in terms of overseas assignments.

Mr. Vinay Kshirsagar, Sr. Vice President- Accounts & Systems, IRS receiving the roll of Honor CFO 100 award, in category of 'Risk Management & Mitigation'.

IRS Annual day

Run Powai Run was an event aimed at charity and organized by Rotary lakers of Powai. 57 IRS employees participated in the event

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