ASEF

Asian Shipbuilding Experts' Forum
for International Maritime Technical Initiative

Keynote Speech

- Recent development of maritime rules and the roles of ASEF -

#7 ASEF, Nov 2013, Kobe Japan

THE SHIPBUILDERS' ASSOCIATION OF JAPAN

Norihisa FUKUDA
Chairman of Technical Affairs Committee, SAJ

Contents :

- ☆ Major international maritime conventions, rules & regulations and guidelines
- ☆ Hot topics affecting ships' rules such as...
  - GHG, EEDI
  - Air pollution(NOx, SOx), Gas fuelled ship
  - GBS : H-CSR, SCF-IPR
  - Testing arrangements for watertight compartments
  - Ship recycling convention
  - BWMS
  - Better balance between safety, environmental protection and sustainability
  - Other topics
- ☆ Asian yards status and Cooperation

Major International Maritime Conventions, Rules & Regulations and Guidelines

1. MARPOL
   - GHG / EEDI
   - Air pollution (NOx, SOx)
2. SOLAS
   - GBS
   - PSPC
   - Noise Code
   - Polar Code
   - E-Navigation
   - Asbestos
   - Safe return to port for passenger ship
   - Testing watertight boundaries
3. Hong Kong Convention – Ship Recycle
4. Ballast Water Management
5. MLC (Maritime Labor Convention) - ILO

IMO INTERNATIONAL MARITIME ORGANIZATION

IACS INTERNATIONAL ASSOCIATION OF CLASSIFICATION SOCIETIES

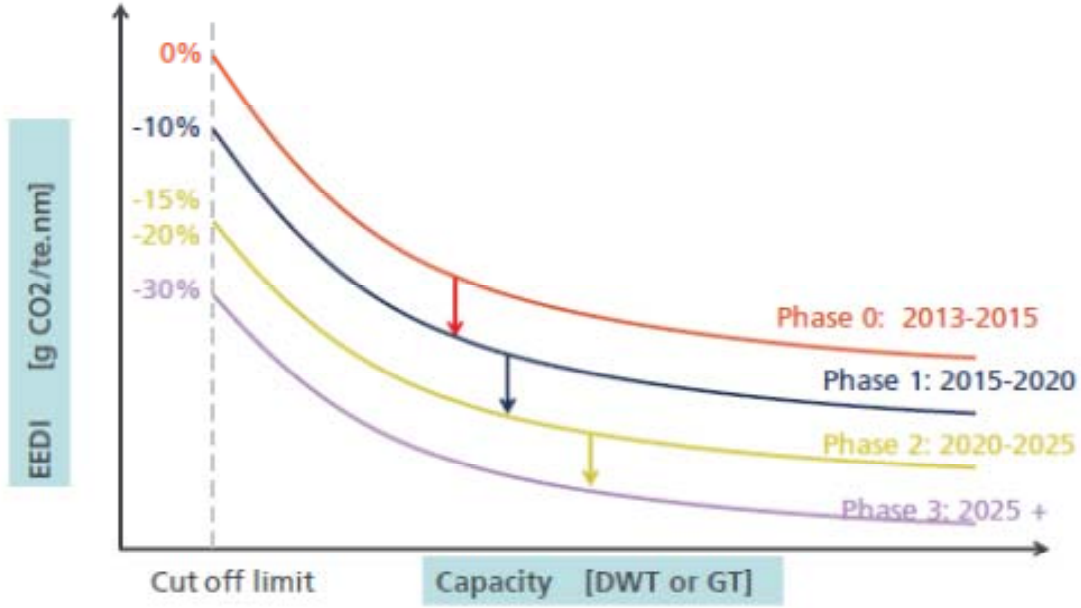
ISO International Organization for Standardization

GHG, EEDI ① EEDI Regulation

EEDI is a design index developed by IMO, primarily applicable to new ships and is to be used as a tool for control of CO2 emissions from ships.

MEPC62 (Jul 2011) **EEDI & SEEMP Adopted : *Mandatory from 1st Jan 2013***

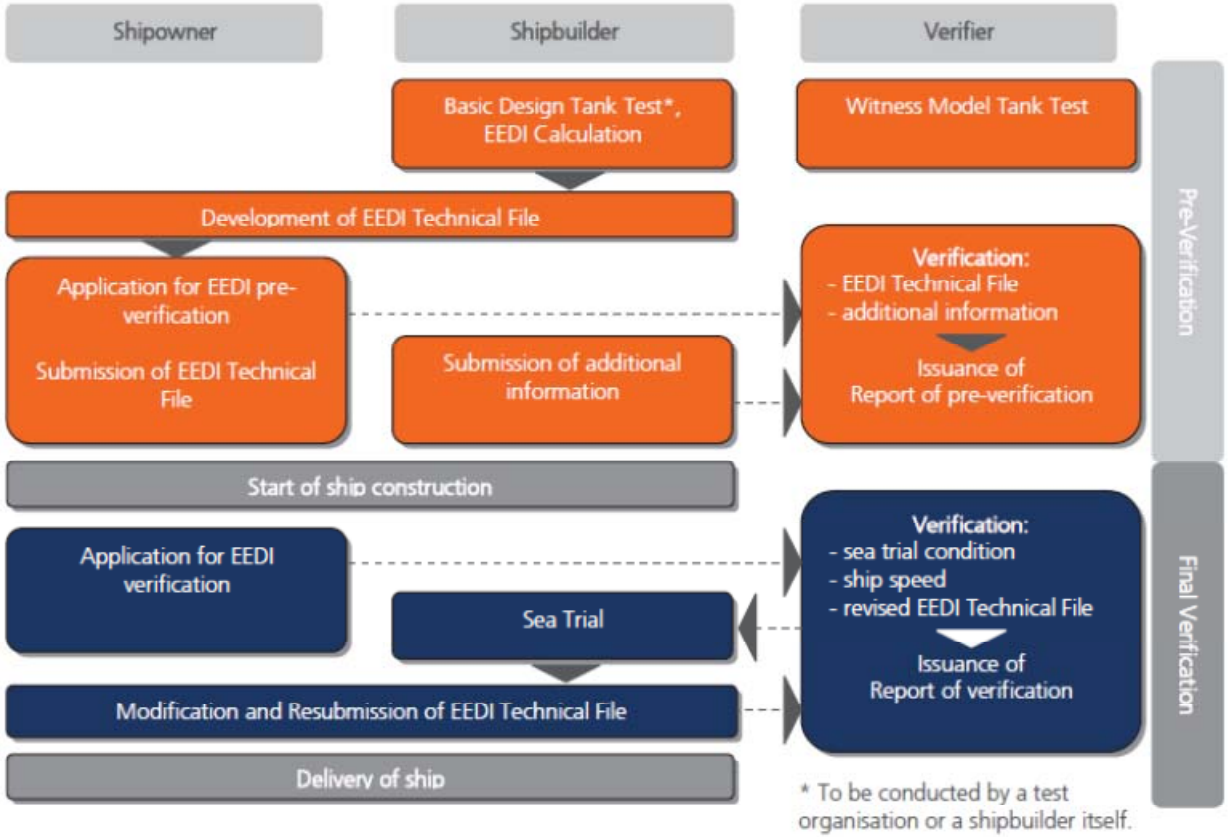
MEPC63 (Mar 2012) Guidelines Adopted : Calculation, SEEMP, Verification, Ref Lines



Reduction factors will be used to implement the EEDI in phases so as to gradually reduce the required EEDI. These factors will apply to specific ship types and sizes.

GHG, EEDI ② Verification processes for attained EEDI

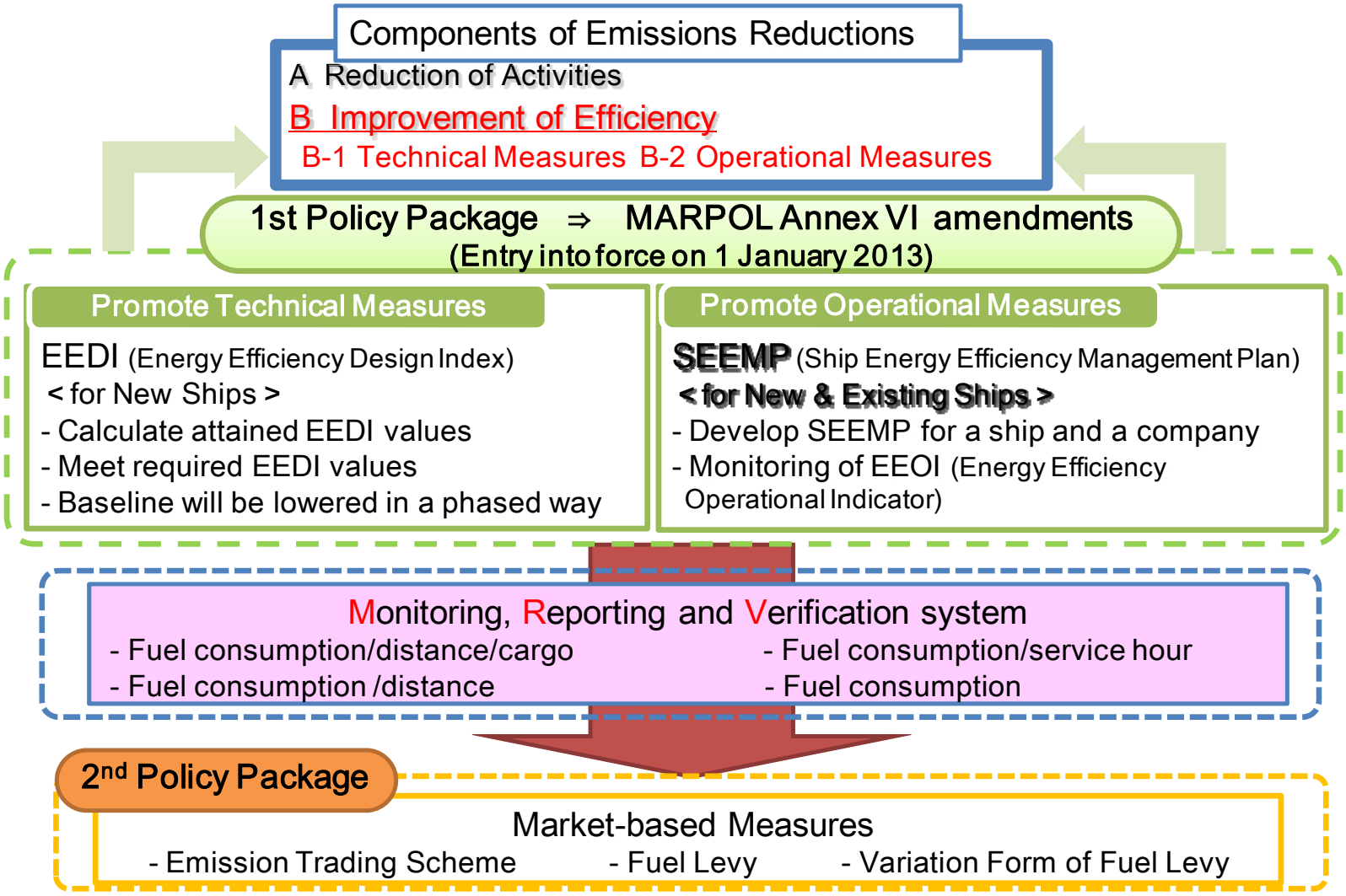
Verification of EEDI is done in two stages; pre-verification which commences at the design stage and final verification upon completion of the sea trials and commissioning.



At #6 ASEF 2012, SAJ expressed concern about sea trial method of IMO preferred ITTC standard, and called for actions of ISO 15016 revival.

GHG, EEDI ③ MBM and MRV

IMO started discussing MBM and MRV in order to control of CO2 emissions from " existing ships".



GHG, EEDI ④ Results of MEPC65 (May 2013)

☞ **Expansion of scope of application of EEDI :** ***Approved draft amendments.***

Ro-Ro ships, LNG carriers (DFDE, steam turbine), Cruise ship (non-conventional propulsion)

**** LNG Guidelines (Verification, Calculation) are to be discussed at MEPC66.***

☞ **Consideration of Guidelines :**

@ ***Adopted Minimum propulsion power (Interim guideline; only during phase 0)***

**** Guidelines after phase 1 are to be discussed at MEPC66.***

@ ***Approved Innovative energy efficiency technologies (i)Air lubrication, (ii)wind propulsion, (iii)Waste heat recovery, (iv)Photovoltaic power generation***

☞ **Standard for speed trial analysis :** ***Discussion for adopting ITTC or ISO 15016***

Taking into account the collaborative efforts made by ISO and ITTC to harmonize their standards, it was agreed that the both standards are usable at present.

**** SAJ has reviewed ISO 15016 with cooperation of KOSHIPA and ITTC etc.***

☞ **Technology transfer, MRV (Monitoring, Reporting, Verification) scheme, MBM (Market Based Measures)** **** These items are to be discussed further.***

To solve above crucial factors, mutual understanding and cooperation among maritime industries incl. ASEF members are essential.

GHG, EEDI ⑤ Demand for Eco-Ships

Shipbuilders should contribute to the protection of global environment by supplying the eco-friendly ships.

Pictures below are examples of eco-ships Japanese yards have designed.

The growing demand of eco-ships may lead to the retirement of conventional non-eco friendly vessels, which is beneficial for both global environment and maritime industries.

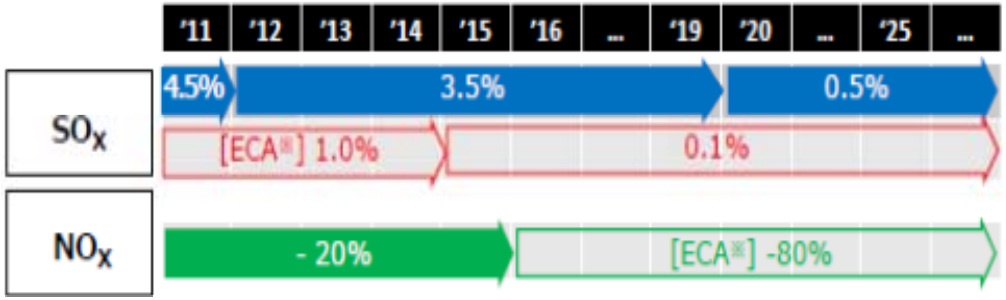
Air pollution , Gas fuelled ship ① Regulation MARPOL Annex VI

Oct 2008 : IMO adopted the amendments MARPOL Annex VI.

Jul 2010 : Amendments entered into force.

*Annex VI requires the reduction of **SOx** and **NOx** emission from ships in a phased approach. The limits applicable in **Emission Control Areas (ECAs)** are more stringent. (See graphs below.)*

Although Tier III NOx standards is scheduled to be in force from 2016, the proposal to delay the effective date gained much support at MEPC65 (May 2013). This matter will be re-discussed at MEPC66.



◆ ECA at North Europe and North America

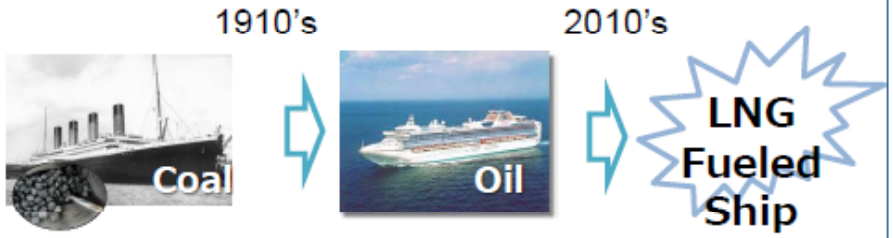
Air pollution , Gas fuelled ship ② "Fuel Shift" Big chance for yards

Stricter regulations may accelerate the "Fuel Shift" in the world.

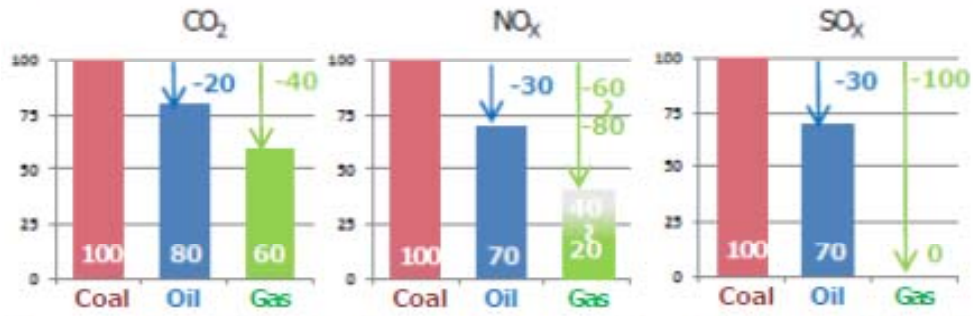
This might be a big chance for shipbuilding industry as was seen about 100 years ago to secure new workload and as well as promoting the image as an eco-friendly industry.

"Fuel Shift" in the World

Great change since that of from Coal to Oil



Excellent Environmental Performance



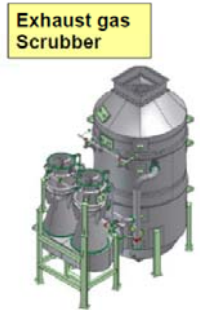
Comparison of emissions , between Coal, Oil and Natural Gas

Air pollution , Gas fuelled ship ③ Measures to reduce SOx, NOx

Reducing measures;

SOx : Low Sulfur Fuel Oil, Scrubber

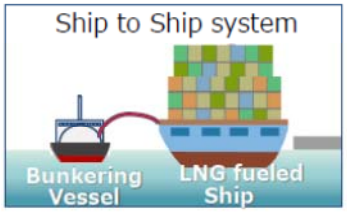
NOx : SCR, EGR etc.

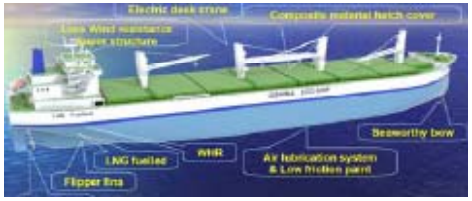


Drastically effective reducing solution; LNG Fueled Ships

However, there are lots of challenges to solve such as Engines, Bunkering systems and Safety rules. Japanese yards revealed the concept design of LNG fueled ships.

Rolls-Royce
Spark Ignited Gas Engine





For accelerating the shift to LNG fueled ships, all concerned parties in the maritime world including ASEF members should make every effort together.

It is , however, to be noted that final target of IMO except for SOx may not be achieved by LNG Fueled Ship --- Further innovation is necessary in the long run.

GBS ① CSR-H ; IACS released 2nd draft

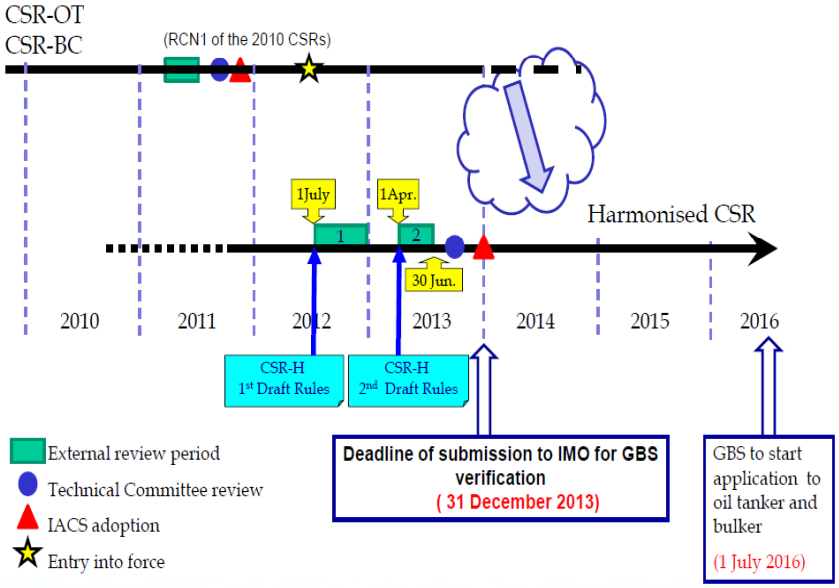
GBS & CSR-H Schedule :

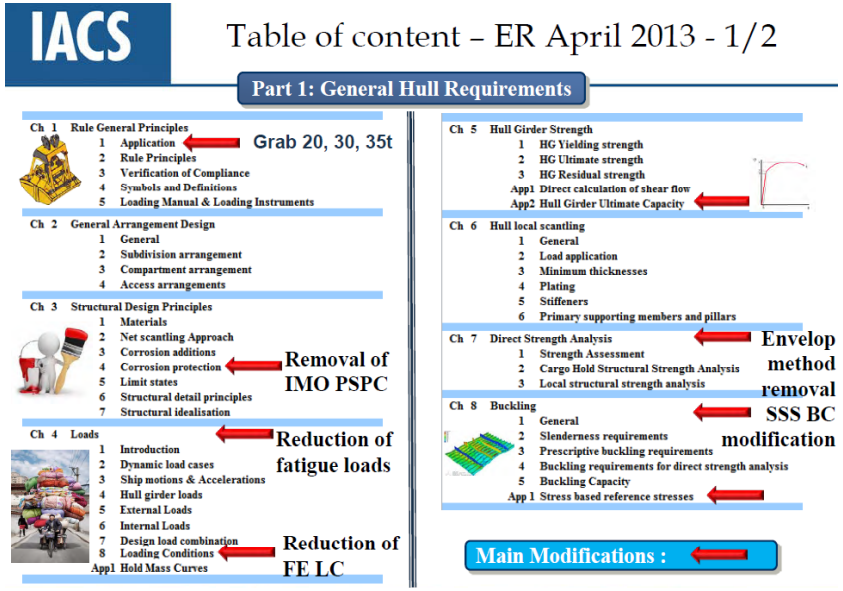
1 Apr 2013 : IACS released 2nd draft

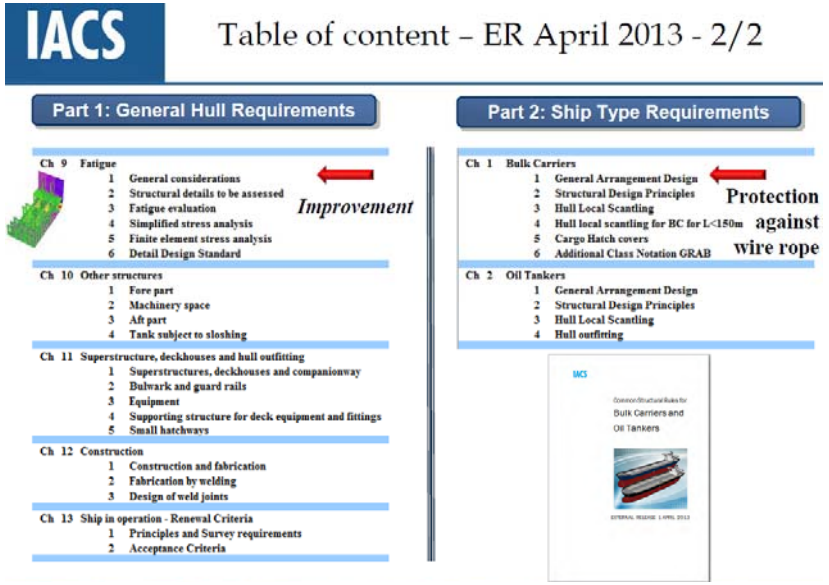
31 Aug 2013 : Deadline of 2nd industry review

31 Dec 2013 : Deadline of submission to IMO for GBS verification

1 Jul 2016 : GBS starts application to oil tanker and bulker



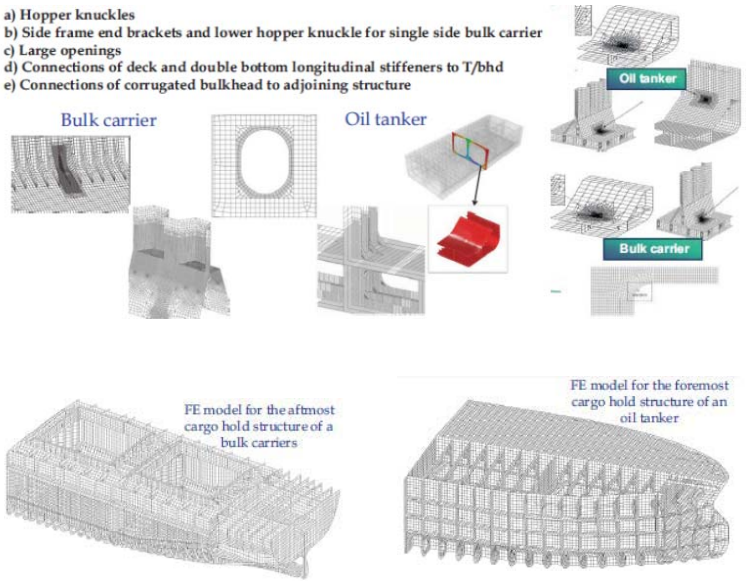


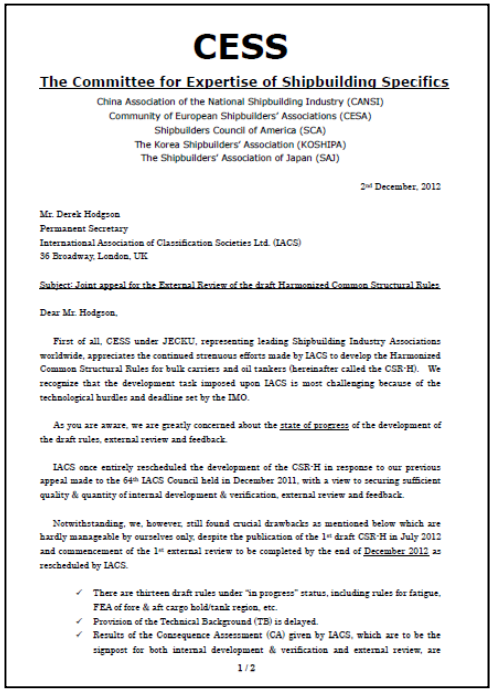


GBS ② CSR-H ; Shipbuilders' voice

At ASEF meetings, we have voiced lots of concerns on CSR-H such as rule minimum thickness etc. repeatedly.

Besides, joint letters through CESS channel were sent to IACS calling for shipbuilders' requests to be considered. (Below is the sample letter sent on 2 Dec 2012.)





CESS

The Committee for Expertise of Shipbuilding Specifics

China Association of the National Shipbuilding Industry (CANSI)
Community of European Shipbuilders' Associations (CESA)
Shipbuilders Council of America (SCA)
The Korea Shipbuilders' Association (KOSHIPA)
The Shipbuilders' Association of Japan (SAJ)

2nd December, 2012

Mr. Derek Hodgson
Permanent Secretary
International Association of Classification Societies Ltd. (IACS)
36 Broadway, London, UK

Subject: Joint appeal for the External Review of the draft Harmonized Common Structural Rules

Dear Mr. Hodgson,

First of all, CESS under JECKU, representing leading Shipbuilding Industry Associations worldwide, appreciates the continued strenuous efforts made by IACS to develop the Harmonized Common Structural Rules for bulk carriers and oil tankers (hereinafter called the CSR-H). We recognize that the development task imposed upon IACS is most challenging because of the technological hurdles and deadline set by the IMO.

As you are aware, we are greatly concerned about the state of progress of the development of the draft rules, external review and feedback.

IACS once entirely rescheduled the development of the CSR-H in response to our previous appeal made to the 64th IACS Council held in December 2011, with a view to securing sufficient quality & quantity of internal development & verification, external review and feedback.

Notwithstanding, we, however, still found crucial drawbacks as mentioned below which are hardly manageable by ourselves only, despite the publication of the 1st draft CSR-H in July 2012 and commencement of the 1st external review to be completed by the end of December 2012 as rescheduled by IACS.

- ✓ There are thirteen draft rules under "in progress" status, including rules for fatigue, FEA of fore & aft cargo hold/tank region, etc.
- ✓ Provision of the Technical Background (TB) is delayed.
- ✓ Results of the Consequence Assessment (CA) given by IACS, which are to be the signpost for both internal development & verification and external review, are insufficient.
- ✓ Draft CSR-H software packages provided by member Classification Societies are varying in the quality and coverage, most of which are not yet satisfactory.

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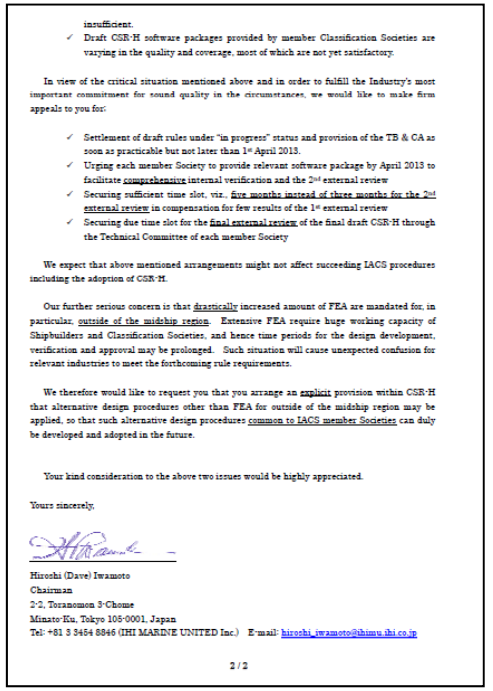

In view of the critical situation mentioned above and in order to fulfill the Industry's most important commitment for sound quality in the circumstances, we would like to make firm appeals to you for:

- ✓ Settlement of draft rules under "in progress" status and provision of the TB & CA as soon as practicable but not later than 1st April 2013.
- ✓ Urging each member Society to provide relevant software package by April 2013 to facilitate comprehensive internal verification and the 2nd external review
- ✓ Securing sufficient time slot, viz., five months instead of three months for the 2nd external review in compensation for few results of the 1st external review
- ✓ Securing due time slot for the final external review of the final draft CSR-H through the Technical Committee of each member Society

We expect that above mentioned arrangements might not affect succeeding IACS procedures including the adoption of CSR-H.

Our further serious concern is that drastically increased amount of FEA are mandated for, in particular, outside of the midship region. Extensive FEA require huge working capacity of Shipbuilders and Classification Societies, and hence time periods for the design development, verification and approval may be prolonged. Such situation will cause unexpected confusion for relevant industries to meet the forthcoming rule requirements.

We therefore would like to request you that you arrange an explicit provision within CSR-H that alternative design procedures other than FEA for outside of the midship region may be applied, so that such alternative design procedures common to IACS member Societies can duly be developed and adopted in the future.

Your kind consideration to the above two issues would be highly appreciated.

Yours sincerely,

Hiroshi (Dave) Iwamoto
Chairman
2-2, Toranomon 3-Chome
Minato-Ku, Tokyo 105-0001, Japan
Tel: +81 3 5484 8846 (IHI MARINE UNITED Inc.) E-mail: hiroshi_iwamoto@ihimu.ihi.co.jp

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This is a good example of cooperation among shipbuilders. We should strengthen the collaboration for sustainable development of shipbuilding industry.

GBS ③ SCF-IPR

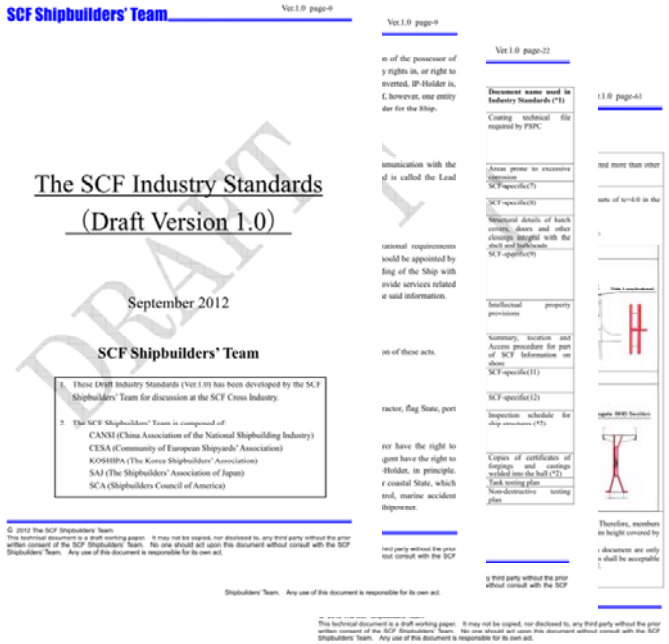
Brief history of preparing the SCF Industry Standard (SCF IS)

- Shipbuilding industry team presented the draft SCF IS Version 1.0 taking into account IPR of IP holders to the cross industry in Oct 2012.

- However, shipowners showed concern about the complexity of access procedures etc.

- Shipbuilding industry team reviewed SCF IS and prepared Version 2.0 for compromise in Autumn 2013.

- Hoping to reach agreement on the SCF IS (basic) among cross industry by the end of 2013.



GBS ④ SCF-IPR

Cooperation among Shipbuilding industry

- Shipbuilders drafting team consisting experts from Japan, Europe, China, Korea and U.S. unanimously agreed the shipbuilders' draft of SCF IS version 1.0 after various meetings and e-mail communications.

- At ASEF meetings as well as tripartite meetings, the representative of drafting team had explained the development of SCF IS.

SAJ – KOSHIPA meeting

Cross Industry meeting

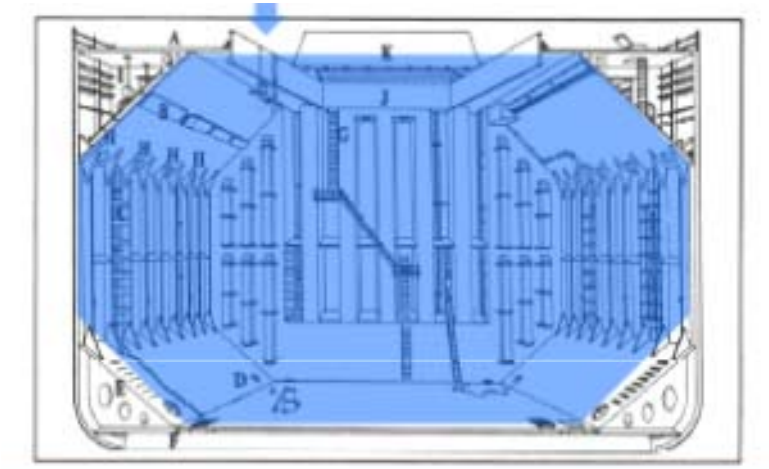
- SCF issue is an excellent example of shipbuilders joint work.

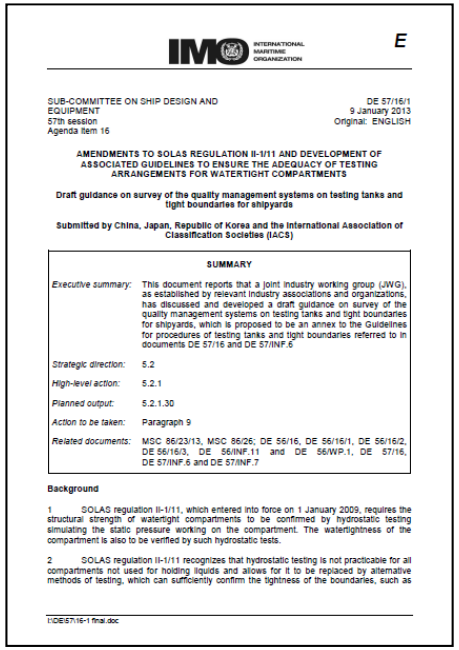
- To tackle more powerful shipowers organizations, shipbuilders should unite and join forces further making use of various occasions like ASEF.

Testing arrangements for watertight compartments

Joint paper by China, Japan, Korea and IACS was submitted to IMO DE57 in March 2013. Considering the shipowners concerns, the discussion needs to be continued toward DE58.

Additional draft paper is under preparation in order to find more practical and reasonable way thanks to JWG Chinese chairmanship. **** The details are to be presented at #7 ASEF from China.***





IMO INTERNATIONAL MARITIME ORGANIZATION E

SUB-COMMITTEE ON SHIP DESIGN AND EQUIPMENT
57th session
Agenda item 16

DE 57/16/1
9 January 2013
Original: ENGLISH

AMENDMENTS TO SOLAS REGULATION II-1/11 AND DEVELOPMENT OF ASSOCIATED GUIDELINES TO ENSURE THE ADEQUACY OF TESTING ARRANGEMENTS FOR WATERTIGHT COMPARTMENTS

Draft guidance on survey of the quality management systems on testing tanks and tight boundaries for shipyards

Submitted by China, Japan, Republic of Korea and the International Association of Classification Societies (IACS)

SUMMARY

Executive summary: This document reports that a joint industry working group (JWG), as established by relevant industry associations and organizations, has discussed and developed a draft guidance on survey of the quality management systems on testing tanks and tight boundaries for shipyards, which is proposed to be an annex to the Guidelines for procedures of testing tanks and tight boundaries referred to in documents DE 57/16 and DE 57/INF.6

Strategic direction: 5.2

High-level action: 5.2.1

Planned output: 5.2.1.30

Action to be taken: Paragraph 9

Related documents: MSC 86/23/13, MSC 86/26; DE 56/16, DE 56/16/1, DE 56/16/2, DE 56/16/3, DE 56/INF.11 and DE 56/WP.1, DE 57/16, DE 57/INF.6 and DE 57/INF.7

Background

1 SOLAS regulation II-1/11, which entered into force on 1 January 2009, requires the structural strength of watertight compartments to be confirmed by hydrostatic testing simulating the static pressure working on the compartment. The watertightness of the compartment is also to be verified by such hydrostatic tests.

2 SOLAS regulation II-1/11 recognizes that hydrostatic testing is not practicable for all compartments not used for holding liquids and allows for it to be replaced by alternative methods of testing, which can sufficiently confirm the tightness of the boundaries, such as

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This issue is an another good example of cooperation. If ASEF obtains IMO NGO status, joint papers could be submitted under the name of ASEF too, which would help promoting the joint strength of the shipbuilders in the maritime world.

Ship recycling convention : IHM CG ①

"Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships 2009" was adopted in May 2009.

The main elements for the underlying mechanisms of the HKC

Inventory of Hazardous Materials (IHM) (Parts I, II, III; different scope for new ships and for existing ships)

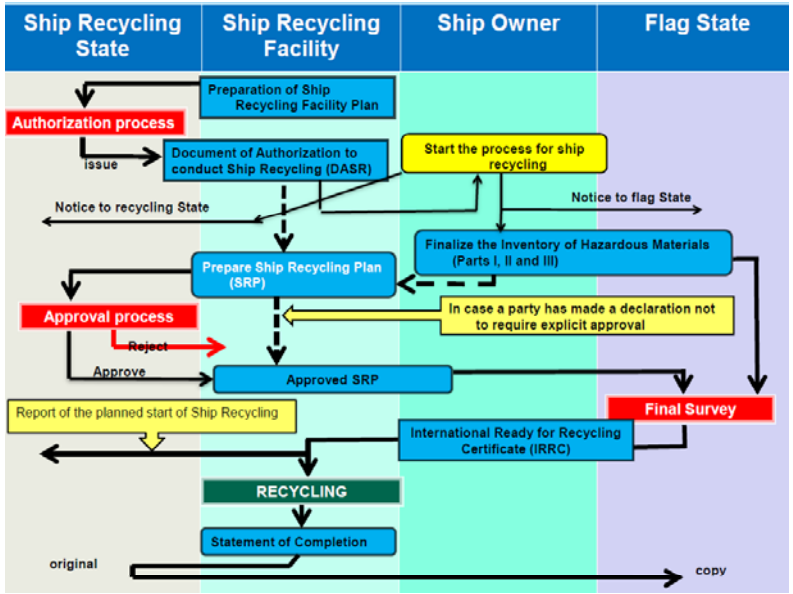
International Certificate on Inventory of Hazardous Materials (ICIHM) (issued to ship by flag State after initial or renewal survey; valid for 5 years)

Ship Recycling Facility Plan (SRFP) (the document describing the system and processes of the yard for ensuring safety and environmental protection)

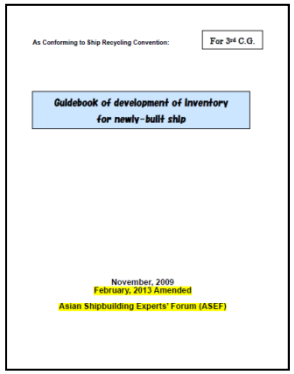
Document of Authorization to conduct Ship Recycling (DASR) (issued to the yard by the recycling State's Competent Authority; valid up to 5 years)

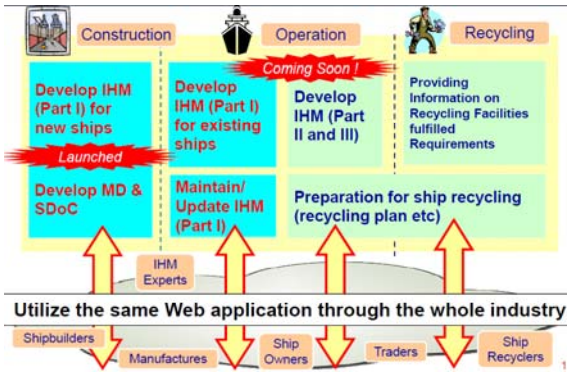
Ship Recycling Plan (SRP) (plan prepared by recycler based on ship's IHM and other particulars; usually approved by Competent Authority)

International Ready for Recycling Certificate (IRRC) (issued to ship by flag State after final survey on basis of IHM and SRP)



ASEF established the IHM-CG (Coordinator : Mr. Toyota, SAJ) at #4 ASEF and has discussed the ASEF unified IHM manual etc. IHM-CG consists of Asian shipbuilders and ACS recycle members.





Ship recycling convention : IHM CG ②

Norway became the first contracting state to Hong Kong treaty in June 2013.

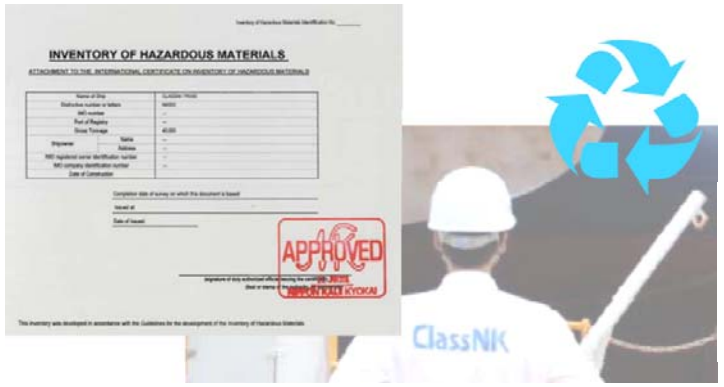
The Hong Kong treaty will enter into force 24 months after ratification by not less than 15 States, representing 40 per cent of world merchant shipping by gross tonnage, with a combined maximum annual ship recycling volume not less than 3 per cent of their combined tonnage.

REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL
of on ship recycling and amending Regulation (EC) No 1013/2006 and Directive 2009/16/EC

EU regulation similar to Hong Kong treaty will come into force by the end of 2013.

⇓

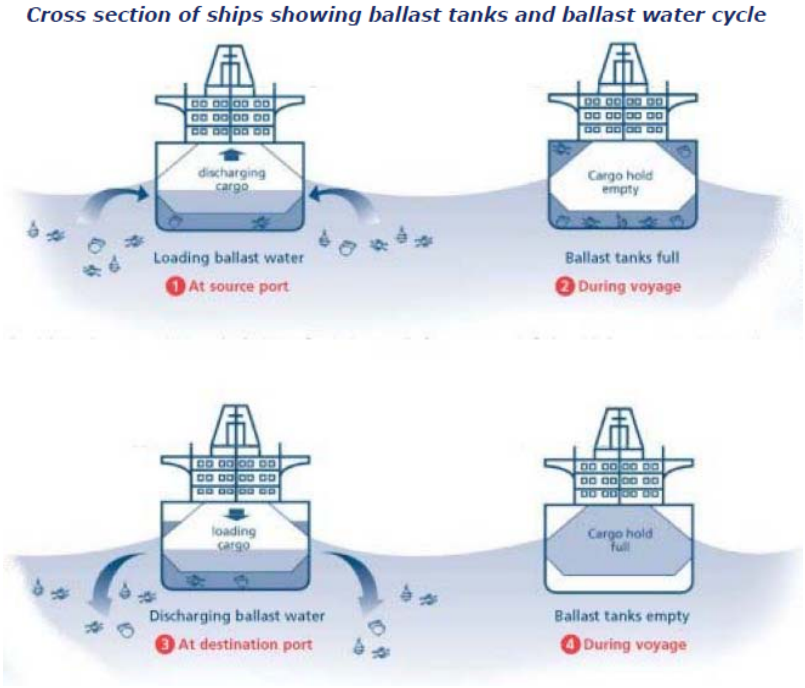
It will accelerate the Hong Kong treaty ratification by states.

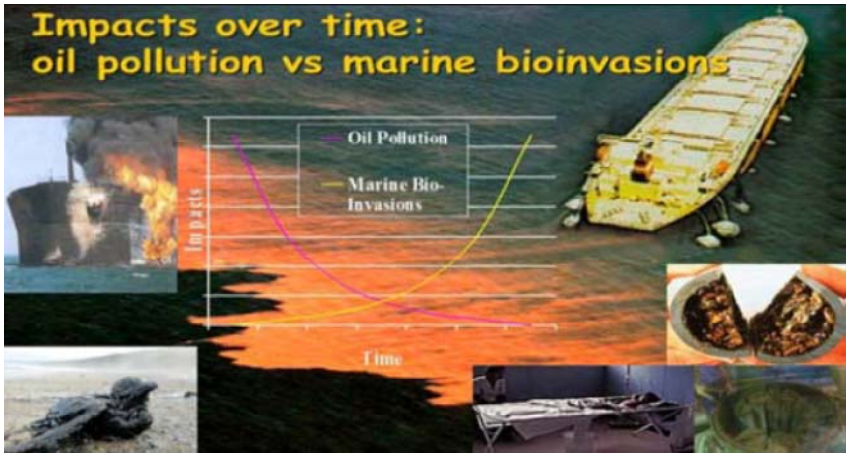


BWMS ①

Ballast Water Management Convention was adopted in 2004 in order to prevent the adverse effects to the marine environment caused by invasive marine species through transfer of ballast water.

It will enter into force 12 months after ratification by 30 states, representing 35% of the world merchant shipping tonnage. ***(As of Aug 2013; 37 states, 30.32% tonnage)***

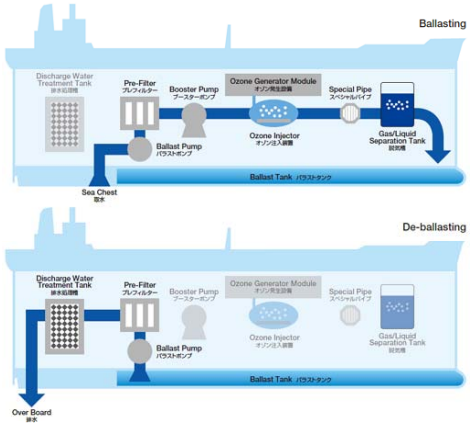




BWMS ②

In May 2013, IMO-MEPC65 agreed to change the planned deadline by which ships are to be equipped with ballast water treatment systems in order to put the BWT Convention into force.

The change of rules this time has made it possible to level the workload for installation of BWTS in existing ships which had earlier been feared to create concentration in a certain period of time. (Schedule will be formalized at a general IMO meeting in Nov.)



Though above time bottleneck has been eased, it is still complicated work for yards to select & install the most suitable BWTS considering system, cost, size and capacity.

Strategic business cooperation among Asian yards will help the smooth implementation.

Better balance between safety, environmental protection and sustainability

When considering any new or changing regulations, there're conflicts between the safety/environment and technology, which lead to increase in cost.

We need to find the scientific and practicable basis for the development of future safety regulations. Such discussion was also made at IMO symposium in June 2013. (The details are to be presented later.)

Mutual understanding among concerned maritime parties (ship owner, builder, shipper, maker, government) is necessary before implementing the rules, overcoming the different positions that may exist among those parties.

Shipbuilders should continue its efforts to make effective appeal of their positions to other related parties.

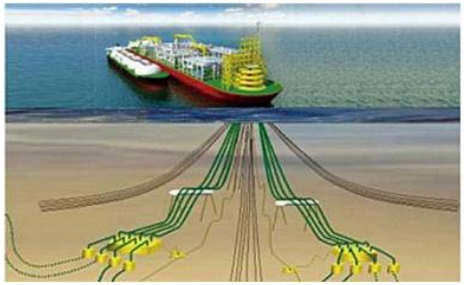
Other topics : Rules & Regulations by IMO, ISO, IEC, IACS etc.

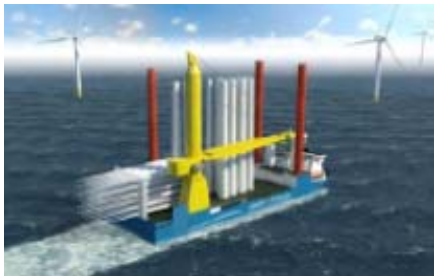
Shipbuilders should keep an eye on the regulative developments of the following issues.

- **Container Ship Safety:**

Casualty investigation was carried out by "Committee on Large Container Ship Safety" organized by Japanese government MLIT.

- **Polar Code**
- **Noise on board**
- **Underwater Noise**
- **Ship's biofouling**
- **PSPC follow up**
- **Offshore**
- **Renewable energy**

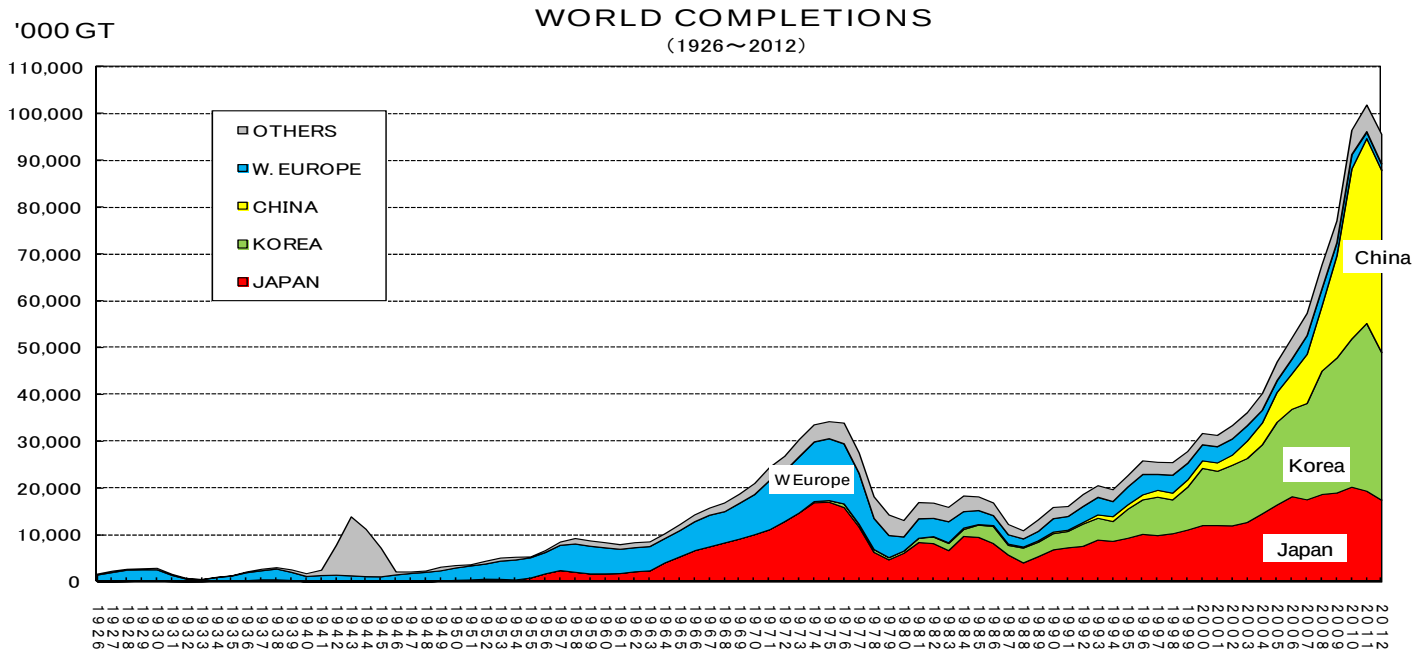


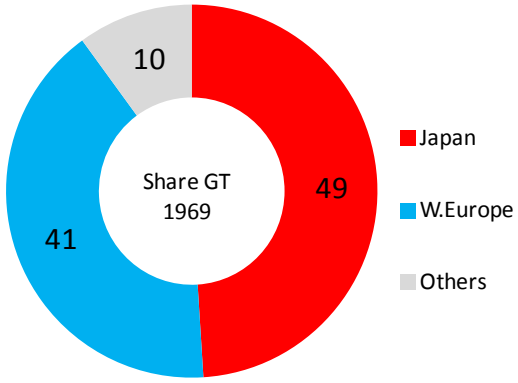


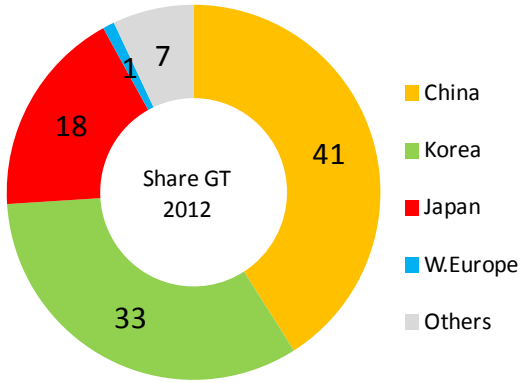
Close dialogue is important among related maritime players in order to achieve sustainable development.

Asian yards status and Cooperation

Growing share of Asian shipyards







Asian yards status and Cooperation

Advantages of IMO-NGO status for Asian yards

Asia is now the center of merchant ships construction. However, CESA (SEA-Europe) is the only IMO NGO status holder among merchant shipbuilders organizations (SYBAss cannot represent merchant shipbuilders).

Shipbuilders voice is relatively small compared with that of shipowners.

In that sense, ASEF NGO CG activities are much welcomed by all concerned parties in order to appeal the presence of ship yards properly.

As I explained earlier, Asian yards have already tagged together to tackle various issues such as GHG Sea trial, GBS-SCF, tank-testing.

It is worthwhile strengthening the cooperation among Asian yards under the new ASEF regime.

Thank you very much