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Better balanced representation in the IMO forum

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BETTER BALANCED REPRESENTATION IN THE IMO FORUM

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I certify that all the material in this dissertation that is not my own work has been identified, and that no material is included for which a degree has previously been conferred on me.

The contents of this dissertation reflect my own personal views, and are not necessarily endorsed by the University.

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Supervised by:

Supervisor's affiliation: ……..

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ABSTRACT

Title of Dissertation: **Better Balanced Representation in the IMO Forum**

IMO, the specialized agency of UN responsible for the global maritime safety and marine environmental protection, announced an initial strategy in 2018, aiming to reduce shipping's GHG emission by at least 50% by 2050, compared to the 2008's levels. The society demands even more as required by the Paris Agreement. IMO, however, decided to postpone the adoption of the revised strategy until 2023 due to lack of internal consensus.

In this context, TI assessed IMO's governance and reported that IMO requires reform as its policy-making is too much influenced by private interests. Given the above, this dissertation attempts to make a comprehensive analysis of IMO's existing decision-making processes and participants therein.

The roles of private interest groups in the IMO decision-making are examined, taking into account the fact that, since IMO is a forum to create the regulatory framework for shipping, consultation with the industry is considered inevitable in its policy-making. Relevant information is explored, including IMO documents and instruments, industry's reports, research papers and other necessary maritime literature, with a view to ascertaining whether conflicts of interests exist across the IMO forums.

Recognizing both the merits and demerits of industry's involvement in IMO rule-making, careful investigation is made into the existing mechanism within IMO for the trade-off between the safety and benefit goals, together with relevant good examples of ILO, another specialized agency of UN. Special attention is called to IMO's FSA and ILO's tripartite system which are suggestive of well-balanced mechanisms between public and private interests.

The concluding chapter, summarizing the results of the above investigation, attempts to offer some recommendations which are considered as appropriate methodologies of ensuring better balanced representation in IMO forums.

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KEYWORDS : IMO policy-/rule-/decision-making, conflicts of interest, public interest, private interest, balanced representation, trade-off

CONTENTS

ACKNOWLEDGEMENTS II
ABSTRACT III
CONTENTS V
LIST OF TABLES VI
LIST OF FIGURES VII
LIST OF ABBREVIATIONS IX
CHAPTER 1 INTRODUCTION 1
1.1 Background 1
1.2 TI's assessment on the governance of IMO 6
CHAPTER 2 SAFE AND EFFICIENT SHIPPING — IMO'S IMPORTANT TELEOLOGY 11
2.1 Inseparable relation between shipping and economic growth 12
2.2 Regulatory framework in shipping 16
CHAPTER 3 ANALYSIS TO PRIVATE INTERESTS' ROLE IN IMO 19
3.1 Advantages in private interests' contribution 19
3.2 Disadvantages in private interests' involvement 25
3.2.1 Private interest in the GHG reduction 25
3.2.2 Undesirable impact of private interests on IMO's work as a whole 27
CHAPTER 4 SEEKING FOR THE TRADE-OFF BETWEEN SAFETY AND BENEFIT 47
4.1 Anticipated disadvantages in case of absence of maritime players in IMO forums 47
4.2 Consideration on IMO's current mechanism to ensure effective policy making processes 50
CHAPTER 5 CONCLUSION 63
5.1 Findings 63
5.2 Recommendations 64
Bibliography 69
Reference 72
Appendix 1 Make-up of delegations from some selected IMO member States at MEPC 72 and MSC 99 77
Appendix 2 Non-governmental Organizations in Consultative Status by Interests/Activities 101

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LIST OF TABLES

Table 1. SDGs provided in UNGA resolution A/RES/70/1

Table 2. Shipping CO2/CO2e emissions compared with global CO2/CO2e

Table 3. Some member States' contribution to IMO budget

Table 4. The number of NGOs in consultative status by interests/activities

Table 5. World economic growth, 2016-2017

Table 6. International seaborne trade growth (millions of tons loaded), 2016-2017

Table 7. World seaborne trade, 2016-2017 (Type of cargo, country group and region)

Table 8. Efficiency improvement estimated by Japan

Table 9. History of the amendment to the ISM Code

Table 10. Representation of some member States in the IMO forums

Table 11. The number of NGO participants present at recent IMO meetings, grouped by interest and activities

Table 12. Casualty statistics and accident frequencies for general cargo ships (1997-2008)

Table 13. Summarized results of CBA on RCOs 2 and 20

* * *

LIST OF FIGURES

Figure 1. Annual growth of world fleet and seaborne trade, 2000-2017 (percentage)

Figure 2. Regulatory framework in shipping

Figure 3. CO_2 emissions by ship type (international shipping only) for all years 2007-2012

Figure 4. Categories of IMO treaties

Figure 5. CO_2 emissions scenarios proposed by some States

Figure 6. Average number of major oil spill per year (over 700 tonnes)

Figure 7. Oil spillage from 1970 to 2015 including tanker accidents

Figure 8. Declining trend in shipping losses from 2008 to 2017

Figure 9. SHELL model

Figure 10. Three types of preventive measures

Figure 11. Reason's model

Figure 12. Diagram, recommended by IMO, illustrating how a sequence of events leads to a casualty occurrence

Figure 13. Factors contributing to organizational drift

Figure 14. MLC amendment procedure

Figure 15. IMO tech rule making process in MSC/MEPC and their subsidiary bodies

Figure 16. Flow chart of the FSA methodology

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LIST OF ABBREVIATIONS

ACAG	Ad hoc Capacity-building Needs Analysis Group
AIS	Automatic Identification System
A 30	30th session of the Assembly of the International Maritime Organization
CIC	Code of the International Standards and Recommended Practices for a Safety Investigation into a Marine Casualty or Marine Incident
CO_2e	CO_2 equivalent
CSO	civil society organization
DSDG	Division for Sustainable Development Goals
ECDIS	Electronic Chart Display Information System
EEDI	Energy Efficiency Design Index
FSA	Formal Safety Assessment
GBS	goal based standard
GCAF	Gross Cost of Averting a Fatality
GHG	green house gas
HMSO	Her Majesty's Stationary Office
IACS	International Association of Classification Societies
ICS	International Chamber of Shipping
III Code	IMO Instruments Implementation Code

INDC	Intended Nationally Determined Contribution
ILO	International Labor Organization
IMO	International Maritime Organization
INTERCARGO	International Association of Dry Cargo Shipowners
INTERTANKO	International Association of Independent Tanker Owners
ISM Code	International Management Code for the Safe Operation of Ships and for Pollution Prevention
ITCP	Integrated Technical Cooperation Programme
ITF	International Transport Workers' Federation
LDC	Least Developed State
MARPOL	International Convention for the Prevention of Pollution from Ships (1973)
MDG	Millennium Development Goal
MEPC	Marine Environmental Protection Committee of IMO
MEPC 70	70th session of MEPC
MEPC 72	72nd session of MEPC
MSC	Maritime Safety Committee of IMO
MSC 46	46th session of MSC
MLC	Maritime Labor Convention (2006)
NCAF	Net Cost of Averting a Fatality

NGO	non-governmental organization
OECD	Organization of Economic Cooperation and Development
PSC	port State control
RADAR	Radar Data Transmission System
RCO	risk control option
SDC 5	5th session of the Sub-Committee on Ship Design and Construction
SDG	Sustainable Development Goal
SEEMP	Ship Energy Efficiency Management Plan
SIDS	Small Island Developing State
SOLAS	International Convention for the Safety of Life at Sea (1974)
SMS	safety management system
TC	Technical Cooperation Committee of IMO
TC 65	65th session of TC
TC 66	66th session of TC
TI	Transparency International
TSCI	International Association of Technical Survey and Classification Institutions
UN	United Nations

UNCTAD	NU Conference on Trade and Development
UNDESA	UN Department of Economic and Social Affairs
UNFCCC	United Nations Framework Convention on Climate Change
WSC	World Shipping Council
WTO	World Trade Organization

* * *

CHAPTER 1. INTRODUCTION

1.1 Background

IMO's commitment to SDGs

In September 2015, all the United Nations (UN) member States, developed and developing, unanimously adopted the 2030 Agenda for Sustainable Development by the United Nation General Assembly (UNGA) resolution A/RES/70/1 at a Summit for Sustainable Development, including the 17 Sustainable Development Goals (SDGs) and 169 related targets. The SDGs aim at improving health and education, promoting equality, protecting environment and spurring economic prosperity with poverty put an end to. Therefore, the 2030 agenda is called a plan of action for "people, planet and prosperity" (IMO, 2015)[1]. Today, the Division for Sustainable Development Goals (DSDG) in the UN Department of Economic and Social Affairs (UNDESA) offers substantial support for the SDGs, focused on water, energy, climate, oceans, urbanization, transport, science and technology. DSDG plays a key role in the global implementation of the 2030 Agenda. In order for all the SDGs to come true in time, they should be incorporated into a strong commitment by all stakeholders to ensure their effective global engagement. DSDG aims at promoting this engagement (UN, 2015)[2]. Among the above mentioned stakeholders the most considerable is shipping entities.

[1] Further information is given in the IMO website: http://www.imo.org/en/MediaCentre/PressBriefings/Pages/41-SDGS.aspx

[2] Further information is given in the UN website: https://sustainabledevelopment.un.org/about

Sustainable Development Goals	
Goal 1.	End poverty in all its forms everywhere
Goal 2.	End hunger, achieve food security and improved nutrition and promote sustainable agriculture
Goal 3.	Ensure healthy lives and promote well-being for all at all ages
Goal 4.	Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
Goal 5.	Achieve gender equality and empower all women and girls
Goal 6.	Ensure availability and sustainable management of water and sanitation for all
Goal 7	Ensure access to affordable, reliable, sustainable and modern energy for all
Goal 8.	Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
Goal 9.	Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
Goal 10.	Reduce inequality within and among countries
Goal 11.	Make cities and human settlements inclusive, safe, resilient and sustainable
Goal 12.	Ensure sustainable consumption and production patterns
Goal 13.	Take urgent action to combat climate change and its impacts*
Goal 14.	Conserve and sustainably use the oceans, seas and marine resources for sustainable development
Goal 15.	Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss
Goal 16.	Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels
Goal 17.	Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development

Table 1. SDGs provided in UNGA resolution A/RES/70/1

Source: United Nations (25 October 2015). *Transforming our world: the 2030 Agenda for Sustainable Development* (Resolution A/Res/70/1). Retrieved May 14, 2019 from the World Wide Web. https://sustainabledevelopment.un.org/post2015/transformingourworld

As a saying goes, oceans do not so much as divide as unite the world. It reminds the world community of shipping's significance. In fact, shipping is regarded as the backbone of the global trade. All year round, ships transport goods to everywhere of the world, encouraging consistent economic growth and spreading prosperity across the countries. This way, shipping contributes to achieving all the SDGs from ending poverty and hunger to strengthening the global partnership for sustainable development.

Given the above, the International Maritime Organization (IMO), a specialized agency of the UN responsible for the global maritime safety and security and marine environmental protection, has recognized the importance of its engagement in SDGs and continuously striven to establish, implement and update its maritime policies to help achieve the SDGs at the national, regional and global level.

IMO's efforts to help achieve UN's goals already commenced in 2000 when the UN adopted the Millennium Declaration by UNGA resolution A/RES/60/1 including eight Millennium Development Goals (MDGs) to reduce extreme poverty by 2015. In September 2000 IMO committed itself to contribution to achieving the MDGs by adopting and implementing its Assembly resolution A.1006(25) on the Linkage between the Integrated Technical Cooperation Programme (ITCP) and the MDGs (IMO, TC 65/5). IMO, at the 65th session of its Technical Cooperation Committee (TC 65) held in 2015, reviewed its engagement in the achievement of the MDGs and reported that its ITCP had successfully supported, in particular, five MDGs (IMO, TC 65/16, pp.13-14). In the following year, it identified the linkage between ITCP and SDGs at TC 66 which highlighted that SDGs 5, 13, 14 and 17 were especially relevant

to IMO's work while many other SDGs were also noted to be IMO work related (IMO, TC 66/5(c)). Finally IMO member States sat together at the 30th session of IMO Assembly (A 30) in December 2017 and agreed to the cooperation for the SDGs achievement, by adopting IMO Assembly resolutions A.1110(30) on Strategic Plan for the Organization for the Six-year Period 2018 to 2023 and A.1126(30) on Linkages between the Technical Assistance Work of IMO and the 2030 Agenda for Sustainable Development.

The public pressure that IMO faces now

Despite all its above efforts, IMO's SDG-related business does not seem to keep pace with the times.

Shipping is related to any of the 17 SDGs as shown in Table 1 but IMO's greatest concern is focused on SDG 13 on climate change and SDG 14 on ocean conservation.

		Third IMO GHG Study 2014 CO_2			
Year	Global CO_2	Total shipping	% of global	International shipping	% of global
2007	31,409	1,100	3.5%	885	2.8%
2008	32,204	1,135	3.5%	921	2.9%
2009	32,047	978	3.1%	855	2.7%
2010	33,612	915	2.7%	771	2.3%
2011	34,723	1,022	2.9%	850	2.4%
2012	35,640	949	2.7%	796	2.2%
Average	**33,273**	**1,016**	**3.1%**	**846**	**2.6%**
		Third IMO GHG Study 2014 CO_2e			
Year	Global CO_2e	Total shipping	%of global	International shipping	%of global
2007	34,881	1,121	3.2%	903	2.6%
2008	35,677	1,157	3.2%	940	2.6%
2009	35,519	998	2.8%	873	2.5%
2010	37,085	935	2.5%	790	2.1%
2011	38,196	1,045	2.7%	871	2.3%
2012	39,113	972	2.5%	816	2.1%
Average	**36,745**	**1,038**	**2.8%**	**866**	**2.4%**

Table 2. Shipping CO_2/CO_2e emissions compared with global CO_2/CO_2e (values in million tonnes CO_2/CO_2e)
Source: IMO (2014). MEPC 67/INF.3, p.12

Shipping is regarded as the most effective and efficient transportation as it contributes to approximately 2.5% of the global CO_2 emission as shown in table 2 (IMO, MEPC 67/INF.3, p.12) while it carries around 80% of global trade by volume and over 70% of global trade by value (UNCTAD, 2017, p.x). However, if left unregulated, its greenhouse gas (GHG) emission will increase to account for 17% of the whole by 2050 (TI, 2018, p.2).

In light of the above, IMO sought for an effective mechanism of ensuring a real contribution to the global GHG emission decrease, given the fact that the Paris Agreement (2015) entered into force on 4 November 2016. The Paris Agreement aims at holding the increase in the global average temperature to well below 2℃ above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5℃ above pre-industrial levels. Since it does not take sectoral approaches, IMO member States invited the Marine Environmental Protection Committee (MEPC), IMO's organ responsible for addressing any environmental protection related issues, to define the shipping sector's fair share in the global efforts to reduce GHG emission. One year later, at the 70th session of the Marine Environmental Protection Committee (MEPC 70) in 2016, the International Chamber of Shipping (ICS) et al. suggested that a road map for IMO's fair share should be determined while Angola et al. proposed to develop a roadmap for enhancing the energy efficiency of international shipping. MEPC 70, having considered these proposals in details and other related comments thereabout, developed the draft roadmap for ship GHG emission reduction strategy to be finalized by 2023 after the following three phases (IMO, MEPC 70/18, pp.44-51; MEPC 70/19/Add.1, Annex 11):

Phase 1 data collection (January 2019);

Phase 2 data analysis (no later than autumn 2020); and

Phase 3 decision step (Spring 2022).

Based on the above preparation, in April 2018 IMO adopted the *Initial IMO Strategy on Reduction of GHG Emissions from Ships* by resolution MEPC.304(72) which aims to decrease shipping's GHG emission by at least 50% by 2050, compared with the 2008's levels. This strategy is likely needed to be immediately revised upwards in order to decarbonise the maritime sector in line with below 2℃ and/or 1.5℃ temperature goals of the Paris Agreement. However, the adoption of the revised strategy is planned to come true five years later.

The significance of IMO's role cannot be overestimated in achieving the SDG 13 and the world community, therefore, hopes that IMO will make greater strides to a zero-GHG initiative by 2050.

1.2 TI's assessment on the governance of IMO

In this context, the Transparency International (TI) evaluated IMO's governance structure to consider whether it will help or hinder the policy making. To the surprise it made public a report arguing that IMO needs reform (TI, 2018, p.4)[3]. TI indicates in its report the following four key problems to be solved:

The uneven influence of member States;
The influence of open registries;
The disproportionate influence of industry; and
The lack of delegate accountability.

The uneven influence of member States

The report indicates that IMO's rule-making processes are unfair. It takes as an example the fact that IMO's policy-making is dominated by a small number of States

[3] Transparency International (2018). Governance at the International Maritime Organization. The case for reform. Berlin: Author.

which make big contributions to IMO's budget and other decisions based on the size of their fleets. Nine of the top ten contributing States are members of the Council which is the executive body of IMO. Further, the Council publishes no substantive information about its activities. Entry-into-force of IMO treaties are also much influenced by the States with greater tonnages since none of them take effect until they have been acceded to by those States that collectively regulate a specified percentage of the world's shipping fleet.

The influence of open registries

The report points at the existing open registry system as a serious problem. Open registries and international registries allow States to offer substandard ships favorable regulatory environments which biases the ship registry into profit earning rather than enforcement purpose. This mechanism has a serious impact on IMO's work. For example, the biggest four open registries including Panama, Liberia, the Marshall Islands and the Bahamas can exercise influence over IMO through the funding and treaty ratification system.

Member State	Contribution amount (Unit: £million)	Percentage in IMO budget
Panama	5.3	19.3
Liberia	2.5	8.8
Bahamas	1.4	4.9
Marshall Islands	1.3	4.8
UK	1.3	4.8
Greece	1.2	4.3
Singapore	1.1	4.1
Malta	0.97	3.5
Japan	0.94	3.4
China	0.91	3.3

Table 3. Some member States' contribution to IMO budget

Source: Du Dachang (2018). Marine Environment Protection Standards. Class handout, Dalian Maritime University, Dalian, China

The disproportionate influence of industry

According to the above report, private interest groups have easy access to IMO's rule-making process thorough the consultative status that IMO endowed them with. As shown in Table 4, the nongovernmental organizations (NGOs) with the consultative status in IMO forums totals 81[4]. Analysis of five recently held IMO meetings shows that industry representatives considerably outnumbered civil society organization (CSO) representatives, as shown in Table 11[5] (TI, 2018, p.25).

Categories of NGOs with IMO's consultative status	Number
Cargo and port (IAPH, ICHCA, CEFIC, IICL, IOGP, SIGTTO, DGAC, WNTI, IBTA, IVODGA, IBIA, BIC, IIMA)	13
Environment (FOEI, ITOPF, IUCN, ACOPS, Greenpeace, WWF, IPIECS, IOI, IFAW, ISCO, Pacific Environment, CSC, Pew)	13
Insurance (IUMI, P & I Clubs)	2
Legal (CMI, IIDM)	2
Navigation (IALA, CIRM, IMPA)	3
Professional and Representative bodies (IFSMA, IMarEST, IHMA, RINA, ITF, NI, WISTA International)	7
Rescue (ISU, IMRF)	2
Security (IAASP)	1
Shipbuilding (CESA, SYBAss, ASEF)	3
Ship owners/ship operators (ICS, BIMCO, OCIMF, IADC, INTERTANKO, INTERCARGO, CLIA, InterManager, IPTA, IMCA, INTERFERRY, WSC)	12
Standards (ISO, IEC, IACS, ICOMIA, ILAMA, EUROMOT, WORLD SAILING, ITTC, IPPIC, NACE INTERNATIONAL, IWMA, SGMF)	12
Trade (ICC, IRU, ISSA, FONASBA, IPCSA)	5
Training/education/welfare (IAIN, IMLA, ICMA, IMHA, IAMU, GlobalMET)	6
Total	81

Table 4. The number of NGOs in consultative status by interests/activities

[4] Further information is given in the IMO website: https://docs.imo.org/Category.aspx?cid=746

[5] More detailed consideration to this issue is given in section 4.2 of this dissertation.

Source: Author compiled from IMO (2018)

Another eye-catcher is that private company delegates represent their governments at IMO meetings as there are no rules governing the appointment of national delegations.

The lack of delegate accountability

TI's report states that IMO member State delegates are shielded from public scrutiny. Journalists are forbidden from naming speakers at meetings without gaining their consent. As a result, the public do not know which delegates are arguing for which issues.

TI's recommendations

Out of the above analysis, TI recommends IMO to:

a.) engage in a process of open dialogue with its external stakeholders on how it can improve transparency;

b.) take steps to ensure that its decision-making processes better reflect the public interest; and

c.) ensure that all those who engage in decision-making are subject to robust integrity rules and measures.

In particular, it makes the point that IMO should develop and implement rules governing the appointment of national delegates of its member States and their behavior as well as better balanced representation among different interest groups. It further recommends that IMO should consider developing a Code of Conduct for Council members, Member State delegates and consultative members in order to regulate their conduct while operating under the auspices of IMO.

It is of great significance to ensure properly balanced representation in the IMO forum not only in achieving SDGs on GHG reduction but also in promoting safety and

security. Biased representation surely leads to disaster of over-regulations or of under-regulations either of which will hinder safe, secure, clean and efficient shipping. Given the above, this dissertation attempts to analyse the IMO's governance with a focus on the influence of private interests on IMO policies, based on TI's report.

CHAPTER 2. SAFE AND EFFICIENT SHIPPING－IMO'S IMPORTANT TELEOLOGY

The most notable in the above report inter alia is the issue on conflicts of interests. The report exposes the holes of the current ways in which member governments appoint their delegates to IMO meetings. Brazil, for example, sent to MEPC 71 five advisers from Vale S.A, a multinational company with substantial shipping interest while the Marshall Islands appointed twelve delegates eight of which were employees of the International Registry Inc Group, a private shipping registry (IMO, MEPC 71/INF.1). Such examples can be easily found at other IMO meetings which were recently held[6]. TI recommends that IMO should consider the introduction of requirements for member State representatives to hold an official public mandate as members of their domestic civil service and to demonstrate an absence of conflicts of interest in their role as national delegates.

In order to ensure a sound policy making process, great attention should be paid to the actors who participate there. Hesse (2018) states that, since governance is the process of adopting and implementing policy, an analysis of governance is to focus on the actors involved in that process as well as the structures set in place to arrive at and implement the policy. In this sense, it is much worthy of looking into participants in IMO rule-making as well as their related matters including participation, rule of law, accountability, effectiveness and efficiency and transparency. TI, warning IMO of the undesirable compositions of the participants at its meetings, expressed a concern about the possibility of private companies' resistance of clean technology which may require long-term investment.

TI's analysis and recommendation entail that, in order to ensure the public interest in the policy making of IMO on a fair basis, the private companies including particularly

[6] See appendix 1 to this dissertation.

ship owners or operators should be ruled out from the IMO decision making processes. At a cursory glance it may sound reasonable but the reality is much more complex than what it seems like.

2.1 Inseparable relation between shipping and economic growth

Shipping derives from the demands of the trade. It cannot create its own demands. Ups and downs of shipping always depend on those of trade. Good examples thereabout can be easily found from a glance which is given to what is going on in the global economy and international seaborne trade these days.

Region or country	2016	2017
World	2.5	3.1
Developed countries	1.7	2.3
of which:		
United States	1.5	2.3
European Union (28)	2.0	2.6
Japan	1.0	1.7
Developing countries	3.9	4.5
of which:		
Africa	1.7	3.0
East Asia	5.9	6.2
of which:		
China	6.7	6.9
South Asia	8.4	5.8
of which:		
India	7.9	6.2
Western Asia	3.1	3.0
Latin American and the Caribbean	-1.1	1.1
of which:		
Brazil	-3.5	1.0
Countries with economies in transition	0.3	2.1
of which:		
Russian Federation	-0.2	1.5
Least developed countries	3.5	4.3

Table 5. World economic growth, 2016-2017 (Annual percentage change in GDP)
Source: Author compiled from UNCTAD Review of Maritime Transport 2018, p.4.

The world maritime transportation gained momentum in 2017. It expanded at 4% in

volumes, which is the fastest increase in recent five years. This increase came from the world economic growth. Global industrial activity and manufacturing increased in 2017 by 2.8%, up from 0.2% in 2016. In China, industrial production was up at 6.5%, while Brazil witnessed 2.4% increase in 2017. As a result the world witnessed a considerable upswing in GDP with 3.1% increase in 2017, up from 2.5% in 2016 as shown in Table 5 (UNCTAD, 2018, p.3).

Year	Crude oil, petroleum products and gas	Main bulks	Other dry cargo	Total (all cargoes)
2016	3 055	3 041	4 193	10 289
2017	3 146	3 196	4 360	10 702

Table 6. International seaborne trade growth (millions of tons loaded), 2016-2017
Source: Author compiled from UNCTAD Review of Maritime Transport 2018, p.5.

The recent global economic growth brought prosperity to shipping. The volume of the global seaborne trade reached 10.3 billion tons in 2016. This figure increased upto 10.7 billion tons in 2017, reflecting additional 411 million tons as shown in Table 6. Each type of cargo transported by ship also saw continuous increase in recent years as listed in Table 7. All these upward trend led to growth in world fleet capacity. After five years of decelerating growth, the world fleet experienced increase by additional 42 million gross tons in 2017 responding to the trade growth, as presented in Figure 1.

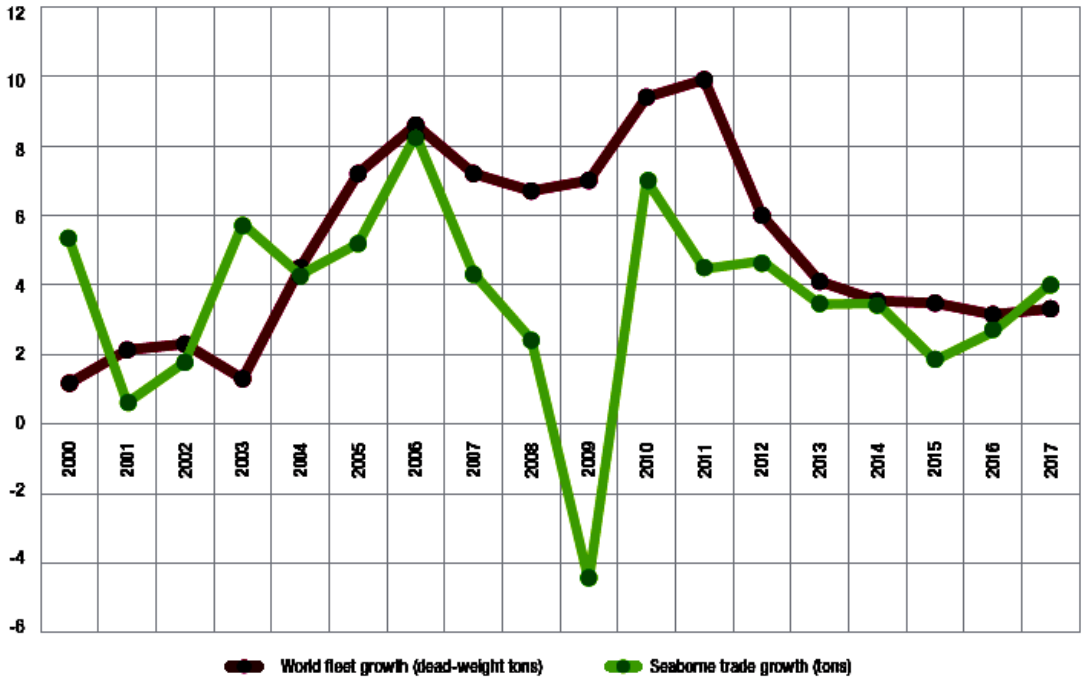

Figure 1. Annual growth of world fleet and seaborne trade, 2000-2017 (percentage)
Source: UNCTAD Review of Maritime Transport 2018, p.23.

The facts and figures clearly illustrate the close relations between shipping and trade. IMO aims to create a "regulatory framework for the shipping industry that is fair, effective, universally adopted and implemented." (IMO, 2019)[7] IMO, in its Assembly resolution A.1110(30), states that its mission is to promote safe, secure, environmentally sound, efficient and sustainable shipping through cooperation. Efficient and sustainable shipping that IMO refers to means economically beneficial and, thus, consistently growing shipping. In order for this mission to be fulfilled, IMO cannot help but fully consult and consider the commercial interests such as, in particular, ship owners, ship operators, seafarers agencies, etc. and reflect their views in their technical regulations.

[7] Further information is given in the IMO website: http://www.imo.org/en/About/Pages/Default.aspx

Country group	Year	Goods loaded				Goods unloaded			
		Total	Crude oil	Petroleum products and gas	Dry cargo	Total	Crude oil	Petroleum products and gas	Dry cargo
		Millions of tons							
World	2016	10 288.6	1 831.4	1 223.7	7 233.5	10 279.9	1 990.0	1 235.7	7 054.1
	2017	10 702.1	1 874.9	1 271.2	7 555.9	10 666.0	2 035.0	1 281.5	7 349.4
Developed economies	2016	3 492.9	150.5	453.0	2 889.4	3 840.4	1 001.3	507.6	2 331.5
	2017	3 675.0	162.6	478.3	3 034.2	3 838.3	956.8	509.1	2 372.5
Transition economies	2016	637.3	176.3	40.2	420.7	59.6	0.3	4.0	55.3
	2017	664.5	190.7	48.3	425.6	65.9	0.8	3.4	61.7
Developing economies	2016	6 158.4	1 504.5	730.5	3 923.4	6 379.9	988.5	724.2	4 667.3
	2017	6 362.5	1 521.6	744.7	4 096.2	6 761.7	1 077.4	769.1	4 915.3
Africa	2016	692.7	271.3	58.8	362.6	492.9	38.7	80.8	373.4
	2017	726.2	288.0	60.0	378.2	499.8	33.9	90.5	375.4
America	2016	1 336.8	232.5	75.9	1 028.4	566.0	51.9	128.2	385.8
	2017	1 379.4	227.3	71.9	1 080.2	608.3	54.7	141.8	411.8
Asia	2016	4 121.2	999.1	594.9	2 527.2	5 307.6	897.0	510.9	3 899.7
	2017	4 248.8	1 004.6	611.8	2 632.4	5 640.1	988.0	532.5	4 119.6
Oceania	2016	7.7	1.7	0.9	5.2	13.5	0.8	4.2	8.4
	2017	8.0	1.7	0.9	5.4	13.5	0.8	4.2	8.4
Country group	Year	Goods loaded				Goods unloaded			
		Total	Crude oil	Petroleum products and gas	Dry cargo	Total	Crude oil	Petroleum products and gas	Dry cargo
		Percentage share							
World	2016	100.0	17.8	11.9	70.3	100.0	19.4	12.0	68.6
	2017	100.0	17.5	11.9	70.6	100.0	19.1	12.0	68.9
Developed economies	2016	33.9	8.2	37.0	39.9	37.4	50.3	41.1	33.1
	2017	34.3	8.7	37.6	40.2	36.0	47.0	39.7	32.3
Transition economies	2016	6.2	9.6	3.3	5.8	0.6	0.0	0.3	0.8
	2017	6.2	10.2	3.8	5.6	0.6	0.0	0.3	0.8
Developing economies	2016	59.9	82.2	59.7	54.2	62.1	49.7	58.6	66.2
	2017	59.5	81.2	58.6	54.2	63.4	52.9	60.0	66.9
Africa	2016	6.7	14.8	4.8	5.0	4.8	1.9	6.5	5.3
	2017	6.8	15.4	4.7	5.0	4.7	1.7	7.1	5.1
America	2016	13.0	12.7	6.2	14.2	5.5	2.6	10.4	5.5
	2017	12.9	12.1	5.7	14.3	5.7	2.7	11.1	5.6
Asia	2016	40.1	54.6	48.6	34.9	51.6	45.1	41.3	55.3
	2017	39.7	53.6	48.1	34.8	52.9	48.5	41.6	56.1
Oceania	2016	0.1	0.1	0.1	0.1	0.1	0.0	0.3	0.1
	2017	0.1	0.1	0.1	0.1	0.1	0.0	0.3	0.1

Table 7. World seaborne trade, 2016-2017 (Type of cargo, country group and region)
Source: Author compiled from UNCTAD Review of Maritime Transport 2018, p.6

2.2 Regulatory framework in shipping

In general, maritime regulations can be divided into three distinctive categories: technical, economic and social regulations, under which they can be further divided into sub-groups such as the regulations developed by professional entities and those by governmental agencies (Ma, 2018, p.138). As shown in Figure 2, shipping utilizes or is controlled by rules and regulations of all these three categories. Yet the shipping standards set by IMO fall under the category of technical regulations.

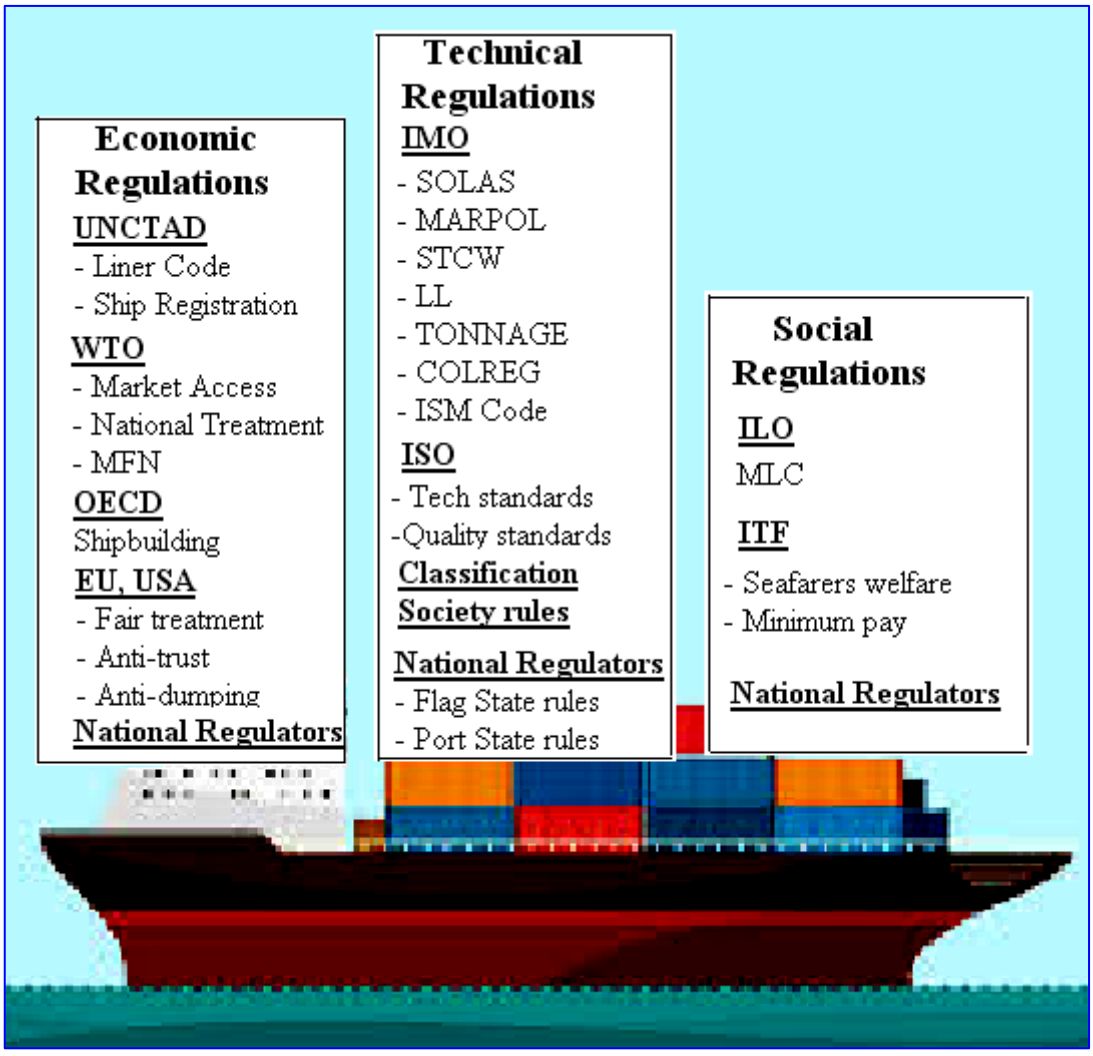

Figure 2. Regulatory framework in shipping

Source: Author compiled from Ma Shuo (2018). Maritime Economics. Class handout, Dalian

Maritime University, Dalian, China.

Technical regulations are standards set by the industry for the purpose of its own well-being. The development of these standards requires professional expertise. The best example is classification rules and regulations. At international level, IMO is the only body responsible for technical requirements of shipping. These requirements are transposed into the domestic standards by governments.

Shipping is also bound by regulations established to achieve economic objectives. The examples are the Convention on the Arrest of Ships (1999) and the Convention on Maritime Liens and Mortgages (1993) adopted by the NU Conference on Trade and Development (UNCTAD). Quite recently the World Trade Organization (WTO)'s involvement in shipping is notable. Today it is anticipated that WTO's principles including market access[8], national treatment[9] and most-favored nation[10] will be widely applied to shipping sooner or later. Regulations of the Organization of Economic Cooperation and Development (OECD) are applied in the shipbuilding aspect in the field of government subsidy for the shipyard credit. Nowadays efforts are being made to eliminate all official subsidy in favor of a national shipbuilding industry.

Some maritime regulations address social issues. As for international instruments, the most important bodies are the International Transport Workers' Federation (ITF) at professional level and the International Labor Organization (ILO) at governmental

[8] This principle requires that illegal cargo protection should be prohibited. Members to WTO must make sure that their laws, rules and regulations are transparent, their markets are open and all trade barriers, tangible or intangible, are removed. Open market policies must be promoted with development and economic reforms encouraged. Thus, a foreseeable and constantly expanded market entry can be expected (Chang et al., 2008, p.8).

[9] It is one of the WTO principles that requires fair treatment between foreign companies and national ones (Chang et al., 2008, p.8).

[10] It allows for no discrimination between foreign companies. All the members to WTO are given equal most favored nation status and national treatment. Fair competition is to be guaranteed (Chang et al., 2008, p.8).

level. ITF's greatest concern is maritime transport although it deals with all the modes of transport. It objects to "flag of convenience" and promotes the remuneration scheme for the minimum salary of seafarers. ILO is involved in setting standards for workers' decent working condition. The best example of its regulations is the Maritime Labor Convention (2006) (MLC) which sets a number of standards on seafarers' contract, minimum age, recruitment and placement, wages, rest hours, repatriation, entitlement to leave, manning level, etc.

All these above rules and regulations cover a broad spectrum of safety, security, environmental protection, efficiency and effectiveness. In particular IMO's technical regulations not only apply safety principles but also reflect the industry's views as these regulations are the standards of the industry itself. Therefore, such regulations should be developed on the basis of the proper balance between safety and benefit goals. If there are too many regulations without reflecting the actual requirements of the industry, they will hinder sustainable shipping.

In fact, no shipping, no maritime regulations. There is no considering maritime safety concept without sustainable shipping. If the regulations are seen by the industry as unnecessary burden on the shipping, there is no need for governments to meet in IMO forums, for they have obligations to protect their national economy's interest. In any case, phenomena arise only when substance exists.

CHAPTER 3. ANALYSIS TO PRIVATE INTERESTS' ROLE IN IMO

The easiest solution to the problem raised by TI in respect of conflicts of interests may be that the maritime players should be separated from the maritime judges at IMO meetings and be given little access to IMO policy-making to ensure transparent and fair policies. As mentioned above, however, complex sciotechnical factors including efficiency as well as safety are entangled with each other in shipping. It is not so simple to segregate players from judges in the maritime forums unlike in the sports playgrounds. Is interference of commercial entities in the maritime policy-making so undesirable for maritime development indeed? In order to answer this question, it is needed to look into the role that the industry players play in IMO forum.

3.1 Advantages in private interests' contribution

The Convention on the International Maritime Organization (1948) (IMO Convention), in Article 1, reads inter alia as follows:

> "The purposes of the Organization are:
>
> (a) to provide machinery for co-operation among Governments in the field of governmental regulations and practices relating to technical matters of all kinds affecting shipping engaged in international trade, and to encourage the general adopting of the highest practicable standards in matters concerning maritime safety and efficiency of navigation; "

The above provision clearly stipulates that safety is the priority of IMO's work. But this safety has no meaning unless it is in good balance with cost-effectiveness. And this balance comes from the active participation of private interest groups in the IMO policy-making.

In IMO forums, quite a few examples can be found in which commercial groups

contribute to establishment of effective mechanisms. In August 2016, for example, the ship owners and operators' group including BIMCO, ICS, the International Association of Dry Cargo Shipowners (INTERCARGO), the International Association of Independent Tanker Owners (INTERTANKO) and the World Shipping Council (WSC) submitted document MEPC 70/7/8, suggesting that MEPC should develop a roadmap to determine a possible IMO fair share contribution to GHG reduction in accordance with the Paris Agreement. In the previous year, ICS had proposed that IMO should develop an *Intended IMO Determined Contribution* on GHG reduction for the international shipping sector as a whole, taking account of the language used in the Paris Agreement to describe contributions that governments will make in the form of Intended Nationally Determined Contributions (INDCs). This suggestion preluded resolution MEPC.304(72) which was a demonstration of IMO's substantial commitment to UN's SDG on climate change. The resolution also clarifies maritime sector's sincere efforts for fair share in the implementation of the Paris Agreement as against the serious fact that many parties to the United Nations Framework Convention on Climate Change (UNFCCC) had handed in INDCs which announced that their national economies are currently unable to commit to absolute CO_2 reductions in the immediate future due to their population increase projections and their legitimate desire for sustainable economic development. The above valuable suggestion which contributed to the birth of the initial GHG reduction strategy was likely to be come up with only by such on-the-spot players as ICS or BIMCO which have specific capability of giving a keen insight into the strange relations between the ideal and reality.

TI's report in question, noting that IMO announced the initial strategy for GHG emission reduction, states as follows:

> The announcement was widely welcomed and will trigger some immediate

> decarbonisation measures. However, a revised, final strategy will not be adopted until 2023 and the next five years will see the IMO's Member States enter politically charged and technically complex negotiations to agree a final GHG deal.

The above statement may sound like one-sided comments without taking account of the practicability of the GHG emission reduction. Neither UN's SDG on climate change nor the Paris Agreement's target can be achieved without full preparation including data collection and analysis. Therefore, the Working Group on Reduction of GHG emissions from ships, organized at MEPC 70, acknowledged that the IMO's strategy for GHG emission reduction would build on the various measures that have already been adopted and implemented by IMO member States in relation to the reduction of GHG emissions from international shipping including EEDI and SEEMP in force since 2013, the immediate determination of the data collection system and various technical cooperation activities and major projects. In this context, the Working Group agreed that a Fourth IMO GHG study should be carried out to include data covering the period from 2012 to 2018, thus bridging the gap between the Third IMO GHG Study and the data collection system (IMO, MEPC 70/WP.7). IMO had already made public the Third IMO GHG Study 2014 in July 2014 including the GHG emission related data from 2007-2012 as presented in Figure 3. If the overall data covering the period from 2013 to 2018 is collected and compared with the Third IMO GHG Study data, a comprehensive picture will be provided to clarify how effectively the post-2013 anti-GHG measures of IMO worked and what steps should be further taken to ensure that IMO's fair share is not only good-looking but also tangible.

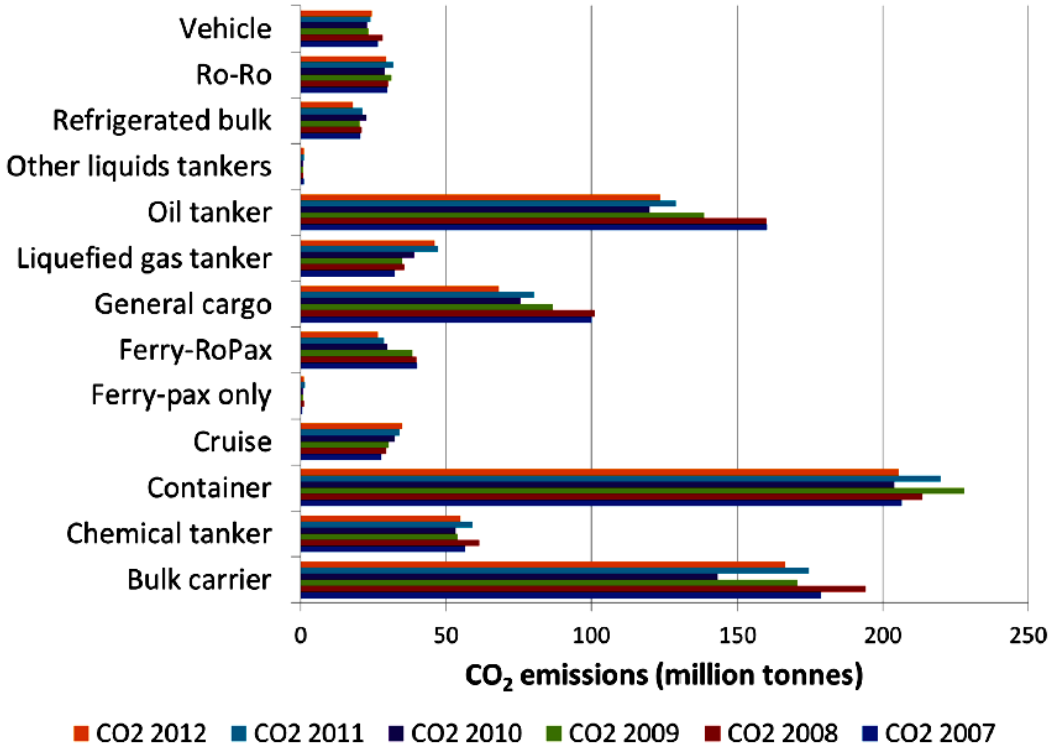

Figure 3. CO_2 emissions by ship type (international shipping only) for all years 2007-2012

Source: IMO (2014). MEPC 67/INF.3, p.20

Any of goals for maritime safety and marine environmental protection should be realistic, practical and achievable. As shipping is, so far, the most energy efficient mode of transport, unrealistic contribution to reducing the shipping sector's absolute CO_2 emissions could result in a shift to less energy efficient transport modes. This would clearly be counterproductive to reduction of the world's total CO_2 inventory and the achievement of INDCs (MEPC 70/7/8, p.2). The revised strategy's putting off until 2023 results from the inevitability of sufficient period for the scientific and economic research project, rather than IMO member States' lack of accountability or conflicts of interests.

Industry groups' contributions to IMO are also visible in other areas including safety, security, etc. BIMCO, for example, has been very active in IMO's work and sponsored

or co-sponsored submissions on a number of topical issues including air emissions, ballast water, life saving devices, human response to piracy, stability code, Electronic Chart Display & Information System (ECDIS), recycling, ship construction standards, etc. (IMO, 2015)[11].

ICS's devotion to IMO's work is also notable. As the principal global trade association for shipowners whose combined merchant fleet accounts for 80% of the world gross tonnage, it is concerned with all regulatory, operational and legal issues, as well as employment affairs. It attends all IMO meetings, except TC meetings and submits a number of proposals aiming at improvement of IMO mechanisms. It participated in over 18 working/draft groups and over fifteen correspondence groups, as of March 2015, with contribution to improvement of IMO instruments (IMO, 2015)[11]. Prior the critical adoption of the initial strategy of GHG emission reduction by IMO in April 2018, ICS played an important role in persuading governments to develop this ambitious response to the Paris Agreement. ICS's proposal in document MEPC 70/7/8 which was submitted to IMO, just a few weeks after the adoption of the Paris Agreement, encouraged the industry to submit various detailed proposals to IMO on GHG emission reduction during 2017 (ICS, 2018, p.10-11). That is why the above analysis points out that ICS's MEPC 70/7/8 proved a prelude to resolution MEPC.304(72).

All these contributions were clearly supported by the private interest groups' sufficient expertise and experience gained from the reality. Some member States include private company employees into their national delegations to IMO meetings probably because they believe that they are likely to provide governmental officials with helpful information about what is going on in the reality.

As a matter of fact, IMO's history is regarded as a story about its painstaking efforts

[11] Further information is given in the IMO website: https://docs.imo.org/Category.aspx?cid=746

not only to promote maritime safety but also to protect the shipping industry's interest. It is easily illustrated by the components of the IMO treaties as shown in Figure 4. For example, some treaties such as liability conventions highlight protection of the shipowners' interest. In this context, the active participation by private interest groups in IMO policy-making processes is considered inevitable.

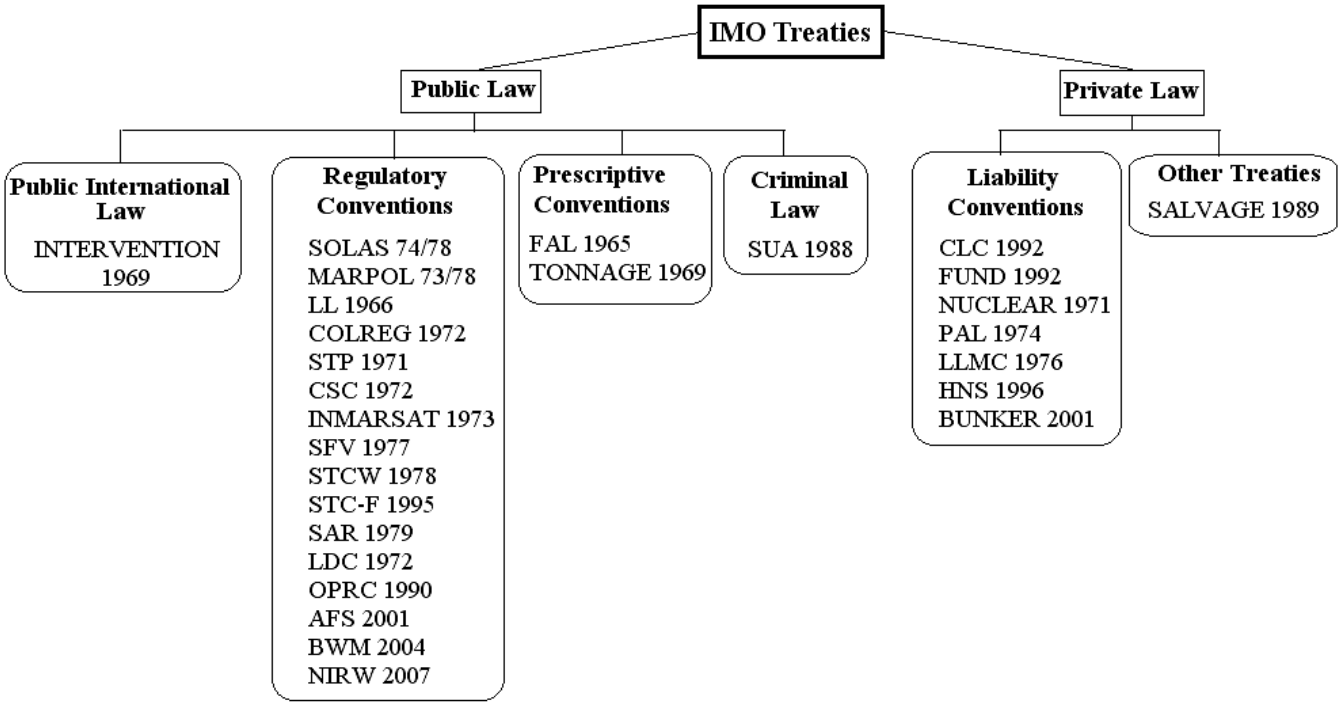

Figure 4. Categories of IMO treaties

Source: Author complied from Proshanto. K. Mucherjee (2018). International maritime law, legal systems & conventions. Class handout, Dalian Maritime University, Dalian, China.

Du (2018) classifies IMO's legal framework relating to environment issues into three categories including pollution prevention, preparedness and response and liability and compensation. Under the liability and compensation mechanism, IMO adopted the International Convention on Civil Liability for Oil Pollution Damage (1992), the International Convention for Compensation of Oil Pollution Damage and Supplementary Fund and the International Convention on Civil Liability for Bunker Oil Pollution Damage all of which purport to ensure shipowners' interest.

In general, the doctrine of *restitutio in integrum* is predominant, particularly, with respect to environmental pollution, regardless of proof of tort. However, this doesn't apply to the maritime sector at the same degree as the other sectors because of the above liability conventions of IMO which aim to maintain the sustainable growth of the shipping industry. This example clearly illustrates that one of IMO's greatest concern is to provide the maritime legal framework which protect the interest of the industry.

3.2 Disadvantages in private interests' involvement

Then, have the private interest groups made only perfect contributions to maritime safety promotion and marine environmental protection so far? Unfortunately, answers which are frequently heard indicate "No". As a matter of fact, TI's concerns about what is happening in IMO have much in common with those of the public which has so often seen the conflicts of interests in IMO forums. If a keener insight is given to what the industry personnel are doing in IMO forums, serious problems are looming.

3.2.1 Private interest in the GHG reduction

TI's report expresses concerns about the private companies' involvement in IMO policy-making because they are likely to resist the adoption of new safety or environmental protection measures if they judge those measures to be costly. When discussion was made to decide the quantitative target on GHG emission reduction in the Intersessional Working Group on Reduction of GHG Emissions from Ships, Kiribati et al. proposed zero GHG emission by 2035, Belgium et al. proposed 90% efficiency improvement and 70% volume reduction, pursuing efforts to 100% reduction by 2050, ICS et al. proposed maintaining emission volumes below the 2008 level and 50% efficiency improvement by 2050 and Japan proposed 40% efficiency improvement by 2030 and 50% volume reduction by 2060 (IMO, MEPC 72/7/3). As

shown in Figure 5, the scenarios of ICS and Japan are less ambitious than the others.

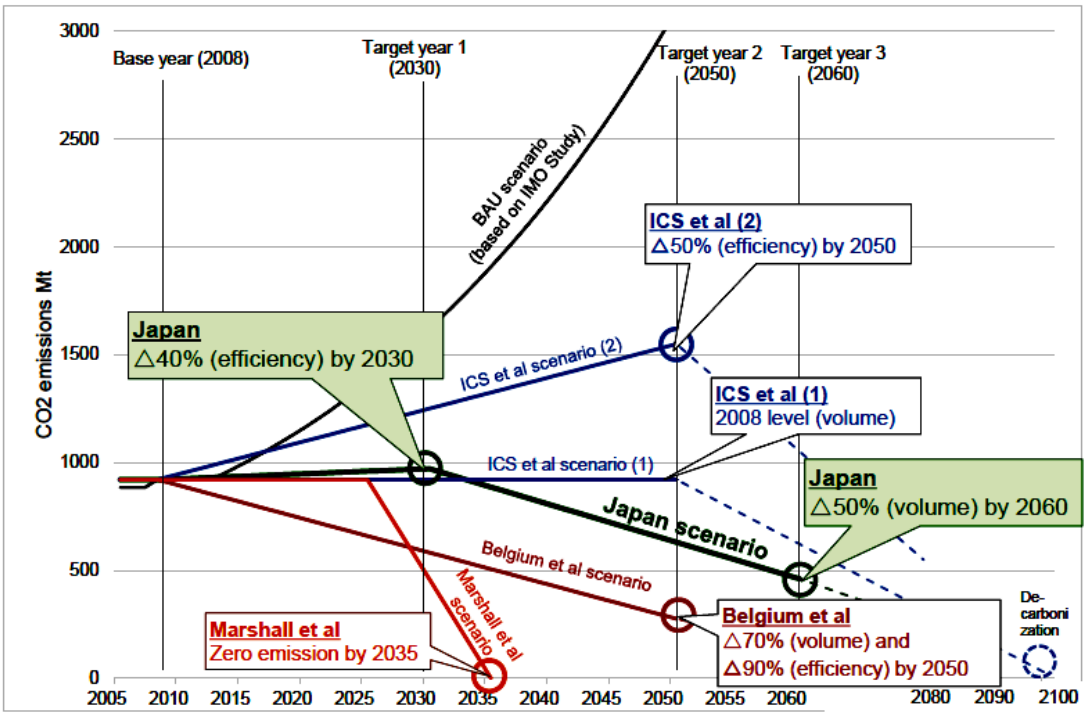

Figure 5. CO_2 emissions scenarios proposed by some States
Source: IMO (2018). MEPC 72/7/3, p.2

Japan brought forward its proposal at MEPC 72 as well. Noting that analysis of UNCTAD Review of Maritime Transport 2017 shows the energy efficiency improvement by 30% in global shipping in 2015 compared to the 2008 level, Japan considered that speed reduction resulting from excess fleet and market restraint following the financial crisis accounts for the majority of such efficiency improvement by 2015. This analysis indicates that such market effect is temporary and, thus, the energy efficiency will not remain at the 2015 level in the future without any further policy measures. Based on this diagnosis, Japan proposed 50% volume reduction by 2060 as presented in Table 8. Nevertheless, MEPC 72 adopted the initial strategy aiming at 50% reduction by 2050 compared to the 2008's levels (IMO, MEPC.304(72)).

	Design	Operation and others	Total
2008-2015	7%	25%	30%
2015-2030	11%	5%	15%
2008-2030	17%	28%	40%

Table 8. Efficiency improvement estimated by Japan
Source: IMO (2018). MEPC 72/7/3, p.3

Japan's intention was less ambitious than that of the adopted strategy as well as other States' proposals. It is true that Japan justified its proposal in a scientific and accurate way. However, a question is raised whether its proposal had been influenced by the private interests who feared long-term investment into GHG emission reduction, as against the fact that 5 among Japanese delegates at MEPC 72 came from the Japaneses Shipowners' Association (IMO, MEPC 72/INF.1, p.22).

3.2.2 Undesirable impact of private interests on IMO's work as a whole

It may be quite reckless to jump with the above example alone to the hasty conclusion that private interest negatively impacts on IMO's decision-making. If, however, more undivided attention is paid to what is happening in broader parts of maritime sector including the Maritime Safety Committee (MSC) and the other committees of IMO, it will become clear that there is no denying the serious consequences produced by the commercial agencies' over-interference in IMO's rule-making.

Aiming at zero casualty

IMO, in order to realize its teleology, adopted a number of instruments including conventions, codes, guidelines, etc. Almost all of those instruments were deeply related to marine casualties. Safety, and sometimes even environmental protection, is briefly regarded as being free from accidents. Thus, the public opinion is considered to be "the fewer accidents, the safer, cleaner and more efficient oceans." In this regard, IMO's work was, is and will be focused on minimizing and finally eliminating marine

casualties. In order to realize the dream of zero casualty, IMO adopted significant anti-accident measures whenever it witnessed a serious marine disaster. It is well-known that the International Convention for the Safety of Life at Sea (1974) (SOLAS), IMO's most important safety instrument, was derived from its 1914 version which was born as a collection of the lessons drawn from the *Titanic Disaster* while the International Convention for the Prevention of Pollution from Ships (1973) (MARPOL), IMO's most significant environmental protection instrument, was adopted following the *Torrey Canyon Disaster*.

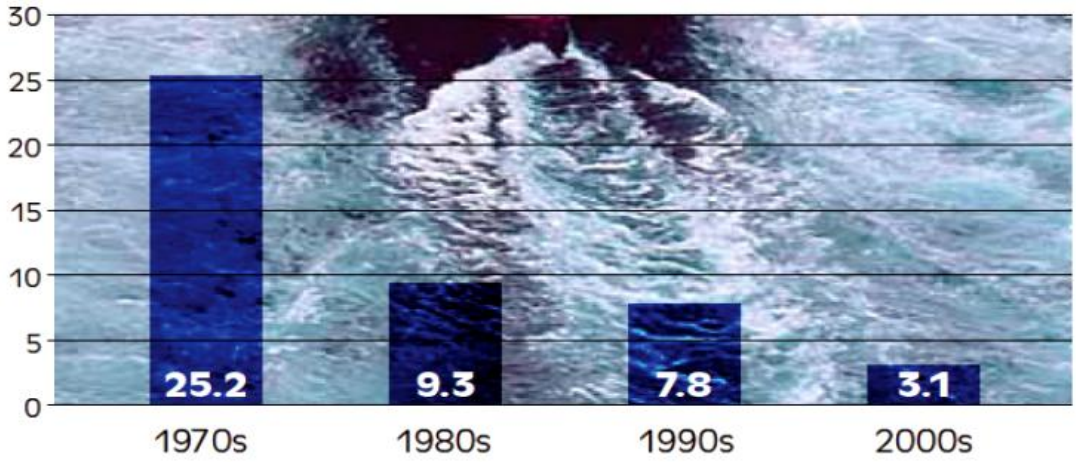

Figure 6. Average number of major oil spills per year (over 700 tonnes)
Source: Du Dachang (2018). Marine Environment Protection Standards. Class handout, Dalian Maritime University, Dalian, China

Then, are these instruments really effective in the fulfillment of IMO's mission and vision? To answer this question, many studies were made of the efficacy of IMO instruments some of which proved satisfactory. For example, the average yearly number of oil spill incidents which used to be reportedly 25.2 in the 1970s reduced to 3.1 in the 2000s as shown in Figure 6 (Du, 2018, p.13). The amount of spilled oil also witnessed considerable decrease during the MARPOL implemented period as shown in Figure 7. The public believe that MARPOL is credited with contributing to the substantial decrease of oil pollution accidents. Recently MARPOL Annex VI's

efficacy is considered substantial. In 2015, for instance, the CO_2 emission from the global shipping reduced by 8% compared with 2008 level, in spite of a 30% increase in maritime trade (ICS, 2018, p.8).

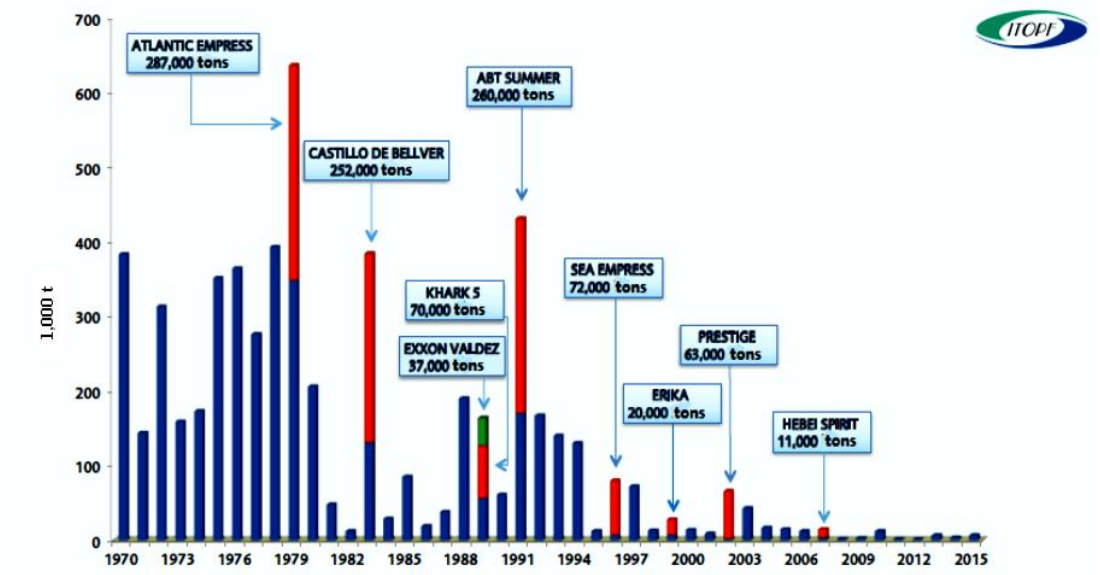

Figure 7. Oil spillage from 1970 to 2015 including tanker accidents
Source: Du Dachang (2018). Marine Environment Protection Standards. Class handout, Dalian Maritime University, Dalian, China

Shipping losses also shows the continuously declining trend as shown in Figure 8. In particular, 2018 saw more than 50% reduction year-on-year from 98 to 46 in terms of frequency (AGCS, 2019)[12]. It is out of question that these achievements are inconceivable without IMO's safety instruments including SOLAS and its associated codes and guidelines. However, serious problems are found to be hidden between the lines of those instruments if more detailed analysis is given to how they are born by, and going with the industry.

[12] Further information is given in the AGCS website:
https://www.agcs.allianz.com/news-and-insights/reports/shipping-safety.html

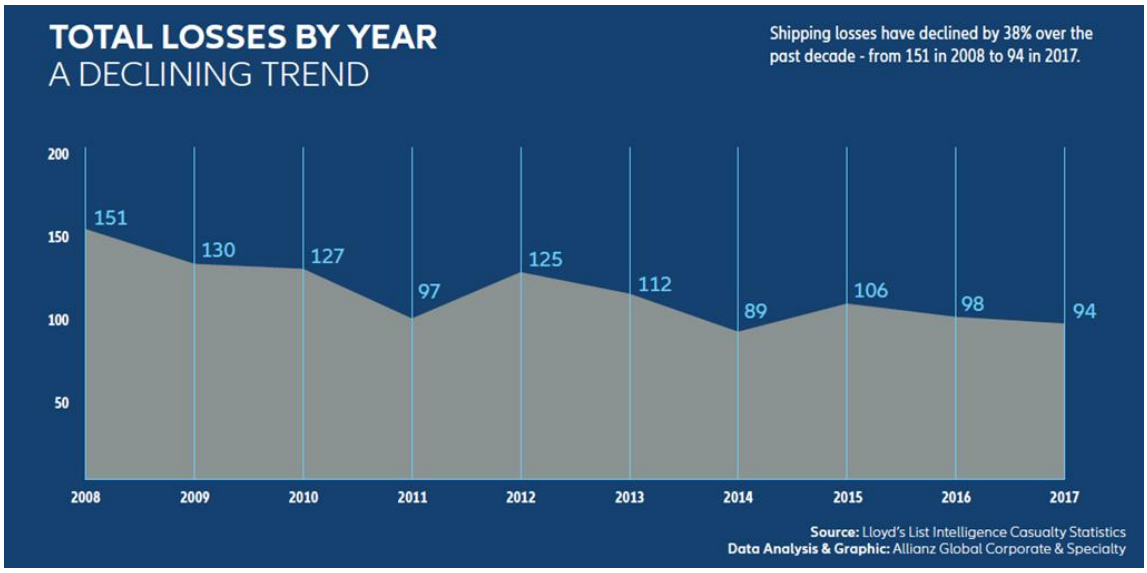

Figure 8. Declining trend in shipping losses from 2008 to 2017
Source: AGCS (2018). Safety and Shipping Review 2018. Munich, Germany: Author.

ISM Code —a powerful tool for safety or just piece of paper for formality?

Bhattacharya (2012), after studying the effectiveness of the International Management Code for the Safe Operation of Ships and for Pollution Prevention (the ISM Code), concluded that there is a considerable difference between the stances of managers and seafarers in the implementation of the ISM Code and as such a wide gap between the expected outcome of the Code implementation and the practice. Attributing the existing shortcomings of the ISM Code to non-participation of seafarers in safety policy making which is traced back to their short-term contracts with their companies, he recommended to consider ways of improving underlying socioeconomic conditions of seafarers which could be the first step towards breaking the vicious circle of little trust, blame and scepticism between employers and employees. His assessment of the ISM Code and subsequent recommendations are worthy of in-depth consideration. Indeed, the ISM Code is considered one of the best examples which illustrate the side-effect of private interests' involvement in the IMO rule-making process.

The adoption of the ISM Code was traced back to document MSC 46/18/7 submitted in the early 1980s by private interest groups such as ICS, INTERTANKO, etc. which attributed the frequent marine casualties to poor safety management system (SMS). In this context, ICS et al. developed a voluntary guideline, *Code of Good Management Practice in Safe Ship Operation* and subsequently the UK Department of Transport brought out a guidance titled *Good Ship Management* for the UK-flagged ships. Both of these were the precursory instruments to the ISM Code which came up with the idea of self-regulation (Bhattacharya, 2009, pp.29-32).

Throughout the 1980s IMO witnessed continuous discussions on self-regulation at its meetings and, finally, in 1987, saw the Herald of Free Enterprise disaster in which 188 lives were lost in the English Channel. As it was a UK-flagged passenger ferry, Her Majesty's Stationary Office (HMSO) investigated the casualty and produced a report with damning evidences which blamed the ferry company's management for the disaster. It stated that "the Board of Directors did not appreciate their responsibility for the safe management of their ships" and put a stress on their repeated failures in providing adequate support to their ships' masters for operational safety (HMSO, 1987, p. 14). The HMSO report speeded up the drafting of a new IMO instrument which aimed at SMS improvement of shipping companies. Further, the social pressure from the outside world such as insurance companies urged IMO to take tangible actions to prevent the frequently occurring marine accidents. Finally, IMO adopted the ISM Code by its Assembly resolution A.741(18) in November 17, 1993. The Code required managers to assume greater responsibilities for their companies' SMS. Heretofore, ship inspectors from the maritime authorities had been required to ensure statutory compliance mainly through inspections. But the ISM Code showed a shift from the earlier control mechanism to the self-checking and self-regulating based system. It required management to monitor their ships and

report to their flag State thereabout. This was a meaningful step towards establishing the link between the flag State authority, the ship operator and the ship. IMO, greatly hopeful of the ISM Code's contribution to the global maritime safety and marine environmental protection, made the Code mandatory in 1998 by introducing a new chapter IX into SOLAS.

However, it was widely argued across the industry, from the beginning, that the expected improvement had not been enjoyed since the ISM Code was implemented. In 2001, for example, an international study used more than 3,000 survey questionnaires to analyze opinions of seafarers and shore-based stakeholders on the usefulness of the ISM Code and found out that seafarers were more dismissive of the values of the Code than their managers (Anderson, 2002). Another study showed that 80% of shipping companies regarded the Code merely as a piece of paper licensing to run their business. It pointed out that managers failed to see the safety goals as long-term economic benefits and, therefore, did not see the need to provide sufficient resources for shipboard safety (Lloyd, 2003).

In this context, IMO conducted another study between 2004 and 2005 by using questionnaires as well. IMO Secretary General established a group of independent experts selected from administrations, organizations, academia and the shipping industry and tasked it to analyse the impact of the ISM Code. The group, after finishing their work, submitted to MSC 81 document MSC 81/17/1 reporting that about 99% of the 3,109 respondents who received questionnaires were supportive of the ISM Code. However, the group regarded this positive result questionable and acknowledged that this was because, due to the methodological shortcomings, the majority of the respondents came from those who had generally enjoyed some benefit from the implementation of the ISM Code (MSC 81/17/1).

Conflicts of interests adumbrated in the ISM Code

Taking into account the lessons drawn from the above methodology applied by IMO, another study was conducted of two shipping companies between 2006 and 2009. Both were European based with good reputations. 20 managerial officials and 67 seafarers from the two companies were interviewed and voyages of different flagged ships were researched into for 49 days. The study revealed that there was a yawning gap in the perceptions between the managers and seafarers. While interviewees from the both managements claimed that their SMSs were robust with adequate resources for supporting their seafaring colleagues, the interviewed seafarers regarded their SMS helpless. They complained that all the information in the documented instructions and procedures are merely generic and not ship-specific. They were also critical about too much obsession with paperwork. The most serious eye-catcher in the study outcomes was that the managements attributed the most common cause for marine accidents to seafarers' non-compliance although the incident reporting policies in both the companies recognized the importance of the no-blame culture. This led to seafarers' fear of being blamed for shipboard incidents and losing jobs which resulted in nonfulfillment of the reporting procedures. The study revealed a number of serious findings in the huge discrepancy between what the ISM Code seeks for and what is happening in the practice (Bhattacharya, 2012).

Reviewing the results of all the damning reports of the ISM Code studies, Baumler (2018) indicates that the ISM Code's impacts on seafarers are featured by, inter alia, exclusion of seafarers from their own safety management, crew abilities and pride downgraded, forced engagement of seafarers to comply with their companies' agenda, permanent threat by audit and control, fear in reporting, job insecurity, loss of autonomy and control on work organization and impair motivation of senior officers and rest of staff. His statement constitutes accurate assessment. The cause for these serious problems was attempted to be found in the composition of the ISM Code

itself. It was argued that the Code appeared to limit the role of seafarers to blindly following the procedural requirement enforced by the managers. The Code does not refer to the need for involving seafarers in the companies' decision making process. It, for example, does not mention the importance of involving seafarers in the risk assessment process. The lack of seafarers' input in the organizations' risk assessment is also reflected by the popularity of the use of commonplace SMSs in the maritime industry. On several occasions the industry press stated that shipowners could buy readily available generic SMSs for immediate implementation. Such SMSs are generally produced by commercial entities which come up with standard ship-operating policies and procedures along with non-specific checklists and forms that fit a wide variety of maritime organizations and trades. They do not take into account the specific requirements of the organizations or the ships or acknowledge the importance of the seafarers' views in the decision making process. Thus, seafarers are provided with few opportunity to promoting their competence, training and motivation. Furthermore, they have little support from trade unions at the workplace (Bhattacharya, 2009, pp.52-53).

Despite the above, no appropriate action has been taken so far. As shown in Table 9, IMO amended the ISM Code on several occasions but failed to revise it in compliance with the actual requirements of the practice. Rather, the amendments to the Code resulted in intensifying the absolute role of the management while ignoring seafarers' participation in safety policy-making. For example, MSC resolution MSC.273(85), overestimated the managers' responsibility for risk identification by amending paragraph 1.2.2.2 of the Code, for shipboard operations by amending section 7, for establishing procedures to respond to the potential emergency shipboard situations by amending paragraph 8.1 and for internal audits on board and ashore by amending paragraph 12.1 but never addressed the essential problems

arising in the implementation of the ISM Code.

ISM Code/ Amendments	Resolution	Adoption date	Effective date	Amendments to the Code	Remarks
ISM Code	A.741(18)	17/11/1993	01/07/1998		Revokes A.647(16) & 680(17). Mandatory under new Chapter IX of SOLAS
2000 Amendments	MSC.104(73)	05/12/2000	01/07/2002	New Part A (1.1 definition, Chap.7), Part B (Chap.13, new Chap.14-16), Appendix(forms of DOC, SMC, Interim DOC and Interim SMC)	Refer to A.913(22)
2004 Amendments	MSC.179(79)	10/12/2004	01/07/2006	Appendix(DOC, SMC)	Refer to A.913(22)
2005 Amendments	MSC.195(80)	20/05/2005	01/01/2009	Appendix(DOC, SMC, Interim DOC, Interim SMC)	
2008 Amendments	MSC.273(85)	04/12/2008	01/07/2010	Part A(1, 5, 7, 8, 9, 10, 12), Part B(13, 14), Appendix (SMC)	

Table 9. History of the amendment to the ISM Code

Source: IMO (3 December 2008). *International Management Code for the Safe Operation of Ships and for Pollution Prevention*. *adopted by IMO MSC* (MSC 273(85)). London: Author.

The above phenomenon adumbrates a picture of the conflicts of interests in IMO. Shipping is typical of complex sociotechnical systems. Any consideration, therefore,

require not only an analytic but also synthetic look at all the factors in shipping from machines to humans, from independence to dependence and from hierarchy to network. Every element in the shipping system seems to be distinctive with its own clear bounds but, in fact, is interrelated and interacts. When looking into any system, it is important to fully consider the three key elements including humans, equipment and organization. Humans briefly include employers and employees while equipment indicates machines, facilities, installations and other necessary hardware. These two elements constitute resources of the system. However, it is not enough to put an emphasis on these two elements alone, because the system is able to make up only with the realization of the interrelations between humans, between equipment and between humans and equipment. Thus, proper attention should be paid to this important concept—organization. The system's important components and their relations are illustrated in the SHELL model as shown in Figure 9. In the model the most worthwhile to consider is the link between livewares i.e.the relations between employers and employees. Employers should fully demonstrate their commitment by providing the employees with sufficient resources including decent working and living conditions and with sufficient opportunities to participate in the companies' policy making. However, in the practice the employers' behavior is so often far from the ideal. The above analysis of the ISM Code implementation shows that managers tend to assume that they have right to all-the-decision-making of their organizations, regarding their seafarers as just human machines who have only obligations to adhere to those decisions. When considering safety, shore-based managers assumes a neighbor stance while seafarers takes a user stance. Therefore, the user friendliness of the system cannot be ensured unless seafarers fully participate in SMS policy making. It is true that the ISM Code stipulates the overriding authority of masters[13]

[13] Paragraph 5.2 of the Code provides that the company should establish in the SMS that the master has the overriding authority and the responsibility to make decisions with respect to safety and

but this authority is confined to onboard decision making. In the current situation, both of the managers and seafarers have no alternative but to suffer from the burdensome formalistic paperwork. In Bhattacharya (2012, p.4)'s study, it was found that, as ships remained out of the ship managers' reach for most of the time, the management lacked the scope to conduct physical surveillance which is why they were uncertain about the practice followed on the ships. It implies why SMS is being implemented through bureaucracy.

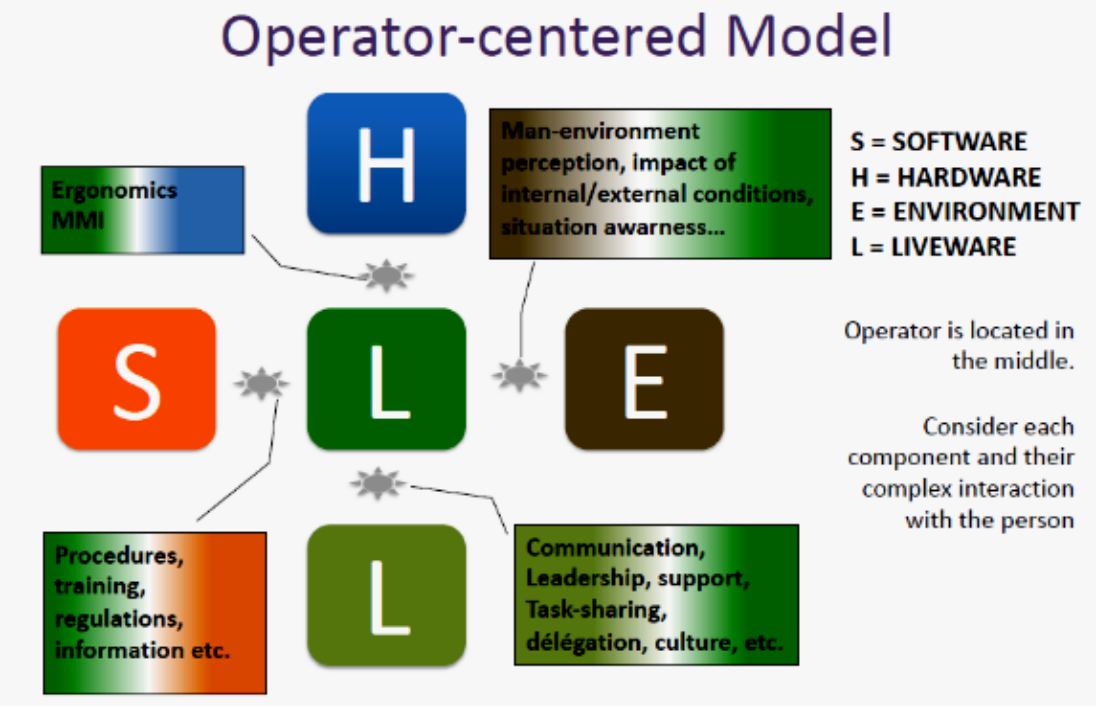

Figure 9. SHELL model

Source: Raphael Baumler (2018). *Human factors in maritime safety and environment protection.* Class handout, Dalian Maritime University, Dalian, China.

All these serious problems inherent in the ISM Code are traced back to how the Code was proposed and adopted. When the world witnessed seriously frequent marine accidents in the 1980s and the 1990s and, therefore, the social pressure urged the

pollution prevention and request the company's assistance if necessary. Further, this provision clarifies that the master's authority should be contained in the onboard SMS.

maritime sector to take appropriate actions, the shipping industry invented a cheap solution which was made of some pieces of paper that is the ISM Code[14]. The Code endows managers with a great right to control on SMS as well as their seafarers while it forces the unilateral obligation on seafarers to mechanically adhere to their managers' instructions. This is based on the stereotyped idea that managers are always clever and seafarers are always stupid. If the Code is read between the lines, the bureaucratic perception is looming that all the marine disasters are attributable to seafarers' misdoings and, thus, the companies should reinforce their control over their employees.

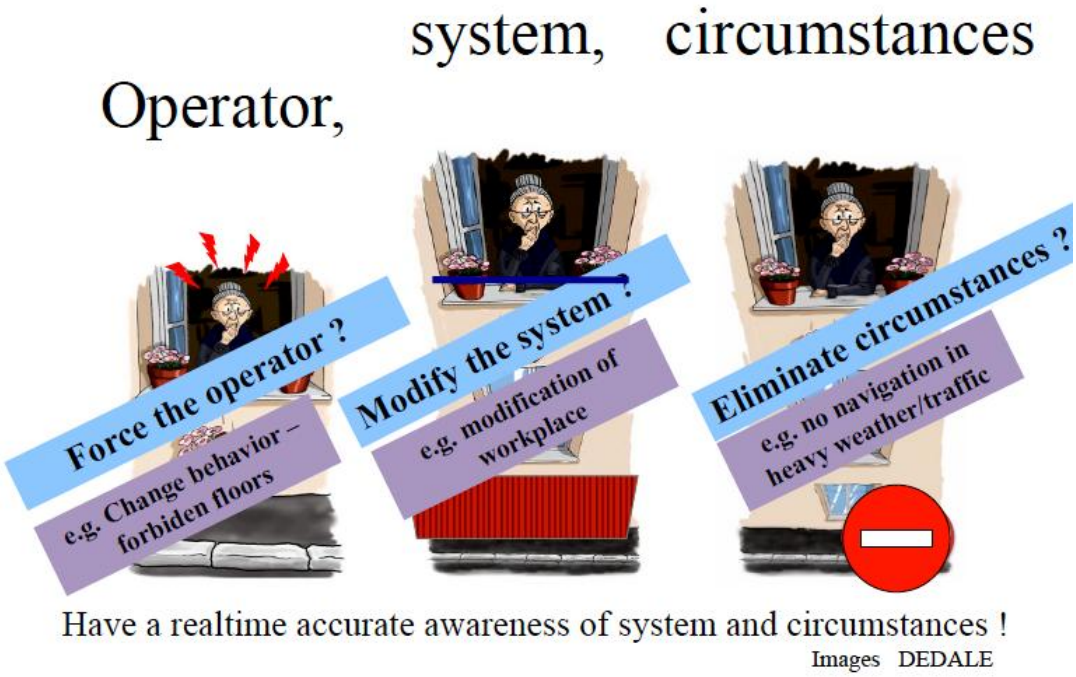

Figure 10. Three types of preventive measures
Source: Raphael Baumler (2018). *Human factors in maritime safety and environment protection.* Class handout, Dalian Maritime University, Dalian, China.

[14] This solution is illustrated in Figure 10. Among the three pictures presented, the first one is the cheapest preventive measures alluding to the ISM Code. The improvement in equipment alluded to by the second picture is considered the most effective but causes additional cost while regulating circumstances as illustrated in the third picture may have a negative impact on the companies' earning. Thus, the cheapest and easiest solution seems to control the operators' behavior, for example, through paperwork or over-regulations, just like the ISM Code.

Lack of voice from LDCs and SIDSs

Unbalanced representation exist not only between managements and seafarers but also between member States in IMO forums. While private interests from, particularly, developed States such as OECD members exercise full representation at IMO meetings, either public or private interests from the Least Developed States (LDCs) and the Small Island Developing States (SIDSs) may suffer from insufficient representation due to their budgetary constraints. Such States often lack the means to maintain their permanent missions to IMO or to send suitably large delegations. TI expressed its concern that this can result in contingent problems of a lack of expertise (TI, 2018, p.24).

Such barriers to full participation are not confined to LDCs or SIDSs. Though the UK takes its home team advantage of having the IMO headquarters in its capital, many other member States find it hard to send a sufficient number of their representatives, perhaps due to financial burdens. For example, while the UK was represented by 15 civil servants and four private industry representatives at MEPC 71, Barbados, Sierra Leone, Tonga and Ukraine, to take four examples among many, had one representative each (MEPC 71/INF.1). This often leads to lack of representation in IMO. Because the proceedings of committees, sub-committees and working groups take place concurrently, IMO meetings need a significant number of staff with relevant technical expertise. However many member States fail to be represented effectively across these forums as shown in Table 10[15]. It raises another concern that IMO instruments may be partially influenced by a small handful of advantageous States.

[15] This table has been developed from the analysis of IMO documents, issued in 2017, including SDC 5/INF.1, MSC 93/INF.1 and MEPC 71/INF.1. The unbalanced representation is more notable in the sub-committees the main function of which is to carry out technical work. It implies that LDCs or SIDSs are provided with few opportunities to take part in technical consideration in IMO forums. It is perhaps because of their lack of financial budget as well as technical expertise. They appear to attend the committees' meetings by sending a small number of delegations mainly due to their national reputation rather than due to their public interest.

States / Meetings	SDC 5 (5)*			MSC 93 (3)*			MEPC 71 (5)*		
	a	**b**	**c**	**a**	**b**	**c**	**a**	**b**	**c**
Barbados	0	0	0	0	4	0	0	1	0
China	10	15	5	1	18	3	12	20	4
DPRK	2	2	1	3	4	0	0	2	0
Japan	13	18	4	8	32	3	11	48	4
Russia	2	6	3	1	8	3	6	13	4
Sierra Leon	0	0	0	0	1	0	0	1	0
Tonga	0	0	0	0	1	0	3	1	0
UK	1	15	3	4	23	3	4	17	3
Ukraine	0	1	0	0	1	0	0	1	0
US	4	11	3	7	20	3	4	16	5

(...)*: the number of working/drafting groups at each meeting
a: the number of documents that are submitted
b: the number of the participants at each meeting
c: the number of working/drafting groups attended

Table 10. Representation of exemplary member States in some IMO forums
Source: Author compiled from IMO (2017).

Distortion of the spirits of IMO instruments

The Code of the International Standards and Recommended Practices for a Safety Investigation into a Marine Casualty or Marine Incident (CIC) in paragraph 1.1 stipulates that marine safety investigations do not seek to apportion blame or determine liability, emphasizing that its object is to prevent marine casualties and marine incidents in the future. But the blame cultures still remains the norm throughout the shipping industry. When discussing the issue of the blame culture during Bhattacharya's study, managers always insisted that their companies ran a no-blame culture. But the study revealed that the practice is quite different. For example, the questions in the reporting forms of both the companies chosen for the study were found to focus on identifying seafarer' flaws. As a result, seafarers felt fearful that by reporting incidents they would invite trouble. The interviewed seafarers said, if an accident occurs, "Who goes to jail? It's me." (Bhattacharya, 2009,

p.195-202). Their fears proved not idle. He (2009) noted that seafarers are relatively vulnerable group who are easy to be criticized compared with ashore managers and ship surveyors. In 2012, the Seafarers Rights International carried out a survey of 3,480 seafarers of 68 nationalities to look into the criminalization of seafarers. In the survey 24% of masters and 8% of seafarers said that they had been faced with criminal charges. The interviews with them indicated that serious problems really exist although the criminalization is not so rampant. The interviews found that 91% of seafarers were not provided with interpretation services, 90% did not have legal presentation, 88% had no legal right to explanation, 80% felt intimidated or threatened, 81% considered themselves to be treated unfairly and 85% were concerned about criminalization (ITF, 2015)[16].

It is true that it is an important function of a sovereign State to punish criminals. Such an enforcement system contributes to effective implementation of IMO instruments as well. The IMO Instruments Implementation Code (III Code) in paragraph 21.6 provides that flag States should take all necessary measures to secure observance of IMO instruments by ships, entities and persons under their jurisdiction by providing, in national legislation, for penalties of adequate severity to discourage violations of international instruments by individuals with certificates under their authority and by instituting proceedings—after an investigation has been conducted —against such individuals who violated international rules and standards. But in practise these requirements are applied on an impartial basis.

The traditional blame culture is based on the belief that systems are safe and, therefore, any accident results from human errors. However, within complex sociotechnical systems human errors do not originate from individuals but are

[16] Further information is given in the SRI website:
http://seafarersrights.org/seafarers-subjects/fair-treatment/

symptoms of the ever present latent conditions inherent in the complexity of organizational factors. For example, the surprising fact that ships carry more than 90% of global trade with seafarers onboard who account for only 2% of transport workers apparently provides a picture of the high efficiency of shipping (Schröder-Hinrichs, 2019). The general public, however, frequently fail to look into its hidden meaning — fatigue. A number of marine accidents are considered attributable to seafarers' fatigue which is again attributable to their organizations' working systems.

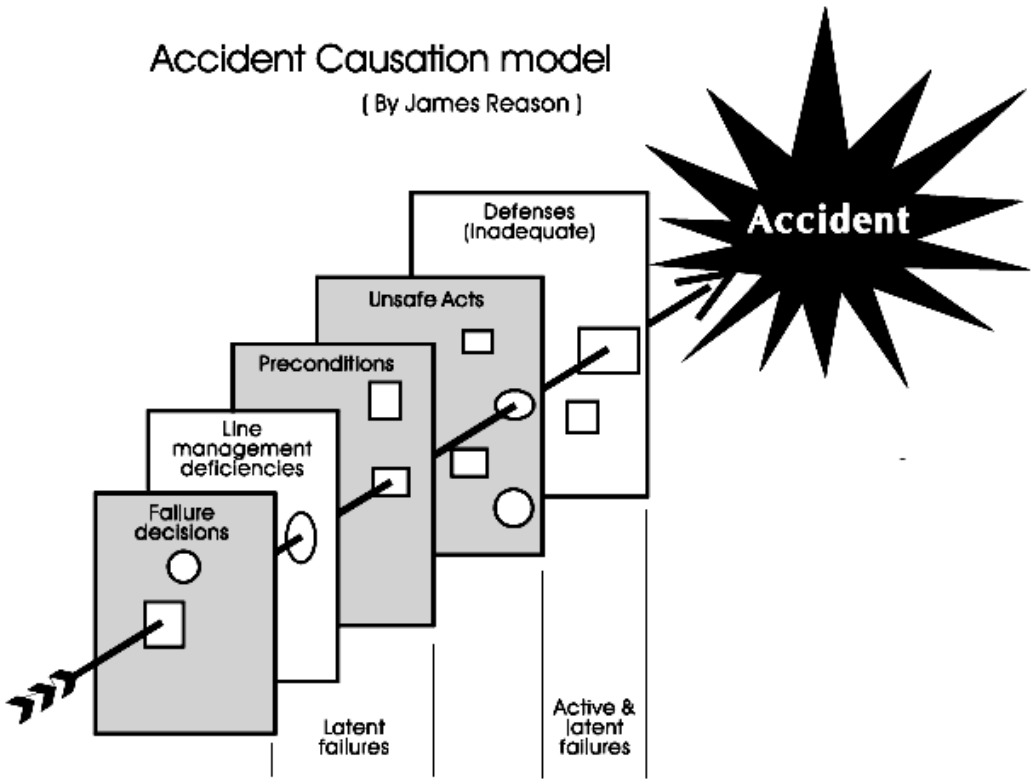

Figure 11. Reason's model

Source: FAO (2001). Safety at sea as an integral part of fisheries management. Rome: Author.

The relations between these factors and accidents are properly illustrated by Reason's accident causation model. As shown in Figure 11, Reason (1990)'s model recommends that accident investigators look into latent failures which are invisible

but very significant. In the model, the first layer represents defensive measures that are designed to mitigate the unsafe acts. The second and third layers indicate the unsafe acts and their relevant preconditions. The fourth layer stands for line management deficiencies such as insufficient training, improper maintenance, etc. The fifth includes errors of all high-level rule-makers such as regulators, designers, manufacturers, employers, etc (FAO, 2001, p.4). His model starts with organizational factors including decision-making and generic organizational processes. In this regard, marine safety investigations require delving into the basic organizational policies (such as strategy, rules and regulations and working culture) and processes (such as designing, constructing, operating, maintaining, communicating, manning, training and managing) of shipping that make up maritime organizational factors containing latent conditions most likely to pose a threat against the system's safety (US Department of Energy, 2012, p.1-2).

IMO, recognizing the importance of consideration on organizational factors, made positive attempts at system thinking by adopting the ISM Code and CIC and the relevant guidelines. In particular, CIC suggests careful consideration of organizational factors, by providing that any marine safety investigation report should address causal factors including mechanical, organizational and human factors. It, however, provides no specific references to accident causation models though it supports Reason's model implicitly. Furthermore, Reason's model is designed not to establish the investigation framework but to illustrate the generic idea about organizational factors' impact on accidents. Therefore, IMO adopted supplementary guidelines to CIC by its resolution, A.1075(28), which provides detailed areas of human and organizational factors to be inquired during investigations. However, the mechanism recommended in these guidelines applies the stopping rule too early to delve into the latent organizational factors hidden in the

top rule-makers and decision-makers, as illustrated in figure 12.

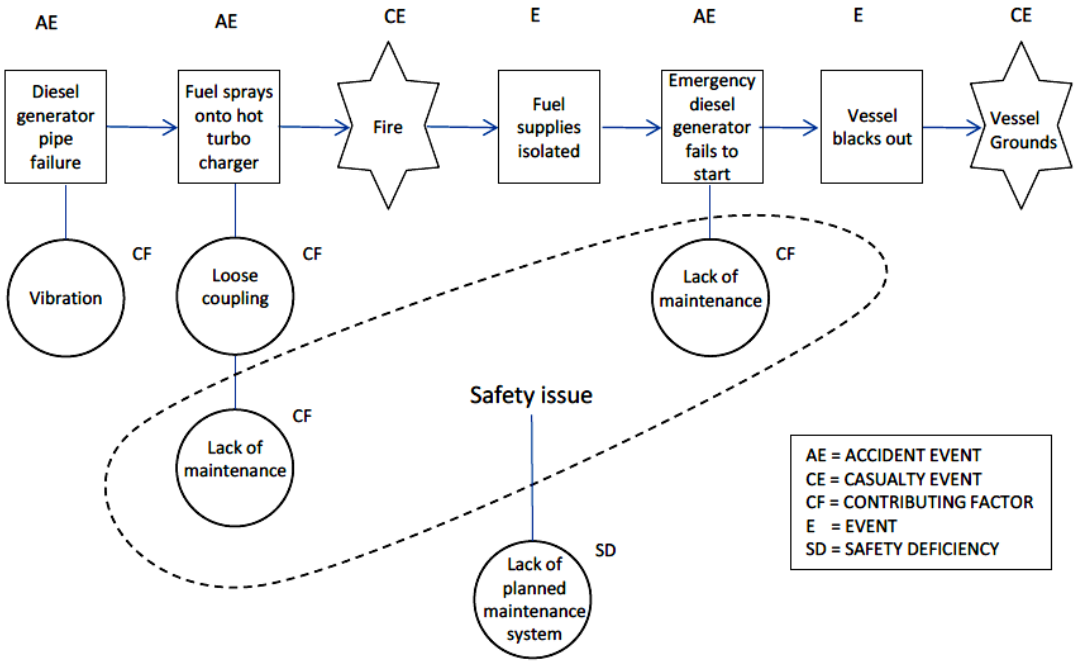

Figure 12. Diagram, recommended by IMO, illustrating how a sequence of events leads to a casualty occurrence

Source: IMO (2014). Guidelines to Assist Investigators in the Implementation of the Casualty Investigation Code (Resolution MSC.255(84)): adopted by IMO Assembly (A 28/Res.1075). London: Author.

Safety casualty investigation seeks understanding the organizational, cultural or technical factors that, if left unattended, could cause recurrence. In other words, it is meant to carefully examine "what" in the organizational system failed and "why" the organization allowed itself to degrade to the state that resulted in an undesired consequence, as illustrated in Figure 13. It is not so easy to disclose exact contributing factors to accidents in the complex shipping system. Resources are always limited and safety is only one of many competing priorities. Investigators, therefore, should target the latent conditions most in need of urgent attention and make them visible to those who manage the system so they can be corrected. However, a number of marine accident reports fail to fully consider the

organizational factors. A study, for example, reviewed 41 accident investigation reports and made a comment that more organizational factors could have been identified and that many investigators employed the stopping rule to too early a stage of their investigation (Schröder-Hinrichs, 2011).

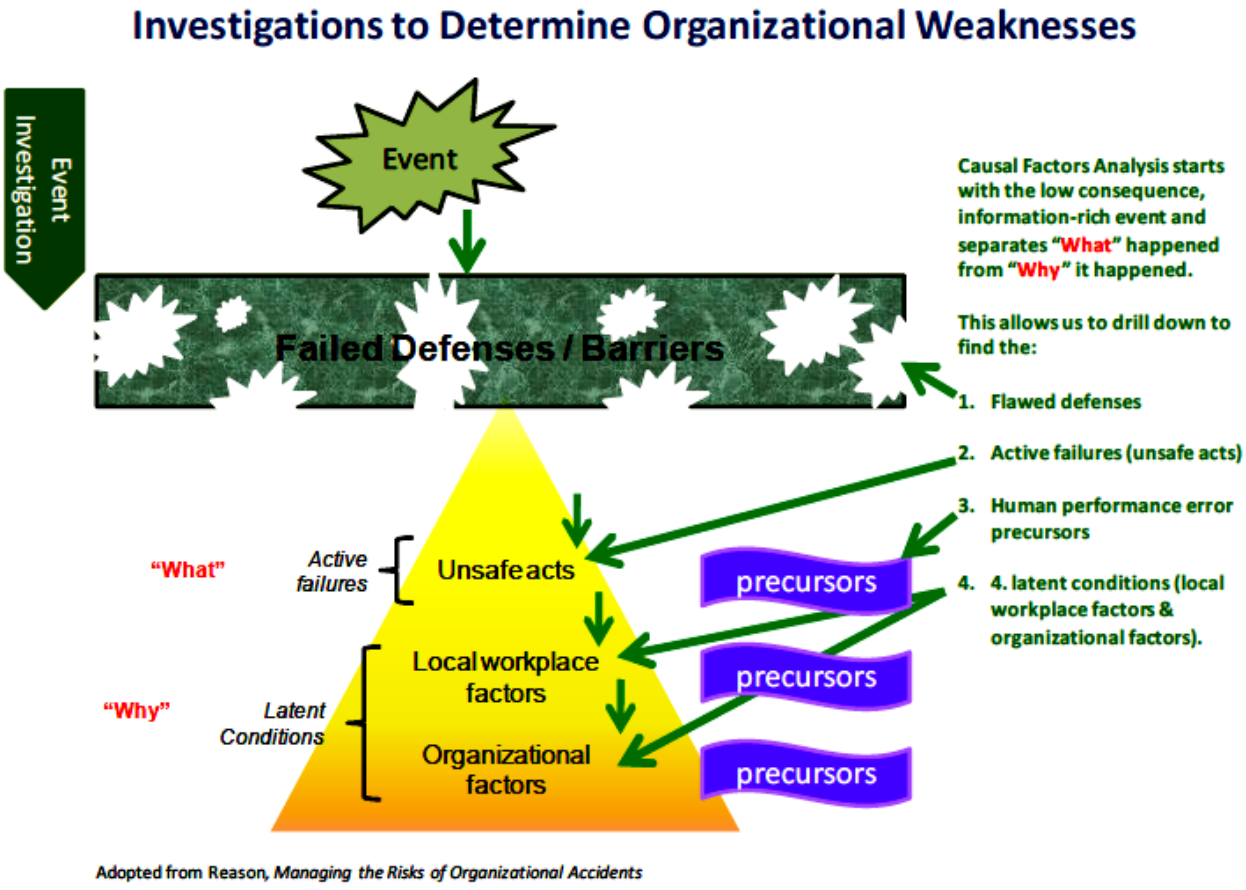

Figure 13. Factors contributing to organizational drift
Source: U.S. Department of Energy (2012). Accident and Occupational Safety Analysis (Vol. I). Washington, D.C., US: Author.

After analyzing the seafarer' sufferings from burdensome paperwork, Bhattacharya (2012) stated on the distortion of the ISM Code's aims as follows:

> The purpose of the ISM Code, which was meant to offer the necessary support to ship captains to ensure a safe operation of ships and continuously improve safety management skills did not appear to be the objective in practice. Clearly the

managers complied with the Code to the letter and not to its spirit. In the process they faced major resistance from seafarers who considered this approach inadequate. Managers however interpreted it as seafarers' apathy and deviance. Their emphasis on training and rectifying seafarers' behaviour are examples of such interpretation. Yet, seafarers did not openly oppose the top-down implementation of the SMS.

Given the above, the irony is that, if the top-down approach of the ISM Code is applied to marine accident investigations, all the accidents should be attributable to the managers who develop all the safety policies, but the reality so often see the bottom-up tendency when it comes to blame. This is considered due to fact that ISM Code, only taking managers' interest into account, suggests the stereotypical idea that the system is always just and, thus, it is the end-users that are to be blamed for their non-compliance.

CHAPTER 4. SEEKING FOR THE TRADE-OFF BETWEEN SAFETY AND BENEFIT

The above chapter gave consideration to both the merits and demerits of maritime players in IMO's work. This chapter attempts to grope for the effective way of minimizing the players' demerits while maximizing the merits of both the judges and players.

4.1 Anticipated disadvantages in case of absence of maritime players in IMO forums

Over-regulations or under-regulations?

Regulations can be frequently regarded as burden to the shipping activities. Safety or environmental protection measures usually cause additional cost which should be borne by the industry. Regulators, however, develop and enforce them because they believe that those measures are in the general interest of the maritime sector. But the industry, so often considering them to be in little need, takes a reluctant attitude towards them. That is why few maritime regulations have ever been smoothly implemented in a straightforward manner. Maritime regulation requires ample expertise and experience of the broad sector from maritime technology and shipbuilding to economics and international trade. The lack of these expertise and experience may cause chaotic situations of both over-regulation and under-regulation (Ma, 2018, p.143). ICS, anticipating the future of IMO, indicated that many of the IMO meetings participants are now officials from environment ministries rather than transport officials with specialist technical knowledge of shipping (ICS, 2018, p.28). It shows an implicit concern about the evolving vacuum at IMO meetings which can be filled only by knowledgeable groups.

The other eye-catcher is that too strict safety regulations have an adverse impact on

the resilience, particularly, in complex sociotechnical systems like shipping. In order to prove it, a simulated fishing was experimented on. Comparing fatality statistics in the fishing industry with those in other occupational categories reveals that fishing is one of the most dangerous occupations. The main reason for it is the fact that the human being is a terrestrial species. Fishermen are consistently exposed to such dangers as slippery platforms and awkward work postures (FAO, 2001. pp.1-5). That is why the study decided to conduct experiment where 34 fishing skippers were asked to fish in simulated situations. Contrary to the result expected, none of the fishing skippers stopped fishing in extremely bad weather condition. Rather, they applied various strategies to achieve their fishing goals by skillfully overcoming the hostile conditions. The study concluded that, the more risks seafarers take, the more skills and experiences they gain to avoid disasters. This conclusion led to a new idea as follows:

Observed Safety = Sm + Sc

Sm: safety to be managed during performance
Sc: safety to be achieved thorough constraints

In the above formula, if Sm increases, Sc decreases, and vise versa (Gaël Morel et al. 2008). It shows that too rigid a safety system has adverse impact on its adaptive capability.

How to ensure the trade-off between different interests

As shown above, absence of the interest group which is able to carry out economic studies may lead to the undesirable results including either under-regulations or over-regulations. Further the trade-off between safety and performance criteria is very tough in real complex sciotechnical systems. However, some considerable successes are witnessed in the international arena to promote good balance between the public and private interests. The best examples include the mechanism of

tripartism and social dialogue in ILO.

As the oldest UN agency, ILO aims at promoting social justice and internationally recognized human and labor rights, pursuing its founding mission that social justice is essential to universal and lasting peace. Since 1919 ILO brings together governments, employers and workers of 187 member States to set labour standards, develop policies and devise programmes promoting decent work for all women and men (ILO, 2019)[17]. For example, MLC was developed and adopted based on the consultation and consensus of governments, managers and seafarers. It provides consolidated standards for seafarers' decent working conditions through articles, regulations and codes. For the purpose of this dissertation, proper attention is called to its articles XIII and XIV.

Article XIII requires that the Special Tripartite Committee established by the Governing Body of ILO shall keep the working of MLC under continuous review. The Committee is required to be made up of two representatives nominated by the government of each member States and the representatives of shipowners and seafarers appointed by the Governing Body after consultation with the Joint Maritime Commission. Under this unique system, article XIV provides requirements that MLC should be amended based on balanced agreement of different interests as shown in Figure 14.

[17] Further information is given in the ILO websites: https://www.ilo.org/global/standards/introduction-to-international-labour-standards/international-labour-standards-creation/lang--en/index.htm , https://www.ilo.org/global/standards/subjects-covered-by-international-labour-standards/tripartite-consultation/lang--en/index.htm and https://www.ilo.org/global/topics/workers-and-employers-organizations-tripartism-and-social-dialogue/lang--en/index.htm

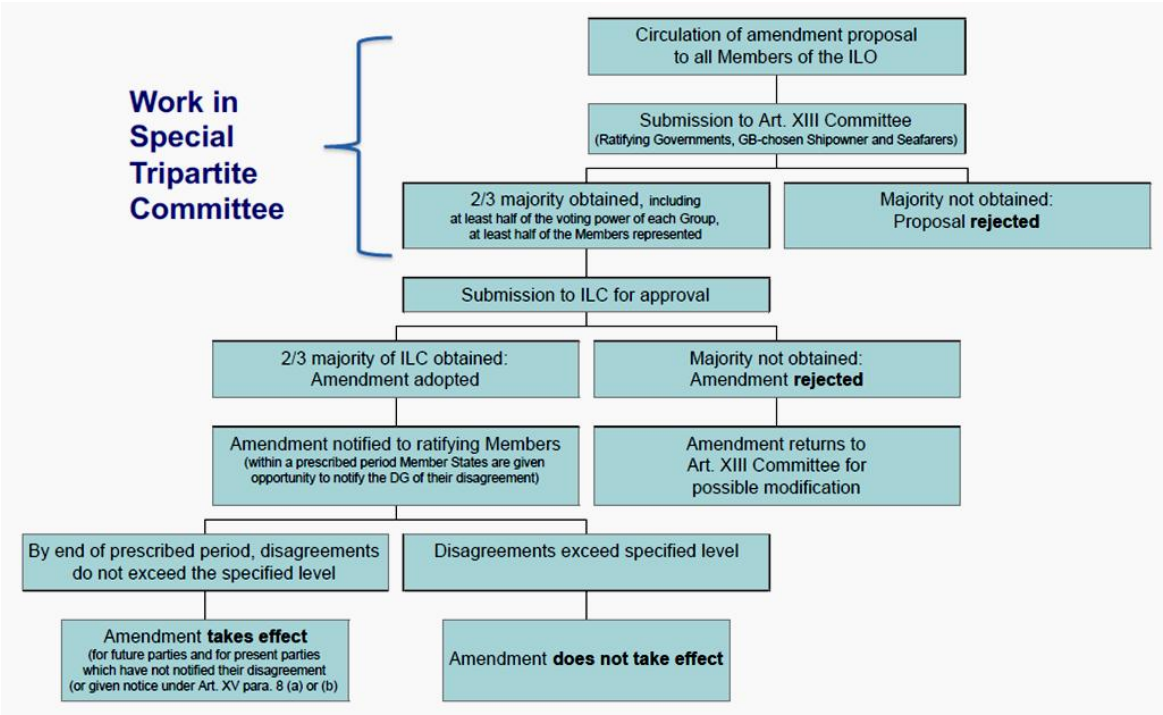

Figure 14. MLC amendment procedure

Source:Raphael Baumler (2018). *Occupational Safety and Health Standards.* Class handout, Dalian Maritime University, Dalian, China.

By employing this unique mechanism, ILO strives to ensure effective negotiation, consultation and exchange of information between representatives of governments, employers and workers in implementing and updating MLC. Because of the importance of tripartism, ILO has made the ratification and implementation of the Tripartite Consultation Convention (1976) a priority. It is believed that this mechanism ensures that employers' and workers' representatives have an equal voice with those of governments in shaping its policies and programmes (Baumler, 2018, pp.11-14).

4.2 Consideration on IMO's current mechanism to ensure effective policy making processes

ILO's unique tripartite structure is very suggestive of the desirable trade-off between

public and private interests. If IMO's policy-making procedures are looked into, the most notable is its efforts to ensure a uniform basis in proposing, considering, adopting and implementing its instruments. The best example is included in the *Organization and method of work of the Maritime Safety Committee and the Marine Environment Protection Committee and their subsidiary bodies* (MSC/MEPC Guidelines). IMO's most important instruments including the six mandatory treaties are considered, adopted and updated mainly at MSC and MEPC. The above Guidelines, therefore, include key information on how IMO makes its decisions.

IMO member States should submit any safety/security or environment related proposal to MSC or MEPC according to the MSC/MEPC Guidelines. Then those committees tasked the cognizant sub-committees to consider it to see whether the proposals are worthy of being addressed in their agenda. Based on the report of the relevant sub-committees, the committees include the proposals into their agenda so as to draft, consider, finalize and adopt them, as shown in Figure 15. The sub-committees, with no right to accepting any new proposal from member States (MSC/MEPC Guidelines, paragraph 4.9), should focus on conducting the technical work entrusted to them (MSC/MEPC Guidelines, paragraph 5.9). In fact, MSC and MEPC function as policy-making bodies while the sub-committees only play the role of technical bodies in IMO rule-making processes.

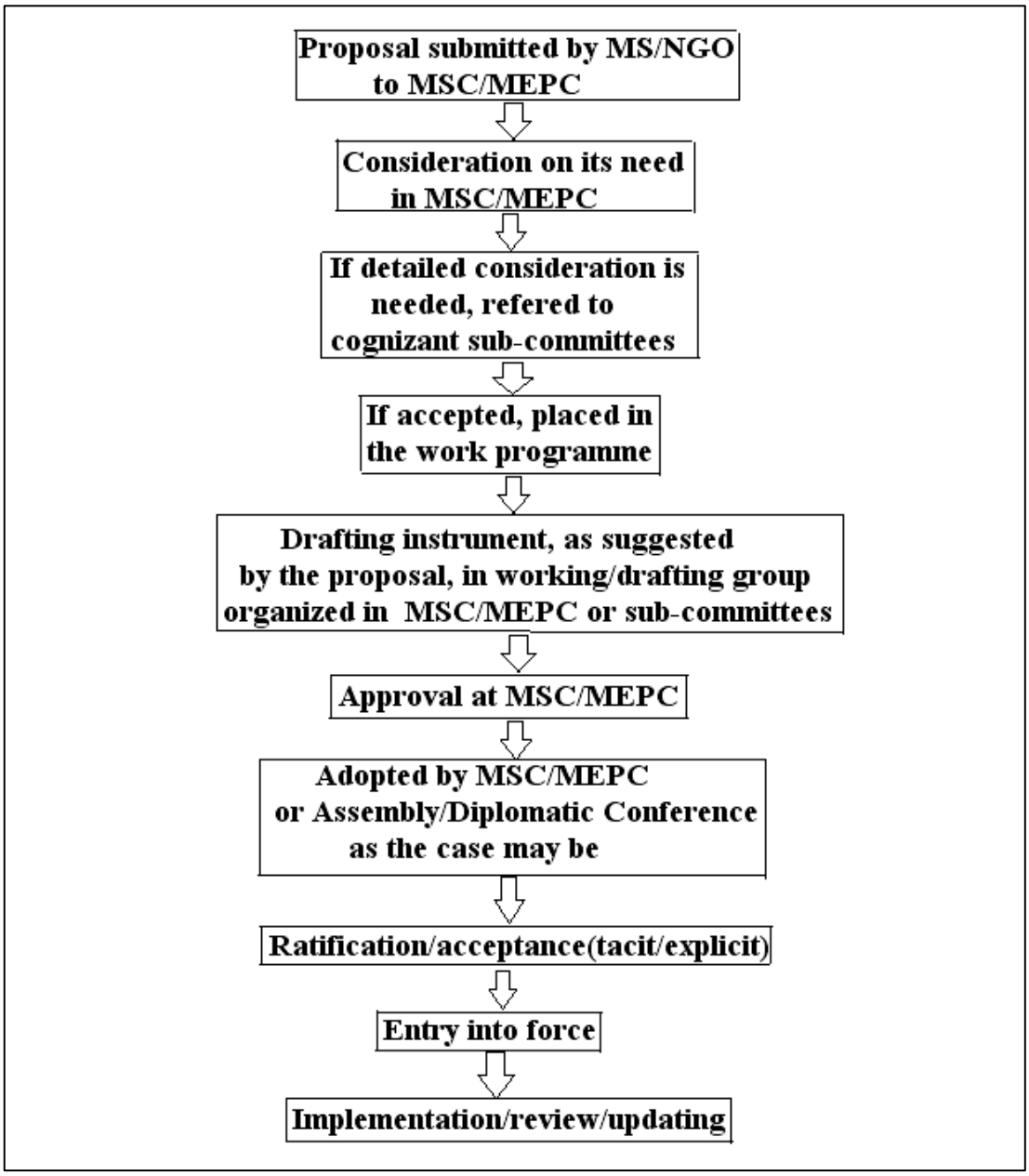

Figure 15. IMO tech rule making process in MSC/MEPC and their subsidiary bodies
Source: Author

IMO's requirements ensuring industry's participation

The MSC/MEPC Guidelines ensure industry's involvement in several provisions. First of all, MSC/MEPC, when accepting a proposal for new output of its agenda, should consider its cost-effectiveness as well as its possibility of causing

administrative burdens to maritime authorities (paragraph 4.15.5). Secondly the committees should verify whether adequate industry standards exist or not (paragraph 4.15.7).

When assessing the implication for capacity-building and technical cooperation in accordance with resolution A.998(25), the Ad hoc Capacity-building Needs Analysis Group (ACAG) is required to consult the industry. Further, the committees may request ACAG to prepare a draft description on its work for consideration by the member States as well as the industry (Annex 2 to these Guidelines.). The identification of the capacity-building implication requires the following questions to be fully answered:

- Would the industry require new and/or enhancement of existing systems?
    - Does capacity exist internationally to develop new systems?
- Is there a need for additional training of seafarers?
    - Do related and validated training courses exist?
    - Are sufficient simulation training courses available internationally?
- Will there be a requirement for new equipment?
    - Does manufacturing capacity exist internationally?
- Is there repair/servicing and/or retrofitting and does maintenance capacity exist internationally?

All the above criteria for assessment, designed to reflect the commercial groups' interest, can be fully met only when the industry players actively participate in the consideration.

The above analysis shows that the MSC/MEPC Guidelines focus on Authorities'

administrative burden as well as industry's financial burden when considering new safety/environmental protection measures. In this context, member Governments may take it as granted to include industry officials from private companies into their national delegations to IMO meetings.

IMO's requirements ensuring NGO's participation

ACAG is required to consult NGOs as well, when it works. In the existing IMO's policy-making processes, NGOs' role can't be overestimated under the relevant IMO's rules. They exercise their influence over IMO's policy-making through the IMO's consultative membership scheme.

IMO grants a consultative status to an NGO in accordance with the *Rules and Guidelines for Consultative Status of Non-governmental International Organizations with the International Maritime Organization* (Consultancy Rules) if it can reasonably be expected to make a substantial contribution to IMO's work. Rule 1 of these Rules provides the criteria of determining this contribution as follows:

(a) whether the NGO's purposes are directly related to that of IMO and fully in harmony with the spirit and functions of IMO;

(b) whether the NGO's activities have a direct bearing on the main purposes of IMO as a whole, or on the work of any of the committees or sub-committees or on the matters dealt with in any conventions in respect of which IMO performs depositary or other functions;

(c) whether the NGO has demonstrated that it has considerable expertise as well as the capacity to contribute, within its field of competence, to IMO's work; and

(d) whether there are any programmes or projects of the NGO which can reasonably be considered as demonstrating the relevance of the NGO's work and

interests to those of IMO.

In the above criteria, IMO focuses on the relevance between IMO and NGOs in terms of purposes and activities and NGOs' efficiency in respect of capabilities and resources. Once an NGO is granted by IMO with the consultative status, it will be endowed with specific privileges including the right to receive the IMO meeting plans and resolutions, the right to be represented by an observer at meetings and the right to submit documents on items of the agenda of IMO's organs. Instead, the NGO should make a substantial contribution to IMO's work through its technical expertise and inform the IMO Secretary-General of its activities which are likely to be of interest to IMO.

IMO's Council periodically review the contribution that the NGOs with consultative statuses make and report to the Assembly accordingly. If the report indicates that changes occur in the nature, purposes or activities of an NGO or that its contribution is not so satisfactory, then the Assembly decides the withdrawal of the NGO's consultative status.

IMO's limits to private interests' involvement in the existing mechanism and analysis thereof

As far as IMO is an intergovernmental agency, it aims at ensuring full and fair representation of its member governments while it sets some limits to NGO's involvement in its policy-making processes.

Rule 6 of the Consultancy Rules confers on NGOs the right to submit documents to IMO meetings. If the documents include proposals for the inclusion of new outputs, they should be co-sponsored by member States in accordance with paragraph 4.11 of the MSC/MEPC Guidelines.

IMO grants its consultant NGOs with the right to attend its meetings but the

attendance is confined to specialist consultancy. Rule 7 of the Consultancy Rules requires that one observer from each NGO shall be admitted to any meeting. Such observer has no voting rights but may speak on any issue in the interest of his/her NGO with the approval of the committees or sub-committees. However, this rule is not observed in practice. For example, MEPC saw 18 observers from ICS, 7 from INTERTANKO, 4 from INTERCARGO, 5 from WSC, etc. (MEPC 72/INF.1) while MSC 99 witnessed 14 representatives from ICS, 5 from BIMCO, 4 from INTERTANKO, 3 from INTERCARGO, etc. (MSC 99/INF.1) And there was no explanation for these exceeding numbers.

IMO permits no duplication in the contribution of its consultant organizations. The Consultancy Rules stipulates in Rule 3 that consultative status should not be granted where each of two or more rival organizations purports to represent a particular interest to the exclusion of the others. This is the only rule in IMO's legal framework which attempts to prevent conflicts. However, this rule focuses on conflict between organizations of similar service, but not the conflicts of interests between public and private agencies. For example, when the International Association of Technical Survey and Classification Institutions (TSCI) applied to IMO for its consultant status, the IMO Council, at its 120th session, decided not to grant such status to it, due to the concern that TSCI's contribution may overlap and, therefore, conflict with that of the International Association of Classification Societies (IACS) which had already provided IMO with its consultant assistance since long ago (C 120/D, p.15).

The above review shows that IMO has recognized both the importance of the consultancy with the industry and the drawbacks of its over-involvement in the maritime policy-making and has taken appropriate actions accordingly. The only thing that IMO has missed is adequate attention to prevention against conflicts of public and private interests in IMO forums. The disproportionate representation of

different interests in IMO forums is indicated in the recent IMO documents on the lists of participants as illustrated in Table 11. MEPC 71 and MSC 71, the IMO forums with hottest topics, witnessed participants from trade associations accounting for 53.8%[18] of all while those from CSOs for 20.7%[18] only. However, TC 67, mainly addressing the topic of technical cooperation for developing States, was attended by trade association representatives constituting only 21%[18] of all. This unbalanced representation indicates the partial influence of different interests. It also implies what is the greatest concern of private interests in the IMO forums.

CATEGORY	Trade association	Labour organisation	Civil society organisation	International non-governmental organisation	Miscellaneous	Total
Marine Environment Protection Committee 71	135	32	52	27	5	**251**
Maritime Safety Committee 71	127	46	12	6	6	**197**
Technical Cooperation Committee 67	4	3	0	10	2	**19**
Legal Committeee 104	21	9	0	9	0	**39**
Facilitation Committee 41	25	11	0	10	0	**46**
Total	**312**	**101**	**64**	**62**	**13**	**552**

Table 11. The number of NGO participants present at recent IMO meetings, grouped by interest and activities

Source: TI (2018). Governance at the International Maritime Organization. The case for reform. Berlin: Author.

Private interest groups are notably active discussers at IMO meetings. At MEPC 71, for example, consultative participants submitted 37 documents of which 26 were from trade associations while the others from CSOs (MEPC 71/17). Rule 7 of the Consultancy Rules allows in principle for all the NGOs' constructive participation. However, the consultative CSOs which represent environmental and climate change concerns at committees suffer from limited participation in correspondence groups

[18] Calculated by the author based on the figures listed in Table 11.

and working groups elsewhere in IMO, perhaps due to lack of resources (TI, 2018, p.25).

FSA considered as IMO's most notable existing mechanism to ensure the trade-off between public and private interests

Though IMO is one of the smallest of UN agencies, it is regarded as a model of regulatory efficiency having developed a wide range of international treaties governing every aspect of maritime affairs. It has a great reputation of having provided an example of what can be achieved by governments when they make a serious decision through international cooperation (ICS, 2018, p.26). From the outset IMO has attempted to ensure effective cooperation between States and between governments and industry and, thus, accumulated valuable experience therein. For example, IMO's Formal Safety Assessment (FSA) mechanism contributes to adoption of safe, secure, clean and efficient measures.

FSA, set forth in MSC-MEPC.2/Circ.12/Rev.2, serves as a structured and systematic methodology, aiming to promote maritime safety and protect marine environment by using risk analysis and cost-benefit assessment. IMO approved the first version of FSA guidelines at MSC 74 in 2001 and consistently updated them to see the latest version in 2018. FSA is designed to constitute a tool which may be used in the IMO rule-making process. The introduction of FSA to the IMO rule-making process represented a fundamental change from what was previously a largely piecemeal and reactive regulatory approach to one which is proactive, integrated, and above all based on risk evaluation and management in a transparent and justifiable manner thereby encouraging greater compliance with the maritime regulatory framework, in turn leading to improved safety and environmental protection (Hesse, 2018, p.44).

According to the FSA guidelines, when any proposal to adopt a new instrument or to

amend the existing one is brought forward, its value is required to be demonstrated through risk and cost analysis. As shown in Figure 16, FSA comprises five steps including hazards identification, risk analysis, risk control option (RCO) identification, cost benefit assessment and recommendations for decision-making. The FSA process commences with the decision-makers defining the problem to be assessed along with any relevant conditions. These are referred to the FSA group consisting of subject experts including technical and industry representatives who will carry out FSA and submit the results thereof to the decision makers. The group members should be suitably qualified and experienced. They analyze the relevant risks, propose an RCO accordingly and assess the cost-effectiveness of the RCO. If both the risk controlling ability and cost benefit of the RCO are fully demonstrated, the decision-makers are to accept it (MSC-MEPC.2/Circ.12/Rev.2).

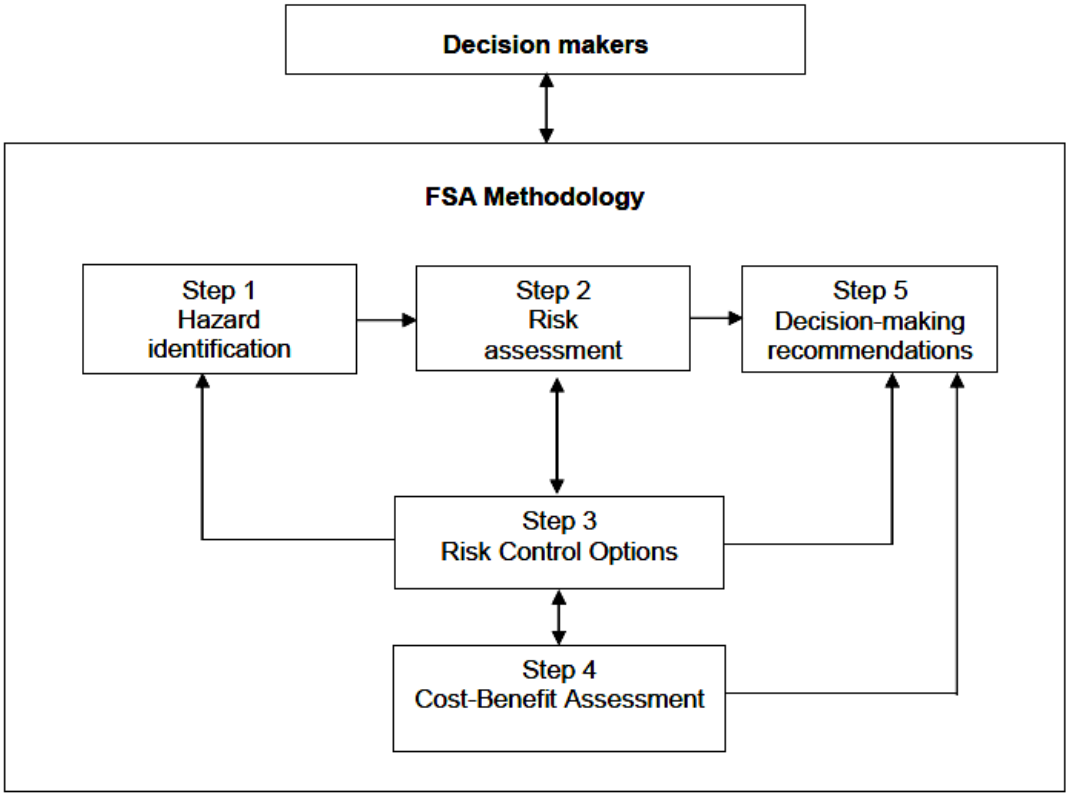

Figure 16. Flow chart of the FSA methodology

Source: IMO (2018). Revised Guidelines for Formal Safety Assessment (FSA) for Use in the IMO Rule-making Process (MSC-MEPC.2/Circ.12/Rev.2). London: Author.

FSA has been suitably employed across the IMO forums to contribute to trade-off, transparency and efficiency in the IMO rule-making processes. For example, IACS identified the hazards concerning general cargo ships, assessed the related risks accordingly as shown in Table 12, identified possible 32 RCOs thereabout and analyzed their cost-benefits. Following these proceedings, it distinguished acceptable RCOs from unacceptable ones. For the purpose of this dissertation, RCOs 2 and 20 will be taken as examples among them.

Accident category	Casualties	Frequency per ship year	Consequences				
			Fatalities	Fatalities per ship year	Pollution events	Days out of service	General Cargo Ship losses
Collision (CN)	238	5.5 E-03	99.7	2.3E-03	2	1~45	22
Contact (CT)	99	2.3 E-03	12.1	2.8E-04	2		2
Foundering (FD)	64	1.5 E-03	220	5.1E-03	1	--	59
Fire/explosion (FX)	116	2.7 E-03	20.2	4.7 E-04	1	1~10	11
Hull damage (HD)	86	2.0 E-03	12.2	2.8 E-04	0	1~14	1
Wreck/Stranding (WS)	325	7.5 E-03	61	1.4E-03	9	2~16	22
Machinery damage (MD)	533	1.2 E-02	13.1	3.0 E-04	1	1~21	1
TOTAL	1,461		438.3				

Table 12. Casualty statistics and accident frequencies for general cargo ships (1997-2008)

Source: IMO (2010). MSC 88/INF.8, p.9.

RCO2 on ECDIS integrated with AIS and RADAR was anticipated to contribute to reduction of the risk of stranding and collision because it will enable the officer of watch to pay attention only to one display without jumping between three displays. In the step 4, its Gross Cost of Averting a Fatality (GCAF) was calculated as

follows[19].

$$GCAF = \frac{\text{Cost of RCO}}{\text{PLL}} = \frac{(\text{US\$ } 34{,}800 + \text{US\$ } 40{,}872) \div 25 \text{ years}}{3.75\text{E-}04} = \text{US\$ } 8{,}027{,}000$$

US$ 34,800: initial cost[20]
US$ 40,872: total operating cost[20]
25years: general cargo ships' life time[20]
PLL: potential loss of life

Given this RCO's economic benefit as estimated US$ 2,960[20], its Net Cost of Averting a Fatality (NCAF) was calculated as follows[19].

$$NCAF = \frac{\text{Cost of RCO} - \text{Economic benefit}}{\text{PLL}} = \frac{\text{US\$ } 3{,}027 - \text{US\$ } 2{,}960}{3.75\text{E-}04} \approx \text{US\$ } 178{,}667$$

As for RCO 20 on port State control (PSC) inspector training on general cargo ships, foundering accidents would be able to reduce by 42% (MSC 88/INF.6, p.86). This RCO aims at increasing PSC inspectors' expertise with respect to technical inspection on ships. Given its total operating cost for 25 years—US$ 3,125 (MSC 88/INF.6, p.76), its GCAF was calculated as follows[19].

$$GCAF = (\text{US\$ } 3{,}125 \div 25 \text{ years}) / 1.10\text{E-}03 \approx \text{US\$ } 113{,}636$$

The economic benefit per ship year was estimated US$ 2,431 (MSC 88/INF.6, p.76) and, hence, the NCAF was calculated as follows[19].

$$NCAF = (\text{US\$ } 3{,}125 \div 25 \text{ years} - \text{US\$ } 2{,}431) / 1.10\text{E-}03 \approx \text{US\$ } -2{,}096{,}364$$

The calculated GCAF values are used to justify the RCOs for their life saving capabilities while the NCAF values are summed up to see the need of regulation of the RCOs with economic benefit taken into account. Any RCO is considered

[19] Calculated by the author based on the data in IMO documents MSC 88/INF.6 and MSC 88/INF.8.

[20] Provided by IACS in document MSC 88/INF.6

acceptable if its GCAF is below US$ 3 million while its NCAF is negative (Skjong, 2019). As listed in table 13, the above FSA study shows that RCO 20 is a desirable solution in respect of risk reduction and economic benefits as against RCO 2.

RCO	Reducing risk	Total operating cost ($)	PLL (fat./ ship year)	Benefit ($/ship year)	GCAF	NCAF
RCO 2	CN, WS	75,672	3.75E-04	2,960	8.1E+06	1.8E+05
RCO 20	FD	3,125	1.10-03	2,431	1.1E+05	-2.1E+06

Table 13. Summarized results of CBA on RCOs 2 and 20
Source: Author complied from IMO (2010). MSC 88/INF.8, p.16 and based on the author's own calculations.

The other RCOs were analyzed likewise. A summary of the results from the above FSA study was submitted by IACS in document MSC 88/INF.8 to MSC 88 (MSC 88/19/2). MSC 88 (MSC 88/26, p.79) and MSC 89 (MSC 89/25, p.73) discussed the IACS's document and agreed to instruct the FSA groups to further consider the recommended RCOs 17, 20, 26, 27 and 28. MSC 90, after considering document MSC 90/WP.7 containing the report of the GBS/FSA working group, agreed to include those recommended RCOs related actions into the relevant sub-committees' biannual agenda (MSC 90/28, pp.78-91).

As seen above, the FSA methodology is quite suggestive of what the public wants to see in the international forum in which complex standards should be established through cooperation between several interests. It contains good ideas to make possible the full balance between the public requirements and private interest.

CHAPTER 5. CONCLUSION

5.1 Findings

In the above chapters, the dissertation made an analysis of what is going on in the international maritime forums, based on TI's assessment of IMO's governance. Focusing on the issue of conflicts of interests, it attempted to answer the question whether the industry's involvement really has a negative impact on IMO forums and, if so, how to tackle this problem.

As a regulatory body for shipping, IMO regards the consultation with the industry as inevitable. IMO is not a regulator itself but a forum in which its 170 member States can engage with one another and agree common global standards and policies. IMO has so far functioned as a wonderful forum for shipping regulation. Because it provides all the maritime States and interest groups with reasonable opportunities to enjoy the achievable harmony in setting complex maritime standards, the maritime world underwent the radical betterment which was inconceivable before IMO was born. Thanks to IMO's tireless efforts to promote maritime safety and ensure sound growth of shipping, the world community has come to achieve the systematic and well-defined maritime legal framework as illustrated in Figure 4 and, therefore, make sure that its zero-accident dream will be realized in due course as implied in Figures 6, 7 and 8. It is out of question that the industry made tangible contributions to these achievements through the consultancy scheme of IMO.

Yet IMO's work leaves much to be desired as TI's report indicates. The above analysis also shows some undesirable pictures of the IMO decision-making system which are quite different from what the public would like to see. For example, the studies on the ISM Code offers meaningful hints thereabout. Before seeking an effective way of adding better amendments to the ISM Code, the root cause for the relevant problems

are to be first identified in the IMO governance system so that appropriate actions could be taken for improvement of IMO policy-making processes.

In this age of development, nothing stands still. Continuous betterment should be sought for without stagnation caused by over-conceit on the past achievement. TI's report provides a hint that it is the time for IMO to make a sound judgement whether its existing shortcomings are diseases subject to medication or surgery.

5.2 Recommendations

In conclusion, it is the name of the game to ensure better balanced representation of different interests in IMO forums. This dissertation, recognizing both the great achievements and considerable inadequacies of IMO, recommends the following, on the basis of the above comprehensive analysis.

Appointment of member State delegations

It is invited to establish a uniform set of rules that regulates the nomination of the delegations by the IMO member States. These rules are supposed to aim at offering a universal standards for the member States to ensure better representation of the public interest in IMO forums.

It is recommended that these rules, inter alia, should provide the IMO member States with an appropriate methodology of how they can fully demonstrate the absence of conflicts of interests within their national delegations as well as across the IMO meetings. Preferably, the rules are recommended to allow for the inclusion of private industry officials only into non-Council member States' delegations. It is considered as an acceptable mechanism not only to prevent over-influence of Council member States but also to remedy the under-representation of disadvantageous member States illustrated in Table 10.

If this is the case, some concerns may be raised about vacuum of technical expertise and experience to evolve in the forums. IMO, however, can dispel such concerns by employing or improving its existing mechanism. The MSC/MEPC Guidelines, paragraph 4.6, requires that submissions containing proposals for new outputs must be justified with regard to the following aspects, set out in annex 1 to the Guidelines:

- whether the proposal is within the scope of IMO's mission;
- its need in terms of the risks or hazards which are deemed necessary to be addressed;
- its practicability, cost to the maritime industry as well as the relevant legislative and administrative burdens;
- benefits anticipated from its introduction;
- availability of the relevant industry standards;
- whether human elements are sufficiently addressed;
- its urgency; and
- action required.

The above requirements are designed to facilitate MSC/MEPC's assessment of such submissions. When the submissions containing the above demonstration are circulated throughout the IMO member States before the relevant meetings, the industry is provided with full opportunity of pre-meeting consideration of the submissions in economic terms. Further, IMO has FSA mechanism in place. Its proceedings shown in Figure 16 proved very helpful for demonstrating the practicability, transparency and efficiency of newly proposed measures at IMO meetings. IMO's FSA is considered as one of the most effective and efficient mechanisms which aims to ensure the full balance between the public and private interests, as analyzed in IACS's examples above. If IMO reinforces and updates all its relevant existing mechanisms in FSA as well as in annex 1 to the MSC/MEPC Guidelines, the consultation with the industry

will be further improved without physical participation of the industry representatives at IMO meetings as IMO's online document circulation system enables full pre-meeting brainstorming. In other words, it is anticipated to contribute not only to saving too many industry representatives the physical participation at the meetings but also to minimizing the lack of voice of developing States across several IMO forums by limiting the over-participation of the industry personnel from influential States. As such, it will enable IMO to fully prove its efforts of preventing the over-involvement by the industry in its rule-making.

It is also recommended to consider transferring the headquarters of IMO from the UK to a more geographically suitable State. Since the number and roles of the newly emerging maritime States are increasing in Asia as implied in Table 7, there is no longer a need to hold fast to the traditional European maritime hub. Moreover, the high expenses in the UK is considered to cause an uncontrollable burden to LDCs or SIDSs in maintaining a permanent mission to IMO. On top of that, the UK is geographically far away from most of LDCs or SIDSs, which may constitute one of their disadvantages in sending suitably large delegations to IMO meetings. If IMO's headquarters will be transferred to a more geographically and economically advantageous place, the operating cost of IMO itself will also be considerably saved, which will lead to greater part of its budget allocated to international cooperation. Taking this opportunity, IMO is recommended to make a critical decision of its new location for its present as well as for its future.

Besides, IMO is invited to consider forum-specific standards for its member States' delegation appointment system. For example, the Sub-Committee on Human Element, Training and Watchkeeping (HTW) addresses human element related issues that require the loud voice from seafarers. Thus, it is needed to consider regulating the participation of representatives from governments, shipowners and seafarers at HTW

meetings. Besides, it is worthy of considering the participation of seafarer representatives in other sub-committees when these sub-committees discuss the ship design or shipborne equipment which requires ergonomics and user-friendliness. IMO is recommended to seek for a effective methodology of encouraging seafarers' involvement in IMO policy-making.

Balanced participation of CSOs and trade associations in IMO policy-making

IMO is invited to take appropriate actions to ensure better balanced participation of CSOs and trade associations at its meetings.

The above analysis considers that CSOs are frequently exceeded by trade associations at IMO meetings, as shown in Table 11, perhaps mainly due to lack of resources of CSOs. As mentioned above, paragraph 4.11 of the MSC/MEPC Guidelines requires that submissions from NGOs for the inclusion of new outputs be co-sponsored by member States. It is recommended to extend the application scope of this paragraph to promotion of the close relationship between CSOs and industry interest groups. For example, the existing Consultancy Rules may be amended to require that, when an industry group submits any environmental protection related proposal to IMO, it should be co-sponsored by an environment related CSO. When a trade association submits any human element related proposal, that proposal may be required to be co-sponsored by a trade union or seafarers association. These new regulations are anticipated to further improve the current consultancy scheme of IMO in terms of fairness, transparency and efficiency.

The principle of "one observer from each NGO" in Rule 7 of the Consultancy Rules is required to be reviewed. Why this Rule has been breached so overtly remains a big question. Consideration is needed. If Rule 7 is found unreasonable, it should be amended accordingly, but if not, appropriate actions should be taken to ensure

compliance with it with a view to the desirable balance in representation between CSOs and industry organizations. If more than one observer must necessarily participate in a meeting, the reasonable ground for it should be provided to the relevant committees or sub-committees.

TI' report recommendations include the development of the Code of Conduct governing the behaviors of delegates of IMO's member States and even providing for sanctions against the breach of the Code. This dissertation would not go so far as to comment this sensitive issue, but firmly believe that IMO will bring about a radical turn in its work to create the bright maritime future which the public wants to see. IMO has so far shown a wonderful model of continuously reviewing its mission and vision to achieve and maintaining and improving its overall governance resources and processes. This dissertation hopes that such model will be ever-lasting thanks to IMO's tradition of boldly acknowledging and overcoming its demerits and wisely valuing and enriching its merits.

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* * *

Appendix 1 Make-up of delegations from some selected IMO member States at MEPC 72 and MSC 99

Author compiled from IMO (2018)[21]

MEPC 72

BRAZIL

Head of Delegation

Adm. Sergio Roberto Fernandes dos Santos, Brazilian Permanent Representative to IMO, Brazilian Permanent Representation to IMO

Representative

H.E. Mr. Hermano Telles Ribeiro, Ambassador, Permanent Representative of Brazil to International Organizations in London, Permanent Representation of Brazil to International Organizations in London

Alternates

Capt. Carlos Henrique de Lima Zampieri, Alternate Permanent Representative of Brazil to IMO, Brazilian Permanent Representation to IMO

Ms. Ana Paula Simões Silva, Minister Counsellor, Alternate Permanent Representative of Brazil to IMO, Permanent Representation of Brazil to International Organizations in London

Advisers

Cdr. André Ricardo Araujo Silva, Mission Officer, Brazilian Permanent Representation to IMO

R. Adm. Gilberto Santos Kerr, Assistant Coordinator, Coordinating Committee for IMO Matters (CCA-IMO), Brazilian Navy

Mr. Nilson José Lima, Chief Engineer Officer (Merchant Marine), Mission

[21] Extracted from the data included in MEPC 72/INF.1 and MSC 99/INF.1.

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Ms. Marcia Jorio Villares da Costa, Technical Officer, Brazilian Permanent Representation to IMO

Mrs. Ellen Mucke, Technical Officer, Brazilian Permanent Representation to IMO

Mr. Heiland Serotiuk Lyrio, Technical Officer, Brazilian Permanent Representation to IMO

Mr. Marco Antonio Costa Tritto, Bunker, Fuel, Oil, Residuals and Feedstock Trading Manager, Brazilian Petroleum Company (PETROBRAS)

Mr. Luiz de Andrade Filho, Third Secretary, Ministry of Foreign Affairs

Mr. Carlos Alberto Carloni, Director, Norsul Shipping Company

Mr. Luiz Gylvan Meira Filho, Visiting Researcher, Institute of Advanced Studies, University of Sao Paulo - Brazil

Mr. Jorge Antonio Lopes, Environmental Consultant, Ministry of Mineral Resources and Energy/Brazilian Petroleum Company (PETROBRAS)

Mr. Robson Calixto, Manager, Ministry of the Environment

Mr. Rodrigo Madeira Bermelho, Naval Engineer, Vale S.A.

Mr. Erasto Almeida, External Affairs Manager, Vale S.A.

Mr. Péricles Vieira Filho, Master Mariner, Vale S.A.

Mr. Rafael Fisher Dutra e Mello dos Santos, Naval Engineer, Vale S.A.

CHINA

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Mr. Yunzhi Fan, Senior Engineer, China Classification Society (CCS)

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Mr. Lu Li, Senior Engineer, China Classification Society (CCS)

Mr. Leyi Dong, Director, China Maritime Safety Administration

Mr. Min Xu, Director, Shanghai Maritime Safety Administration

Mr. Bo Zhang, Principal Staff, Hebei Maritime Safety Administration

Mr. Ji Chen, China Ocean Shipping (Group) Company

Ms. Yuan Fang, Deputy Director, Ministry of Foreign Affairs

DEMOCRATIC PEOPLE'S REPUBLIC OF KOREA

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Mr. Takashi Yamamoto, Japan Ship Technology Research Association

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Mr. Takashi Yonezawa, Japan Ship Technology Research Association

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MSC 99

BRAZIL

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DEMOCRATIC PEOPLE'S REPUBLIC OF KOREA

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INDIA

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Mr. Takumi Yoshida, Japan Ship Technology Research Association

Mr. Takuya Nakashima, Japan Ship Technology Research Association

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Mr. Kenshi Yoshimura, Surveyor, Hull Rules Development Department, Rule Development and ICT Division, Nippon Kaiji Kyokai (Class NK)

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Mr. Shinji Takiguchi, The Shipbuilders' Association of Japan (SAJ)

Mr. Tamio Kawashima, General Manager, Europe District Branch, The Japanese Shipowners' Association

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Cdr. Masahiro Kurohara, Manager, International Office, The Japan Association of Marine Safety

Mr. Yoshihiro Toyomitsu, Deputy Director, International Affairs Bureau, All Japan Seamen's Union

Mr. Nobuyuki Ito, Manager, Marine Electronics Engineering Department, Marine Systems Division, Japan Radio Co., Ltd.

Mr. Daiju Ichinose, Manager, QZSS Promotion Office, NEC Corporation

Mr. Yoshiyuki Murai, Senior Technical Marketing Specialist, KANEMATSU Corporation

RUSSIAN FEDERATION

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UKRAINE

Head of Delegation

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Advisers

Mr. Edward Statton, Policy Adviser, International Shipping and Counter Piracy, Maritime Security and Resilience Division, Department for Transport (DfT)

Mr. Glenn Richardson, Assistant Director, Business Governance, Maritime and Coastguard Agency (MCA)

Ms. Katrina Kemp, Smart Ships and Automation Policy Officer, International Liaison Branch, Maritime and Coastguard Agency (MCA)

Mr. Ronald Allen, Policy Lead, Stability, Marine Technology Branch, Maritime and Coastguard Agency (MCA)

Mr. Simon Owens, Policy Lead, Fire Safety and Engineering, Marine Technology Branch, Maritime and Coastguard Agency (MCA)

Mr. Nico Ramos, Policy Lead, Life Saving Appliances, Maritime and Coastguard Agency (MCA)

Ms. Fena Boyle, Nautical Manager, UK Chamber of Shipping

Mr. Anderson Chaplow, Senior Specialist, Marine, Lloyd’s Register EMEA

Mr. Andrew Sillitoe, Lead Specialist, Regulatory Affairs, Lloyd's Register EMEA

Dr. Jack Corbett, Associate Professor in Politics, Politics and International Relations, University of Southampton

Mr. John Dodd, Director of Safety and Standards Maritime, Inmarsat

Mr. Robert Carington, Policy Adviser, UK Chamber of Shipping

Mr. Rakesh Pandit, Nautical Policy Lead, Navigation Safety, Maritime and Coastguard Agency (MCA)

UNITED STATES

Head of Delegation

R. Adm. John Nadeau, Assistant Commandant for Prevention Policy, United States Coast Guard, Department of Homeland Security

Representatives

Mr. Jeffrey G. Lantz, Director, Commercial Regulations and Standards, United States Coast Guard, Department of Homeland Security

Ms. Trisha Bergmann, International Affairs Specialist, National Oceanic and Atmospheric Administration

Lt. Cdr. Joel Coito, Coast Guard Liaison Officer, Department of State

Capt. Albert Janin, Admiralty Counsel of the Navy, Office of the Judge Advocate General Naval League Service Command

Cdr. Jason Levy, Oceans Policy Adviser, The Pentagon-Office of the Secretary of Defense

Ms. Mayte Medina, Chief, Maritime Personnel Qualifications Division, Commercial Regulations and Standards Directorate, United States Coast Guard, Department of Homeland Security

Cdr. John Miller, Chief, Systems Engineering Division, United States Coast Guard, Department of Homeland Security

Mr. Cameron Naron, Adviser, Department of Transportation

Lt. Cdr. Jeffrey Noyes, Attorney Adviser, Prevention Law Division, Office of Maritime and International Law, United States Coast Guard, Department of Homeland Security

Mr. Gregory J. O'Brien, Senior Oceans Policy Adviser, Office of Ocean and Polar Affairs, Bureau of Oceans and International Environmental and Scientific Affairs, Department of State

Mr. Jaideep Sirkar, Chief, Naval Architecture Division, Office of Design and Engineering Standards, United States Coast Guard, Department of Homeland Security

Mr. Louis Bell, Electronics Engineer, Federal Communications Commission

Advisers

Ms. Nina Beebe, Director, Emerging Markets, Access Partnership

Mr. Bryan Hartin, Executive Vice President, Iridium

Ms. Dena Brownlow, Counsellor for Environment, Science, Technology and Health, Permanent Representative of the United States of America to IMO, Embassy of the United States of America, London

Ms. Tatiana Lawrence, Vice President, International Regulatory Affairs, Iridium

※ Some States such as Sierra Leon or Tonga failed to send their delegations to MEPC 72 and MSC 99.

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Appendix 2 Non-governmental Organizations in Consultative Status by Interests/Activities

(Categories as approved by C 108 — Related documents: 15(d)/1 and D)

Updated by IMO in July 2018[22]

CARGO AND PORTS	Consultative status granted in
INTERNATIONAL ASSOCIATION OF PORTS AND HARBORS (IAPH)	1967
ICHCA INTERNATIONAL LTD. (Previously International Cargo Handling Co-ordination Association (ICHCA))	1969
EUROPEAN CHEMICAL INDUSTRY COUNCIL (CEFIC) (Previously European Council of Chemical Manufacturers' Federations (CEFIC) and European Centre of Chemical Manufacturers' Federations (CEFIC))	1971
INSTITUTE OF INTERNATIONAL CONTAINER LESSORS (IICL)	1975
INTERNATIONAL ASSOCIATION OF OIL & GAS PRODUCERS (IOGP) (Former acronym (OGP). Previously The Oil Industry International Exploration & Production Forum (E & P Forum))	1975
SOCIETY OF INTERNATIONAL GAS TANKER AND TERMINAL OPERATORS LTD. (SIGTTO)	1983
DANGEROUS GOODS ADVISORY COUNCIL (DGAC) (Previously Hazardous Materials Advisory Council (HMAC))	1989
WORLD NUCLEAR TRANSPORT INSTITUTE (WNTI)	1999
INTERNATIONAL BULK TERMINALS ASSOCIATION (IBTA)	2001
INTERNATIONAL VESSEL OPERATORS DANGEROUS GOODS ASSOCIATION, INC. (IVODGA) (Previously Vessel Operators Hazardous Materials Association, Inc. (VOHMA))	2001
INTERNATIONAL BUNKER INDUSTRY ASSOCIATION (IBIA)	2005
BUREAU INTERNATIONAL DES CONTAINERS ET DU TRANSPORT INTERMODAL (BIC)	2011
INTERNATIONAL IRON METALLICS ASSOCIATION LTD. (IIMA)	2011

[22] Further information is given in the IMO website: https://docs.imo.org/Category.aspx?cid=746

ENVIRONMENT	Consultative status granted in
FRIENDS OF THE EARTH INTERNATIONAL (FOEI)	1973
THE INTERNATIONAL TANKER OWNERS POLLUTION FEDERATION LTD. (ITOPF)	1981
INTERNATIONAL UNION FOR CONSERVATION OF NATURE (IUCN) (Previously World Conservation Union (IUCN)) (Previously World Conservation Union (IUCN))	1981
ADVISORY COMMITTEE ON PROTECTION OF THE SEA (ACOPS)	1983
GREENPEACE INTERNATIONAL	1991
WORLD WIDE FUND FOR NATURE (WWF)	1993
IPIECA Limited (IPIECA)	1995
INTERNATIONAL OCEAN INSTITUTE (IOI)	1999
INTERNATIONAL FUND FOR ANIMAL WELFARE (IFAW)	2007
INTERNATIONAL SPILL CONTROL ORGANIZATION (ISCO)	2007
PACIFIC ENVIRONMENT	2011
CLEAN SHIPPING COALITION (CSC)	2011
THE PEW CHARITABLE TRUSTS (Pew)	2017

INSURANCE	Consultative status granted in
INTERNATIONAL UNION OF MARINE INSURANCE (IUMI)	1961
INTERNATIONAL GROUP OF PROTECTION AND INDEMNITY ASSOCIATIONS (P & I Clubs)	1979

LEGAL	Consultative status granted in
COMITÉ MARITIME INTERNATIONAL (CMI)	1967
IBEROAMERICAN INSTITUTE OF MARITIME LAW (IIDM)	1995

NAVIGATION	Consultative status granted in
INTERNATIONAL ASSOCIATION OF MARINE AIDS TO NAVIGATION AND LIGHTHOUSE AUTHORITIES (IALA)	1961
COMITÉ INTERNATIONAL RADIO-MARITIME (CIRM)	1961
INTERNATIONAL MARITIME PILOTS' ASSOCIATION (IMPA)	1973

PROFESSIONAL AND REPRESENTATIVE BODIES	Consultative status granted in
INTERNATIONAL FEDERATION OF SHIPMASTERS' ASSOCIATIONS (IFSMA)	1975
THE INSTITUTE OF MARINE ENGINEERING, SCIENCE AND TECHNOLOGY (IMarEST) 1995 (Previously The Institute of Marine Engineers (IME) and (ImarE))	1995
INTERNATIONAL HARBOUR MASTERS' ASSOCIATION (IHMA)	2001
THE ROYAL INSTITUTION OF NAVAL ARCHITECTS (RINA)	2001
INTERNATIONAL TRANSPORT WORKERS' FEDERATION (ITF) (Transferred to ITF from the International Confederation of Free Trade Unions (ICFTU), 1961)	2007
THE NAUTICAL INSTITUTE (NI)	2009
WOMEN'S INTERNATIONAL SHIPPING AND TRADING ASSOCIATION LIMITED (WISTA International)	2018 (subject to endorsement by A31)

RESCUE	Consultative status granted in
INTERNATIONAL SALVAGE UNION (ISU)	1975
INTERNATIONAL MARITIME RESCUE FEDERATION (IMRF) (Previously International Lifeboat Federation (ILF) and International Lifeboat Conference (ILC))	1985

SECURITY	Consultative status granted in
INTERNATIONAL ASSOCIATION OF AIRPORT AND SEAPORT POLICE (IAASP)	2009

SHIPBUILDING	Consultative status granted in
COMMUNITY OF EUROPEAN SHIPYARDS' ASSOCIATIONS (CESA) (Previously Association of European Shipbuilders and Shiprepairers (AWES))	1979
SUPERYACHT BUILDERS ASSOCIATION (SYBAss)	2011
ACTIVE SHIPBUILDING EXPERTS' FEDERATION (ASEF)	2017

SHIPOWNERS/SHIP OPERATORS	Consultative status granted in
INTERNATIONAL CHAMBER OF SHIPPING (ICS) (Merged with the International Shipping Federation (ISF))	1961
BIMCO (Previously Baltic and International Maritime Conference (BIMCO))	1969
OIL COMPANIES INTERNATIONAL MARINE FORUM (OCIMF)	1971
INTERNATIONAL ASSOCIATION OF DRILLING CONTRACTORS (IADC)	1975
INTERNATIONAL ASSOCIATION OF INDEPENDENT TANKER OWNERS (INTERTANKO)	1979
INTERNATIONAL ASSOCIATION OF DRY CARGO SHIPOWNERS (INTERCARGO)	1993
CRUISE LINES INTERNATIONAL ASSOCIATION (CLIA) (Previously International Council of Cruise Lines (ICCL)	1993
INTERNATIONAL SHIP MANAGERS' ASSOCIATION (InterManager) (Previously International Ship Managers' Association (ISMA))	1995
INTERNATIONAL PARCEL TANKERS ASSOCIATION (IPTA)	1997
INTERNATIONAL MARINE CONTRACTORS ASSOCIATION (IMCA)	1999
INTERFERRY (Previously International Marine Transit Association/Interferry (IMTA/Interferry))	2003
WORLD SHIPPING COUNCIL (WSC)	2009

STANDARDS	Consultative status granted in
INTERNATIONAL ORGANIZATION FOR STANDARDIZATION (ISO)	1961
INTERNATIONAL ELECTROTECHNICAL COMMISSION (IEC)	1961
INTERNATIONAL ASSOCIATION OF CLASSIFICATION SOCIETIES (IACS)	1969
INTERNATIONAL COUNCIL OF MARINE INDUSTRY ASSOCIATIONS (ICOMIA)	1975
INTERNATIONAL LIFE-SAVING APPLIANCE MANUFACTURERS' ASSOCIATION (ILAMA)	1975
THE EUROPEAN ASSOCIATION OF INTERNAL COMBUSTION ENGINE MANUFACTURERS (EUROMOT) (Previously Association of European Manufacturers of Internal Combustion Engines (EUROMOT))	1993
WORLD SAILING LTD. (WORLD SAILING) (Previously International Sailing Federation (ISAF), previous acronym (ISF))	1999
INTERNATIONAL TOWING TANK CONFERENCE (ITTC)	2005
INTERNATIONAL PAINT AND PRINTING INK COUNCIL (IPPIC)	2007
NACE INTERNATIONAL	2009
INTERNATIONAL WATER MIST ASSOCIATION (IWMA)	2015
SOCIETY FOR GAS AS A MARINE FUEL LTD. (SGMF)	2018 (subject to endorsement by A31)

TRADE	Consultative status granted in
INTERNATIONAL CHAMBER OF COMMERCE (ICC)	1961
INTERNATIONAL ROAD TRANSPORT UNION (IRU)	1987
INTERNATIONAL SHIPSUPPLIERS & SERVICES ASSOCIATION (ISSA) (Previously International Ship Suppliers Association (ISSA))	1989
THE FEDERATION OF NATIONAL ASSOCIATIONS OF SHIP BROKERS AND AGENTS (FONASBA)	2007
INTERNATIONAL PORT COMMUNITY SYSTEMS ASSOCIATION (IPCSA)	2015

TRAINING/EDUCATION/WELFARE	Consultative status granted in
INTERNATIONAL ASSOCIATION OF INSTITUTES OF NAVIGATION (IAIN)	1975
INTERNATIONAL MARITIME LECTURERS ASSOCIATION (IMLA)	1993
INTERNATIONAL CHRISTIAN MARITIME ASSOCIATION (ICMA)	2001
INTERNATIONAL MARITIME HEALTH ASSOCIATION (IMHA)	2003
INTERNATIONAL ASSOCIATION OF MARITIME UNIVERSITIES (IAMU)	2007
GLOBAL MARITIME EDUCATION AND TRAINING ASSOCIATION (GlobalMET)	2009