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WORLD MARITIME UNIVERSITY

Dalian, China

**Study on the Influence of Evolution of IMSAS in
Implementation of STCW Convention and Related Issues**

By

You Jie

China

A research paper submitted to the World Maritime University in partial
Fulfillment of the requirements for the award of the degree of

MASTER OF SCIENCE

(MARITIME SAFETY AND ENVIRONMENTAL MANAGEMENT)

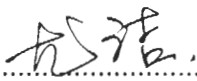
2013

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DECLARATION

I certify that all the material in this research paper 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 research paper reflect my own personal views, and are not necessarily endorsed by the University.

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Title: **Study on the Influence of Evolution of IMSAS in
Implementation of STCW Convention and Related Issues**

Degree: **MSc**

ABSTRACT

The research paper studies the influence of MIMSAS on the implementation of STCW Convention in which an audit scheme exists. The development of MIMSAS is not optimistic. Certain member states may be unable to fully implement the Conventions, like STCW, with the political, economic, cultural and technical reasons; as for the STCW Convention, how to combine the two audit schemes and effectively improve the performance of contracting parties are still under discussion.

Take STCW into consideration, MIMSAS is important for the reason that it can encourage initiative implementation to effectively reduce the seafarer-related accidents, help improve the international competitiveness of the contracting parties and promote the development of seafarers market, and offer more comprehensive performance information exchange worldwide.

MIMSAS is necessary because a “sharper teeth” is needed for IMO to achieve its increasingly important coordination function, the good performance of STCW needs a more comprehensive platform where the other Conventions are involved, and the fair competition of seafarers among contracting parties should be guaranteed.

However, the feasibility of MIMSAS depends on certain factors, namely, the

appropriate punishment system, the matched implementation standards and the confidentiality of implementation reports, the start-up capital, the reasonable grace period, the latent risks and the loophole of IMSAS itself.

Corresponding suggestions are provided. MIMSAS should be equipped with the assorted standards and documents, prepare for the possible consequences with the latent risks, and complement the audit scheme in STCW Convention while learn the advanced experience. All the implementation-related subjects should fully understand the stipulations of STCW Convention and of MIMSAS so as to achieve a better performance.

MIMSAS is important and necessary although with a controversial future. In order to better implement STCW Convention and build a well-developed seafarer market under the MIMSAS, more work need to be done.

KEYWORDS: VIMSAS, MIMSAS, STCW Convention, implementation, Influence

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LIST OF ABBRIVIATION

BIMCO	Baltic and International Maritime Conference
COLREG	International Regulations for Preventing Collisions at Sea
DMU	Dalian Maritime University
FOC	Flag of Convenience
FSC	Flag State Implementation
ICAO	International Civil Aviation Organization
ICS	Chamber of Shipping
III Code	IMO Instruments Implementation Code
ILO	International Labour Organization
IMO	International Maritime Organization
IMSAS	IMO Member State Audit Scheme
INFA	Importance, Necessity and Feasibility Analysis
ISF	International Shipping Federation
ISM Code	International Management Code for the Safe Operation of Ship and for pollution prevention
LL	Load Line
JWG	Joint Working Group
MARPOL	International Convention for the Prevention of Pollution from Ships
MEPC	Marine Environment Protection Committee
MIMSAS	Mandatory IMO Member State Audit Scheme
MLC	Maritime Labour Convention
NMFT	No More Favorable Treatment
MoU	Memorandum of Understanding
MSA	Maritime Safety Administration

MSC	Maritime Safety Committee
PROT	Protocol
PSC	Port State Control
RO	Recognized Organization
SIRC	Seafarers International Research Centre
SMU	Shanghai Maritime University
SOLAS	International Convention for the Safety of Life at Sea
STCW	Standards of Training, Certification and Watchkeeping
TCC	Technical Co-operation Committee
UN	United Nations
UNCLOS	United Nations Conference on the Law of the S
USOAP	Universal Safety Oversight Audit Program
VIMSAS	Voluntary IMO Member State Audit Scheme
VTS	Vessel Traffic Service

CHAPTER 1 INTRODUCTION

1.1 Motivation of the research

In recent years, International Maritime Organization (IMO) has endeavored to strengthen the audit of the performance of contracting states to the mandatory instruments in order to reduce the maritime accidents and protect the environment. Therefore the IMO Member State Audit Scheme (IMSAS) was proposed in 2002 and the Voluntary IMO Member State Audit Scheme (VIMSAS) was carried out in 2006. The audit scheme has brought the member states lots of challenges and six years have witnessed changes of the majority member states from doubting to participating. In 2009, China applied and passed the VIMSAS. However, the institutionalization of IMSAS was brought up in the same year as the future development of IMSAS. Therefore, the sovereignty of a state would be further challenged and more problems should be taken in consideration.

On the other hand, it was in 1995 that a mandatory supervision regime was firstly involved in the amended International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW) Convention, which is much earlier than the IMSAS. Moreover, the Manila Amendment in 2010 improved the supervision regime within the STCW Convention which distinguishes the Convention

from the other audit mandatory instruments of IMO. The implementation report of STCW 78/10 (Manila Amendment), which has been completed by the subcommittee of seafarers in Guangdong Maritime Safety Administration (MSA) at the end of November, 2011, has concluded the performance of China according to the supervision regime.

Researches have been carried out on the IMSAS since its appearance and more dissents are hold towards the institutionalization of IMSAS. The discussion is still needed on how to make the IMSAS mandatory and how to carry out the Mandatory IMO Member State Audit Scheme (MIMSAS) with the different instruments especially the STCW Convention with its already existing mandatory supervision regime.

Seafarers are playing increasingly important role in the international shipping industry, thus the implementation of STCW Convention which stipulates the standards on the seafarers' education and training is of great significance. Since China is becoming the major seafarer supplying country, how to develop a more competitive market with qualified seafarers according to the Convention is worth thinking as well.

As a result, this thesis chooses to study the influence of evolution of IMSAS in implementation of STCW and the related issues, and tries to find the countermeasures to the challenges concerning the seafarers and the implementation of the Convention.

1.2 Preview studies of the research

Numerous experts from both domestic and international society have thoroughly studied the IMSAS and STCW implementation respectively, and brought a lot of high perspicacity, forming a large number of precious literatures, which offers the overview of STCW implementation-related issues and evolution of IMSAS¹, and provides the thesis a theoretical basis.

For example, Clay, Barchue and Sha have explored from various aspects of IMSAS and brought us several articles. Clay (2009) offers us a chance to look at the background of audit scheme in “The Audit Scheme – an IMO success story”. In “Making a case for the Voluntary IMO Member State Audit Scheme”, Barchue² (2006) discusses “what may have precipitated the consensus development of the Audit Scheme”, “development of the Voluntary IMO Member State Audit Scheme”, “implementing the Audit Scheme” and “what could be some of the other results of the Audit Scheme”. Barchue (2009) also talks about the genesis of monitoring compliance of State, the development and positive outcome of VIMSAS and the need of developing the mandatory audit regime as well as the possible way forward in his another article “IMO Member State Audit Scheme: An Accountability Regime for States on Maritime Affairs”. Sha (2009) analyzes from the China MSA point of view the cost-effective of IMO Member State Voluntary Audit Scheme.

As for the implementation of STCW, several research has been carried out. Liu & Shao (2012) have studied tentatively the function of implementing the STCW78/10 for the development of seafarers in China. Bao (2013) gives the comprehensive overview and the future development of STCW Convention.

¹ like the genesis, status quo and future trend of IMSAS

² Head, Member State Audit and Internal Oversight Section, Office of the Secretary-General, IMO

Wu (2011) discusses essence of shortage of senior crew and provides several countermeasures in China. Guangdong MSA, China researches on various issues concerning STCW Convention with the subcommittee of seafarers of China, and contributed the comprehensive learning material of STCW Convention.

Besides, there are many other contributions in terms of the two topics, like the meeting documents³ of the IMO as well as other research such as manpower update made by BIMCO/ISF (2010) , which are also the foundation of analysis of the thesis hereinafter and bring the author great enlightenment, yet it is unnecessary to go into details here.

It is worth mentioning that the specialized studies are few concerning the relationship between the evolution of IMSAS and the implementation of STCW as well as the related issues. Since the institutionalization of audit scheme seems to be imperative, it is necessary to consider how the change will affect the implementation of STCW, what challenges and opportunities will the parties to the Convention face and how to address, and how to make the strategy decision for countries (like China) as the major seafarer suppliers.

1.3 Scope and methodology of the thesis

The present study focuses on how evolution of IMSAS will influence the implementation of STCW and related issues, and finding some countermeasures concerning the seafarers' development.

³ Assembly Resolutions, Council Documents, MEPC Documents, MSC Documents, TC Documents, FSI Documents,ect.

The methodology used in the thesis is importance, necessity and feasibility analysis (INFA). In the light of past research contributed by the specialists, the relationship between the evolution of IMSAS and the implementation of STCW related issues are analyzed through the INFA from the international and national (China) aspects.

1.4 Organization of the thesis

This thesis consists of five chapters. Chapter 1 will briefly introduce the motivation, previous study, scope and methodologies, and organization of the thesis. Chapter 2 will generally talk about the development of IMSAS and STCW. Chapter 3 is the core part of the thesis, in which the genesis, status quo and future trend of IMSAS are discussed in detail, the audit scheme of STCW Convention are expounded, and the influence of evolution of IMSAS in implementing the STCW and the related issues are analyzed from the international and national aspects according to importance, necessity and feasibility. Chapter 4 provides several measures concerning the implementation of STCW Convention under the evolution of IMSAS, taking into account the different implementation-related parties, i.e. the maritime administration, the maritime universities/colleges, and training schools/entities, companies and seafarers, etc. The last chapter will summarize the whole thesis.

CHAPTER 2 OVERVIEW OF THE DEVELOPMENT OF IMSAS AND STCW CONVENTION AND RELATED ISSUES

2.1 Definition of implementation

“Implement something (formal)” means to “make something that has been officially decided start to happen or be used”. (Oxford Advanced Learner’s Dictionary, 2013a)

As for the implementation of Convention, the explanation can be found in Resolution A.1054 (27), “Code for the Implementation of Mandatory IMO Instruments, 2011”.

According to the Code,

When a new or amended IMO mandatory instrument enters into force for a State, the Government of that State must be in position to implement and enforce its provisions through appropriate national legislation and to provide the necessary implementation and enforcement infrastructure. This means that the Government of the State must have: .1 the ability to promulgate laws which permit effective jurisdiction and control in administration, technical and social matters over ships flying its flag and...

(IMO, 2011)

In other words, the State's tragedy should be communicated, records "of conformity to requirements and of the effective operation" of the state should be "established and maintained", and some measures should be made to continuously improve the performance of the state "in maritime safety and environmental protection activities" (IMO, 2011).

Full implementation is of great importance and necessity; however, situation of failing to fulfill the obligations still exists. There are various reasons from political, economic, cultural to something that can not be foreseen, i.e. force majeure.

As the officers of MSA, we should make it clear that implementation is not just the task of certain departments, and implementing Conventions can be easily found in the marine activities, such as the ship safety inspection, oil spill emergency, vessel traffic service (VTS), hazardous cargo management, mariner management. It is necessary for the maritime administration to call on the related parties to comply with the corresponding regulations since the effective implementation can help build a state with better competitive power in marine activities and state governance. Take the STCW Convention for example in addition to the maritime administration, maritime universities/colleges, training schools/entities, companies and seafarers should all participate actively in the seafarers' development in line with the specific regulations of STCW Convention for their own sake.

2.2 Development of IMSAS

Here we will focus on the big events and corresponding time frame within the

development of IMSAS, whilst the background will be discussed later in Chapter 3.

- IMO Model Scheme (June 2002)

IMSAS originated from the IMO Model Scheme, which was proposed by nineteen member states, at the eighty-eighth session of IMO Council in June 2002. This kind of Audit Scheme “drew on the model of the International Civil Aviation Organization (ICAO) Universal Safety Oversight Audit Program (USOAP)” (Barchue, 2006, p. 3) yet on the basis of voluntary form rather than mandatory one “with a view to get the approval of the great majority among the member states” (Zhu, 2010, p. 11).

- Joint Working Group (JWG) (November 2002)

“The desirability of holding a JWG to develop the documentation for the Audit Scheme” was raised at the eighty-ninth session of IMO council in November 2002. In 2003, the JWG was established by Maritime Safety Committee (MSC), the Marine Environment Protection Committee (MEPC) and the Technical Co-operation Committee (TCC) as requested and “it met for the first time during MSC 77 in June 2003” (Barchue, 2006, p. 3).

- Adoption of the documentation for the Audit Scheme (2003-2005)

(1) Code for the implementation of mandatory IMO Instruments⁴

In 2003 the proposal was approved by the MSC and the MEPC to develop a code for the implementation of mandatory IMO Instruments by Sub-Committee on Flag State

⁴ The latest Code is resolution A.1054 (27) of 2011, which revokes resolutions A.996 (25) and A.1019 (26).

Implementation (FSI), which have been “developed in such a manner that it would also serve as the audit standard under the Audit Scheme” (Barchue, 2006, p. 3).

(2) Framework and Procedures for the Audit Scheme

As a matter of fact, “establishing the fundamentals for the development and future implementation of the Audit Scheme were carried out expeditiously by the Member States” (Barchue, 2006, p. 4), therefore, “the work required to bring the Scheme to fruition had to be undertaken with similar vigor” (ibid). “The Scheme was approved by the IMO Assembly, at its twenty-third in November 2003 when it adopted resolution A.946 (23) Voluntary IMO Member State Audit Scheme.” (IMO, 2006) Two year later, the twenty-fourth Assembly in November-December 2005 adopted resolutions A.974 (24)⁵ and A.973 (24)⁶ as the audit standard. The adoption of the framework and procedures for the scheme heralded a new era for IMO, in which the Organization has at its disposal a tool to achieve harmonized and consistent global implementation of IMO standards, which is key to realizing the IMO objectives of safe, secure and efficient shipping on clean oceans. A further resolution A.975 (24)⁷ requests the MSC and the MEPC to “review the future feasibility” and requests the IMO Council “to develop suitable provisions for the possible future inclusion of other issues (relating to safety, environmental protection and security) in the audit scheme, taking into account the experience gained from the implementation of the scheme”. (IMO, 2006) After the adoption of above-mentioned resolutions, numbers of auditors were trained and the audits of Member States begun.

- Pilot Audit (2004)

⁵ Framework and Procedures for the Voluntary IMO Member State Audit Scheme

⁶ Code for the Implementation of Mandatory IMO instruments

⁷ Future Development of the Voluntary IMO Member State Audit Scheme

One more thing worthy mentioning is the pilot audit. The pilot audit, as an important project which “was the decision of the Council in June of 2004”, “provided a sound basis for establishing confidence between the auditees and auditors” (Barchue, 2006, p. 4), since the result of it “were most encouraging as both groups found the draft documentation, as had been developed at the time, to be workable, effective and consistent with the principles of the Scheme” (ibid). The two groups consist of six member states, “with one group comprising of Cyprus, the Marshall Island and the United Kingdom and the other of France, the Islamic Republic of Iran and Singapore” (ibid).

- Commencement of VIMSAS (2006)

According to Resolution A. 1018 (26),

Since the Audit Scheme commenced operation in 2006, several Member States have volunteered to be audited and the experience gained by such States and the audit reports issued in relation to them have confirmed the positive influence of the Scheme in enhancing effective implementation of the provisions of the mandatory IMO instruments concerned by the Parties thereto.

(IMO, 2009)

“Until March 2011, more than 40 Member States” (Zhou, & Shao, 2011, p. 14) have applied and accepted the audit, “more than 85% tonnage of the world fleet” (Zhu, 2010, p. 9). The audit scheme has kept continuous improvement on the basis of the deficiencies discovered during the audit process, and manifested itself playing a

positive role in promoting the implementation of IMO instruments. Thus, the institutionalized trend appeared, going with the tide.

- Institutionalization of IMO Member State Audit Scheme (2009)

Resolution A. 1018 (26) adopted on 25 November 2009, requested the MSC, the MEPC, the TC and FC, “under the coordination of the Council, to take appropriate action to develop and establish the IMO Member State Audit Scheme in its institutionalized form within the established time frame” (IMO, 2010). Table 1 shows the time frame and schedule of activities to institutionalize the IMSAS.

In addition, the resolution requested “also the Secretary-General to take any appropriate action required to assist in the attainment of the objectives” and urged “Member Governments to continue to volunteer to be audited in accordance with the current scheme and its principles, so that lessons learned can continue to inform the process leading to the institutionalized IMO Member State Audit Scheme” (IMO, 2010).

Table 1 - Time Frame and Schedule of Activities to Institutionalize the IMO Member State Audit Scheme

IMO	Timing	Action
MSC and MEPC	First half of 2010	Consider how to make the Code for the implementation of mandatory IMO instruments mandatory, including provisions for auditing
MSC and MEPC	Second half of 2010	Identify mandatory IMO instruments through which the Code and auditing should be made mandatory
Council	End 2010	Establish Joint Working Group (JWG) of MSC, MEPC, FAL and TCC to

		review the Framework and Procedures for the Scheme
MSC and MEPC	2011 and 2012	Develop provisions to make the Code mandatory through the identified mandatory IMO instruments
Council	Second half of 2011	Approve a progress report for submission to A27
Assembly 27	November 2011	Receive a progress report and decide as appropriate
JWG	2011 and 2012	Receive the Framework and Procedures for the Scheme
JWG	2013	Finalize the Framework and Procedures, taking into account the finished product of the Code and the related amendments to mandatory IMO instruments
Council	First half of 2013	Approve the Framework and Procedures for the Scheme, for submission to A28 for adoption
Committees	2013	Adopt amendments to the mandatory IMO instruments concerned for entry into force on 1 January of 2015
Assembly 28	November 2013	Adopt resolution on the Framework and Procedures for the Scheme and amendments to those mandatory instruments under the purview of the Assembly
Council, Committees and Secretariat	2014	Preparatory for the commencement of an institutionalized audit scheme

Source: International Maritime Organization. (2010, January 18) *Future development of the Voluntary IMO Member State Audit Scheme* (A 26/Res.1018). London: Author.

After the institutionalization of audit scheme being raised, related committees and sub-committees have started to plan for the possible time frame, and member states have begun to prepare for the new era of the audit scheme.

- Maritime Safety Committee 91st session agenda item 10 (September 2012)

In the light of the outcome of FSI 20 and STW 43, the Secretariat has prepared a possible time frame to make the draft IMO Instruments Implementation Code (III Code) and auditing mandatory, as shown in Table 2.

Table 2 - Time Frame to Make III Code and Auditing Mandatory

	Approval	Adoption	Acceptance	Entry into force
III Code	MEPC64(10/2012) MSC91 (11/2012)	A28(12/2013)		
SOLAS 1974; LL PROT 1988; STCW and part A of STCW Code	MSC91 (11/2012) Approval and circulation for adoption at future date (at least six months prior)	MSC93(05/2014) After adoption of III Code by Assembly-first possible regular session for adoption of amendments	1/7/2015 (Not less than one year after adoption by MSC 93)	1/1/2016 (Six months after acceptance)
MARPOL Annexes I, II, III, IV, V and VI	MEPC64(10/2012) Approval and Circulation for adoption at future date (at least six months prior)	MEPC66(03/2014) After adoption of III Code by Assembly-first possible regular session for adoption of amendments	1/2/2015 [1/7/2015] (Not less than 10 months after adoption by MEPC66)	1/8/2015 [1/1/2016]
LL 1966	(Adoption) MSC91(11/2012) Adoption by MSC91 for consideration and adoption by A28 (at least six months prior)	A28(12/2013) Adoption and circulation for unanimous acceptance and explicit acceptance	1)1/1/2017 Unanimous acceptance-3 years from circulation after adoption by A28 2) Based on	1)1/1/2018 (12 months after unanimous acceptance) 2) On the date 12

			the attainment of the number of explicit acceptance	months after the number of explicit acceptance have been received
Tonnage 1969	(Adoption) MSC91(11/2012) Adoption by MSC 91 by consideration and adoption by A28 (at least six months prior)	A28(12/2013) Adoption and circulation for unanimous acceptance and explicit acceptance	1)1/1/2016 Unanimous acceptance-2 years from circulation after adoption by A28 2) Based on the attainment of the number of explicit acceptance	1)1/1/2017 (12 months after unanimous acceptance) 2) On the date 12 months after the number of explicit acceptance have been received

Source: International Maritime Organization. (2012a, September 4). *Flag State Implementation.*

Time frame to make III Code and auditing mandatory. Note by the Secretariat (MSC 91/10/1)

London: Author.

The time frame was made according to the amendment provisions of related mandatory instruments, “taking into account progress made thus far in relation to the time frame and schedule of activities to institutionalize the IMSAS” (IMO, 2012a) , as illustrated in Table 1.

- Future development of audit scheme (1 January 2016)

The future development “have culminated in the completion of the audit standard (III Code) and draft amendments to the relevant mandatory IMO instruments to make the

III Code and auditing mandatory” (IMO, 2013a). With the entry into force of the amendments to the mandatory IMO instruments, the III Code and auditing will be made mandatory to all Member States complying with the mandatory instruments concerned. Table 3 shows the past and future planned involvement of related IMO bodies on making the III Code and auditing mandatory, based on the decisions made by MEPC 64 and MSC 91.

Table 3 - Time Frame to Make III Code and Auditing Mandatory

	Approval	Adoption	Acceptance	Entry into Force
III Code	MSC91(11/2012) MEPC64(10/2012)	A28 (11/2013)		
SOLAS1974	MSC91(11/2012)	MSC93 (05/2014)	1/7/2015	1/1/2016
MARPOL and Annexes	MEPC64(10/2012)	MEPC66 (03/2014)	1/2/2015	1/1/2016
LL 1966	(adoption) MSC 91(11/2012)	A28 (11/2013)	Unanimous acceptance (3 years) e.g. 10/2016 explicit acceptance	12 months e.g. 9/2017 12 months
LL PROT 1988	MSC91(11/2012)	MSC93 (05/2014)	1/7/2015	1/1/2016
COLREG 1972	(adoption) MSC91(11/2012)	A28 (11/2013)	Tacit acceptance at a date decided by the Assembly	date decided by the Assembly [1/1/2016]
TONNAGE1969	(adoption) MSC91(11/2012)	A28 (11/2013)	Unanimous acceptance (2 years) e.g. 10/2015 explicit acceptance	12 months e.g. 9/2016 12 months
STCW	MSC92(06/2013)	MSC93	1/7/2015	1/1/2016

		(05/2014)		
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Source: International Maritime Organization. (2013a, May 8). *Voluntary IMO Member State Audit Scheme. Implementation of the global programme on Voluntary IMO Member State Audit Scheme. Note by the Secretariat* (TC 63/7). London: Author.

Generally speaking, eleven years from 2002 to 2013 have witnessed the development of IMSAS. The Audit Scheme, for the time being, is limited to the following 10 of 50 treaty instruments developed by IMO:

The International Convention for the Safety of Life at Sea, 1974, as amended (SOLAS 1974);

The Protocol of 1978 relating to the International Convention for the Safety of Life at Sea, 1974, as amended (SOLAS PROT 1978);

The Protocol of 1988 relating to the International Convention for the Safety of Life at Sea, 1974, as amended (SOLAS PROT 1988);

The International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, as amended (MARPOL 73/78);

The Protocol of 1997 to amend the International Convention for the Prevention of Pollution from Ships, as modified by the Protocol of 1978 relating thereto (MARPOL PROT 1997);

The International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978, as amended (STCW1978);

The International Convention on Load Lines, 1966 (LL 66);

The Protocol of 1988 relating to the International Convention on Load Lines, 1966 (LL PROT 1988);

The International Convention on Tonnage Measurement of Ships, 1969 (Tonnage 1969); and

The Convention on the International Regulations for Preventing Collisions at Sea, 1972, as amended (COLREG 1972)

(Barchue, 2009, p. 66)

More than 50 countries have applied and passed the VIMSAS since 2006 when it was formally adopted, as illustrated in Figure 1. The VIMSAS “is intended to provide an audited Member State with a comprehensive and objective assessment of how effectively it administers and implements those mandatory IMO instruments which are covered by the Scheme” (IMO, 2006). Nowadays, the evolution’s prologue is opening, together with lots of difficulties to be solved and more work to be done. Therefore, it’s high time for member states to prepare themselves for the MIMSAS with proper steps.

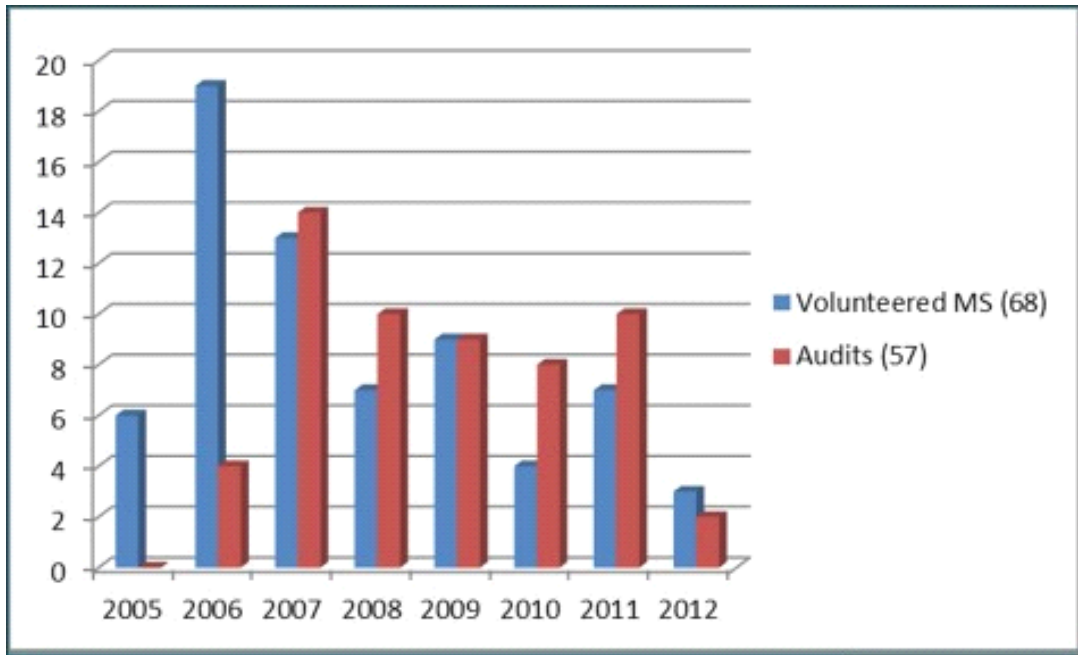


Figure 1 - Volunteering States vs. Audits Conducted

Source: Krilic, T. (2012). *IMO Member State Audit Scheme*. IMO presentation handout, International Maritime Organization, the United Kingdom, London.

2.3 Development of STCW and the implementation-related issues

Established in 1978, STCW Convention is the third pillar in the international maritime regulation, as shown in Figure 2, and has been amended several times, among which there are two main amendments, namely 95 Amendment and 2010 Manila Amendment.



Figure 2 - STCW as the third Pillar in the International Maritime Regulation

Source: Bao, J Z. (2013). *Introduction on the Comprehensive Overview and the Future Development of STCW Convention*. Unpublished lecture handout, Dalian Maritime University, Dalian, China.

STCW 78/95 has adopted the whole new structure, as illustrated in Figure 3, which consists of the Convention, Annex and Code and has introduced the internal auditing system. Convention itself as maincenter includes seventeen articles, which are the main rules of the game. Annex and Code, equivalent to the body of Convention, consist of eight chapters defining the Convention-related process, requirements and standards respectively and correspondingly. The former is the general stipulations, while the latter is the specific ones. Code of the Convention is divided into two parts. Part A includes the mandatory standards and regulations concerning the specific requirements on seafarers' knowledge and skills, and Part B is the recommendatory guidelines corresponding to Part A.

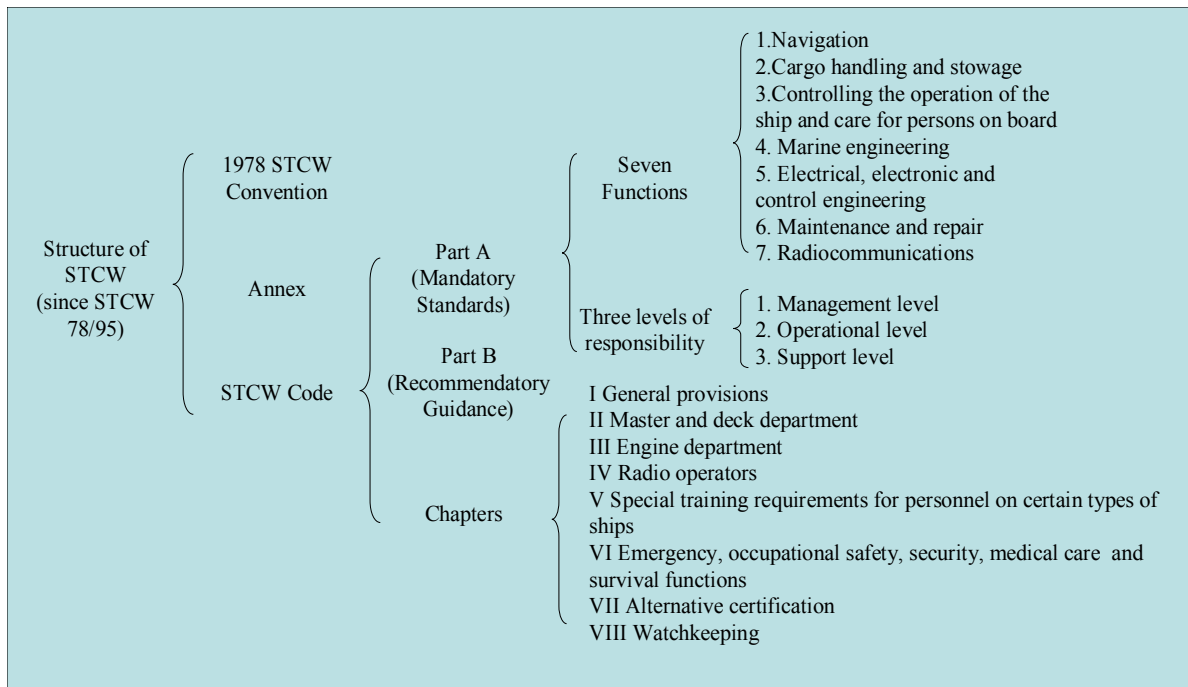


Figure 3 - Structure of the Convention (since STCW78/95)

Source: Compiled by the author based on the STCW Convention

For STCW 78/10, the main structure has been kept while some provisions have been revised for seafarers to meet the higher requirements of technical development in the modern society. Meanwhile, the importance of implementation has been further highlighted. Till now, certain obligations and responsibilities are provided in the Convention for the implementing subjects, namely the Maritime Administration, maritime universities/colleges and training schools/entities, companies and seafarers. As for the seafarers, the fundamental player under STCW implementation, higher requirements of their competency is put forward such as teamwork and leadership. Since seafarers are playing increasing significant role in the shipping industry as the human factor, more and more attention has been paid to the implementation of STCW.

The institutionalized audit scheme, i.e. MIMSAS or the mandatory audit, will certainly affect the implementation of STCW, and bring bigger challenges as well as opportunities for the member states and the related implementing parties⁸ therein.

⁸ Maritime Administration, maritime universities and colleges, companies and training entities as well as seafarers

CHAPTER 3 ANALYSIS ON INFLUENCE OF EVOLUTION OF IMSAS IN IMPLEMENTATION OF STCW

3.1 International background of the evolution of IMSAS

History has witnessed the success of IMSAS of IMO, although it is not the initial audit scheme to claim for accountability. “The USOAP of ICAO proffers a well functioned example” (Sasamura, 2009, p.60), and the recognized accountability regimes in IMO started even earlier in the early 1990s.

There are five principal actors when it comes to the regulatory and enforcement paradigm of international shipping, namely, IMO, Governments⁹, Recognized Organizations (RO), Ship owners/Shipping Companies, and Seafarers. Under the regime of IMO, “the comprehensive responsibility chain includes the stakeholders not only the principle actors mentioned above but other players”. (Yu, 2009, p. 43) Figure 4 shows the responsibility chain under IMO regime, and reveals that Flag State is of great importance in the responsibility chain.

⁹ Government contains Flag State, Port State and Coastal State

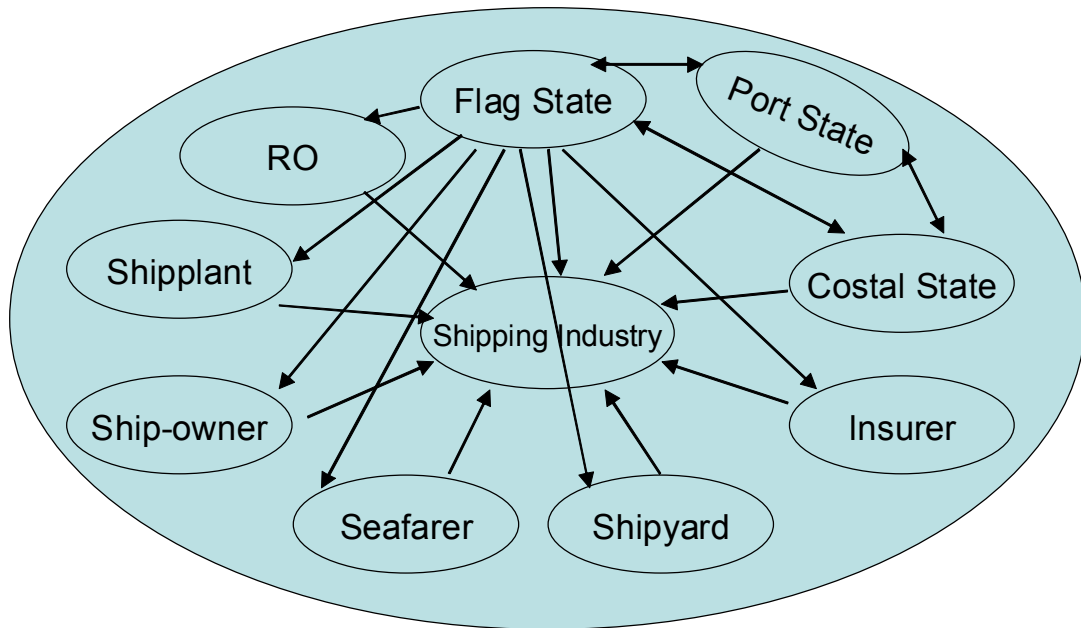


Figure 4 - Responsibility Chain under IMO Regime

Resource: Yu, Q. W. (2009). Discussion on enhancing the efficiency of the Flag State Control in China. *China MSA, (Maritime Workshop)*, 43-45.

The drive to improve and establish recognized accountability regimes for the various actors, saw the establishment of the Flag State Implementation (FSI) Sub-Committee of the IMO, the expansion of port state control Memorandum of Understanding (PSCMoU) from the ParisMoU as the sole PSC regime to eight additional PSCMoUs covering the entire globe, the development of the ISM Code and the revision of the 1978 STCW Convention. Although the 1995 amendments to the 1978 STCW Convention had created a degree of State accountability with respect to the requirements of that Convention, the absence of a broader regime for State accountability with respect to their international

maritime treaties obligations was viewed as the weak-link in enhancing further the implementation and enforcement of such treaties.

(Barchue, 2009, p. 61)

As Dr N. Winchester ever concluded,

Effective regulation depends upon the existence of a network of shared responsibility. All stakeholders in the maritime industry need to take an active stance in the maintenance of vessel standards and their operation. However, the flag state is often the weak link in the regulatory chain.

(Flag state responsibilities and seafarers' right, 2011)

In order to ensure the full implementation of responsibility stipulated in the IMO mandatory instruments, certain new approaches have to be considered.

Whilst the ISM Code had reasonably addressed the issue with respect to companies, and the 1995 amendments to the 1978 STCW Convention had addressed the training and shipboard operational competencies of seafarers, as well as accountability amongst Parties to that Convention through the "White List" process, a universal approach had to be developed to review governments' role in the implementation and enforcement of international maritime treaties. Therefore, the Voluntary IMO Member State Audit Scheme was developed to serve as the vehicle to establish and improve accountability amongst Member

States of IMO with respect to their treaties obligations. This new approach would also foster accountability amongst the various actors in the shipping industry as governments would begin to demand equal accountability of ROs, companies and seafarers.

(Barchue, 2009, pp. 63-64)

Then with time goes by, a more effective scheme, MIMSAS, has been introduced and is on the way to take over the VIMSAS by institutionalizing the IMSAS. Considering the oversight of the flag state, there are two more audit schemes besides IMSAS from industry and seafarer aspects separately, i.e. “the Industry assessment schemes with shipping industry Flag State Performance Table by International Chamber of Shipping/International Shipping Federation (ICS/ISF)” and “the seafarer assessment scheme with Seafarers International Research Centre (SIRC) Flag State Audit 2003 by SIRC” (Rasmussen, 2013, p. 11).

Specifically speaking, IMSAS of IMO aims to audit and ensure the full and complete compliance of the flag state’s performance under related mandatory instruments with peer oversight from the governmental aspects.

3.2 Audit scheme in STCW

Generally speaking, “audit is a systematic, independent and documented process for obtaining audit evidence and evaluating it objectively to determine the extent to which audit criteria are fulfilled” (Rasmussen, 2013, p. 10). “The main purpose of

an audit is to determine the extent of the system's conformity or nonconformity with the audit criteria by verifying activities and processes and from objective evidence gathered." (Rasmussen, 2013, p. 11) As mentioned above, several audit regimes have been tried internationally, such as FSI Sub-Committee, Port State Memorandum of Understanding (PSCMoU), ISM Code, Shipping Industry Flag State Performance Table by ICS/ISF and SIRC Flag State Audit, 2003. Here we are going to explore the audit scheme in STCW Convention.

3.2.1 STCW78/95

It is in 1995 when STCW Convention was revised that IMO start the "first tentative foray into the field of increased oversight of Member State, with initial approval for inclusion on the IMO White List being confirmed to an evaluation of submitted documents" (Mansell, 2009, p. 226)

- The first international rigorous compliance verification system

Based on the Regulation I/4 "Control procedures", Regulation I/10 "Recognition of certificates", especially Regulation I/7 "Communication of Information" in Chapter I "General Provisions" of Annex to the STCW 1978, the control and recognition of certificates are stricter, and there is no more entirely "equivalent" acceptance. The supervision of the parties' performance has been strengthened in STCW1978/95. According to the requirement of Regulation I/7 "Communication of Information",

In addition to the information required to be communicated by article IV, each

party shall provide to the Secretary-General within the time periods prescribed and in the format specified in section A-I/7 of the STCW Code, such other information as may be required by the Code on other steps taken by the Party to give the Convention full and complete effect...

(STCW78/95)

“The Secretary-General shall submit a report to this effort to the Maritime Safety Committee” and MSC will evaluate and confirm, “in accordance with procedures adopted by the Committee”, whether “the information which has been provided demonstrates that full and complete effect is given to the provisions of the Convention” (STCW78/95). As a result, the parties with confirmation by the MSC will be added to the “White List”. The certificates issued by such parties will be approved in principle. Besides, the independent evaluation is requested every five years or less and reported to IMO for further evaluation. The contracting state will be removed from the White List if its result is not satisfactory for MSC.

- Quality Standards

As for all training, assessment of competence, certification, endorsement and revalidation activities carried out by governmental agencies or entities as well as non-governmental ones authorized, including those concerning the qualifications and experience of instructors and assessors, the requirements are raised “in accordance with the provisions of section A-I/8 of the STCW Code” (STCW 78/95), where the establishment, function and the evaluation of the quality standard system are stipulated.

Based on the two aspects mentioned above, several administrative powers, which always belong to the internal affairs of one state, have been transferred to IMO. “It is the STCW 78/95 that gives IMO certain authority to supervise the contracting parties for the first time.” (Sha, 2006, p. 32) Therefore, with the function of IMO, one state can verify the performance of another, concerning the implementation of Convention and the training, certification related activities.

3.2.2 STCW78/10-Manila Amendment

Since the STCW78/95, the implementation scheme is relatively complete, mainly including four schemes concerning certification issued and checked under Convention, implementation information exchange, independent Evaluation and equivalent acceptance and control of certificates. And STCW78/10 inherits the scheme and adds the “improved measures to prevent fraudulent practices associated with certificates of competency and strengthen the evaluation process (monitoring of Parties’ compliance with the Convention)” (IMO, 2013b).

Take the equivalent acceptance and control of certificates for example, the contracting state is entitled with the right to know and evaluate when hiring the seafarers from another contracting country. And the inspection and evaluation of European Union MSA on the examination, assessment and certification system of Chinese seafarers in 2012 was the practical instance. Of course, the above four kinds of mechanisms are indirect compared to the IMO audit scheme. If the STCW Convention will be included in the audit scheme as mandatory after the entry into force, the contracting

parties will be audited directly in terms of performance of the obligation stipulated in the Convention.

3.3 Status quo of implementation of STCW

3.3.1 International aspect

“Adopted in 1978 by conference at the IMO in London, and entered into force in 1984” (Wikipedia, 2013a), the Convention was significantly amended in 1995 and 2010. “The White List is a list of countries assessed by the IMO as properly implementing the STCW78/95 Convention” (Wikipedia, 2013b), i.e., giving full and complete effect to the Convention. The IMO initial STCW White List was revealed on the 73rd session¹⁰ of MSC, including 71 countries and one Associated Member of IMO In 2000. Table 4 shows the parties included in on the white list at 6 December 2000.

Table 4 - Parties Included on the “White List” at 6 December 2000

Argentina	France	Maldives	Singapore
Australia	Germany	Malta	South Africa
Bahamas	Ghana	Marshall Islands	Spain
Bangladesh	Greece	Mexico	Sri Lanka
Belgium	Honduras	Morocco	Sweden
Brazil	Iceland	Netherlands	Thailand
Bulgaria	India	New Zealand	Tonga
Canada	Indonesia	Norway	Trinidad and Tobago
Colombia	Ireland	Pakistan	Turkey

¹⁰ 27 November-6 December 2000

Croatia	Israel	Panama	Tuvalu
Cuba	Italy	Peru	Ukraine
Cyprus	Jamaica	Philippines	United Kingdom ***
Chile	Japan	Poland	Uruguay
China	Kiribati	Portugal	USA
Denmark*	Latvia	Republic of Korea	Vanuatu
Egypt	Liberia	Romania	USA
Estonia	Luxembourg	Russian Federation	Venezuela
Finland	Malaysia	Samoa	Viet Nan
Hong Kong China**			
* Includes Faeroe Island	** Associate Member	*** Includes Isle of Man, Bermuda Cayman Islands, Gibraltar	

Source: International Maritime Information. (2007, April 11). *71 countries make IMO's initial STCW*

White List. Retrieved 30 May 2013 from the World Wide Web:

http://www.simic.net.cn/news_show.php?id=9015

By June 2013, the STCW 1978 had 157 Parties, representing 99.23 percent of world tonnage. Appendix 1 summarizes the status of Conventions. From the accepted degree (ranking the third with the number of the contracting parties as illustrated in Appendix 1) and the unified implementation degree, it can be concluded that the STCW1978 is one of the most significant instruments of IMO.

3.3.2 National aspect

China has actively participated in the STCW implementation and the related work, being the first country to submit the information exchange report and involved in the initial White List for giving “full and complete effect” to the Convention. “The Independent Evaluation Report of Quality Management on Seafarers’ Education,

Training, Examination, Assessment and Certification of People’s Republic of China” was submitted to IMO in 2003 and subsequently in 2008, both of which have passed the audit of IMO specialists. China has remained in the White List under the every-five-year quality audit concerning the seafarers’ training, examination and certification with good reputation.

It is with the effort of China to fulfill the STCW78 that universal appraisal has been received from IMO, maritime authorities of other states as well as the whole international shipping industry. “As of September 2012, there are 22 states (including the United Kingdom) or regional Maritime Authorities who have signed the Recognition Agreement of Seafarers’ Certificate of Competency with China MSA.” (Guangdong MSA, 2013)

The active performance of China has been reflected in the national legal system, with more than thirty years’ effort since the submission of the ratification documents to the STCW Convention, which consists of law¹¹ and regulations¹² as well as more than 200 corresponding regulatory documents¹³ in the light of STCW Convention, covering aspects like the seafarers’ education, training, examination, certification, and the protection of seamen’s right. The domestic legislations corresponding to the primary responsibilities stipulated in the Convention are listed in Appendix 2.

China has committed to the implementation of STCW 78/10 (Manila Amendment)

¹¹ “The maritime traffic safety law” and “The Crew Rules”

¹² “The measures for the administration of registration of crew”, and “Seafarers competency examination and Certification Rules”, “Crew training management rules”, “Crew duty rules”, “The seafarer service management regulations”, and “Regulations of management on Dispatched Seafarers”.

¹³ “Management measures Seafarers training certificate issued”, “Measures for the management of seafarers certificate of health”, “Requirements on Seafarers health inspection”, “Quality management rules of maritime education and training”, “Quality management rules of crew management”, “The detailed rules for the implementation of maritime education, training and crew management quality management system audit”, and “Management regulations of the education, training of seafarers and auditor to crew management quality management system”.

since Manila Diplomacy Conference. Strategy has been set up timely, compliance mechanism established and implementation related work deployed by China MSA. After two years' effort, the management system, competency standards and health standards have been developed, revised and improved comprehensively and systematically. The preparation for implementing the STCW78/10 has been completed.

Certain adjustment has been made according to the new requirements of Amendment. China MSA has adjusted the type and scope of Certificate of Competency, devised and printed the new version of the certificate and credentials of training, updated and upgraded the question bank, exam system and the seafarers' information system. Besides, new knowledge training has been carried out by China MSA for the crew management staff, the examiner, assessor, auditor as well as the teachers of maritime universities/colleges and training schools/entities.

Specifically speaking, the maritime universities/colleges and training schools/entities have revised the textbooks in accordance with the new requirements, improved the teaching syllabus and teaching plan, carried out the training of teachers, and purchased teaching related equipment and instruments. As for the shipping companies, they have attached great importance to the implementation by arranging the seafarers participating in the training for the refreshed knowledge in the transition period based on the unified deployment of MSA, in order not to influence the normal operation of ships.

3.4 Analysis on influence of the evolution

As the umbrella law, the United Nations Conference on the Law of the Sea (UNCLOS) has endowed states the right of sovereignty to decide their own internal affairs under the jurisdiction of the country without foreign interference. However, with further development of globalization, more and more realities show a trend that the international organizations are likely to override the sovereignty of states and supervise their function. Examples can be easily found, like ICAO supervision scheme and PSCMoUs, etc. Here let us focus on IMO, “a specialized agency of the United Nations”, whose “primary purpose is to develop and maintain a comprehensive regulatory framework for shipping and its remit today includes safety, environmental concerns, legal matters, technical co-operation, maritime security and the efficiency of shipping”. (Wikipedia, 2013c)

Why does it bother to establish the audit scheme, and endeavor to institutionalize it? Some argue that it is a thought output of the developed countries in Europe and America, which seems to be sovereign interventions. History has seen the hasty actions like the double hull requirements after the Titanic accident or ISPS Code facing the “911” terrorist attack. And now there are worries about and doubts on the IMSAS, especially the institutionalized transformation from VIMSAS to MIMSAS. What is the influence of the evolution? How will the implementation of IMO mandatory instruments be affected? Is the development of the VISAS optimistic? This thesis will explore these questions by the importance, necessity and feasibility analysis.

3.4.1 Importance of the evolution

With years of successful practice, IMSAS has won more supports internationally. However, there are still many different attitudes towards MIMSAS. Why is the supervision on the performance of states significant? How will the implementation of STCW Convention be affected?

3.4.1.1 From the international perspective

(1) Initiative implementation and better performance to reduce the accidents

Accidents never stop from happening although with the international Conventions, thus the outside force or universal pressure is needed for the initiative implementation and better performance, like the VIMSAS. However, VIMSAS itself has the defects which hinder IMSAS from playing a better supervision and management functions while the MIMSAS can address the problems effectively and encourage the initiative implementation. “Both VIMSAS and MIMSAS aim to improve the performance of the contracting parties” (Lin, 2008, p. 12), yet the mandatory feature of MIMSAS are more likely to have the Conventions implemented by the contracting parties.

(2) More competitive ability for contracting states and enhanced influence for IMO to promote better shipping market

From the IMO point of view, the IMSAS has played a decisive role in the shipping industry with the accelerated development of economic globalization, which means the “IMO needs more powerful teeth to ensure the compliance” (Krilic, 2012).

What's more, the shipping policies advocated by IMO have basically become the benchmark of the contracting parties because of the increasingly important role of IMO in the international shipping economy.

In fact, MIMSAS can help IMO enhance the international influence and improve its coordinating function worldwide. In addition, with MIMSAS, IMO can better understand the compliance status of contracting parties and offer them the appropriate technical support to reduce or even eliminate the failure to fulfill the obligations of developing countries due to the lack of hardware. Besides, the IMSAS "as the dynamic scheme, aiming at auditing the six major Conventions, can effectively guarantee the navigation safe, shipping economy efficient and the environment clean" (Sha, 2009, p. 23). The institutionalization of IMSAS will help the majority of the contracting states upgrade and remain the standards of the international level and reduce the substandard ship and unqualified seafarers.

Since full implementation of the Convention can avoid maritime accidents and bring the contracting states economic benefit, it is concluded that the MIMSAS carries a big weight for the development of both IMO and the contracting parties.

Generally speaking, the initial objective of IMSAS was to provide the contracting parties a platform for experience exchange, and promote their capacity of implementing Conventions. The institutionalization of IMSAS will have more countries participate in this interaction to well understand the international standards, draw up the corresponding ones of their own with the international technical support by IMO and be more competitive in the safer and better functioned shipping market.

(3) More comprehensive supervision and extensive implementation exchange

As for the STCW Convention, the internal supervision scheme was created in 95 Amendment and the provisions have been further improved by the Manila Amendment as mentioned above. Therefore, some wonder whether the institutionalization of IMSAS is meaningful for the STCW implementation. There is no doubt that to some extent the audit is significant as the supervision scheme appeared even earlier than the IMSAS. Moreover, the existing supervision scheme within the STCW Convention still has shortcomings despite its success. Therefore, there is a need to have a more comprehensive supervision scheme to complete the internal audit scheme in the STCW Convention and a more extensive exchange platform for better implementing the STCW Convention together with other mandatory instruments.

Table 5 shows the areas under the STCW Convention to be covered by the VIMSAS. According to Resolution A.974 (24),

With regard to the STCW Convention, as amended, the audit should not seek to duplicate existing mandatory audit requirements contained in that Convention. Only the aspects of that Convention that are not covered by audits in accordance with the applicable provision of that Convention should fall fully within the scope of the audit scheme, and there should be verification only of the parts of that Convention that have been previously evaluated.

(IMO, 2005)

Table 5 - Areas under the STCW Convention to be covered by the Voluntary IMO Member State Audit

Dispensations (Article VIII)	Are reports related to dispensations issued during the year to seagoing ships sent to the Secretary-General?
Equivalentents (Article IX)	<p>Has the Party retained/adopted any equivalent educational and training arrangements since communicating information pursuant to regulation I/7?</p> <p>If yes, have the details of such arrangements been reported to the Secretary-General for circulation to all STCW Parties</p>
Control (Article X)	Has the Party enacted legislation permitting port state control on foreign ships visiting their ports?
Communication of information (Article IV and regulation I/7)	<p>Has the Party communicated information pursuant to Article IV and regulation I/7?</p> <p>If yes, is the Party confirmed by the Maritime Safety Committee as found to be giving ‘full and complete effect’ to the provisions of the STCW Convention?</p> <p>Has the Party made any changes to the legal and administrative measures after Article IV and regulation I/7 to ensure compliance with the requirements of the Convention, in particular regulations I/6, I/9 and I/10?</p> <p>If yes, has this information been communicated to the Secretary-General?</p>
Quality Standards-Independent evaluation (Regulation I/8)	<p>Has the Party communicated its reports of independent evaluation pursuant to regulation I/8?</p> <p>If yes, the Maritime Safety Committee has confirmed that the Party continues to give ‘full and complete effect’ to the provisions of the STCW Convention, the</p>

	objective evidence would be the report itself.
Watchkeeping (Regulation VIII/1 and VIII/2)	Has the Party enacted legislation to establish and enforce rest periods for watchkeeping personnel and to direct the attention of companies, masters, chief engineer officers and all watchkeeping personnel to the requirements, principles and guidance set out in the STCW Code to ensure that safe continuous watches appropriate to prevailing circumstances and conditions are maintained in all seagoing ships at all times?

Source: International Maritime Organization. (2005, December 21). *Framework and Procedures for the Voluntary IMO Member State Audit Scheme* (A 24/Res.974). London: Author.

3.4.1.2 With the practice in China

First of all, we need to understand the implementation status of STCW Convention in China. Although china submitted the related documents based on Regulation I/7 “Information Exchange” of General Provision as the first contracting party, and was listed in the White List as one of the first states confirmed as “full and complete compliance of the Convention” (Sha, 2006, p. 42), there are still certain problems of implementation to be solved in reality, such as passive performance of implementation subjects.

The parties for fully implementing STCW Convention are comprehensive, including the MSA of China as well as the other subjects, namely seafarers, maritime universities/colleges and training schools/entities, and shipping companies. There is no doubt that MSA is the major implementing subject; however, it is true that the MSA is merely in charge of the subject of “management, supervise and inspection”,

“and more work has to be done by the other subjects, whose activities play a vital role in the “seafarers’ competency” (Sha, 2006, p. 42). Whilst in fact, the other subjects have performed passively.

Why are the other subjects reluctant to implement the STCW actively? The reasons are various from economic, technical and political aspects. For example, full compliance is costly, the technical requirements are too high to achieve and the passive performance is the usual practice nationally. Because shipping industry is an international competitive market, we should take measures to have all the implementation related subjects to perform actively in order to keep up with the pace of other maritime states. Therefore, MIMSAS seems to be a good choice for its mandatory and technical support features.

China is becoming a major seafarer supply country and it has been an important policy of China to increase the portion of Chinese seafarers dispatched abroad. At present, China, as one of the major seafarers supply countries, “has approximately 1.65 million seafarers of all kinds, including 0.65 million seamen and 0.20 million officers/senior seamen” (Guangdong MSA, 2013). Being recognized of the close relationship between the competency of seafarers and the navigational safety as well as the environmental protection, China MSA, as the maritime authority, has devoted to the qualification of seafarers with education, training, examination and certification management system in compliance of STCW Conventions. However, disputes still exist on the quality of Chinese seafarers concerning the comprehensive qualities of Chinese seafarers. For example, the communication capabilities in English, job skills, service consciousness, work attitude, and team spirit are not satisfied to the requirements of international famous shipping enterprises. In addition, the cross-cultural working and living abilities need to be further improved. Besides,

more attention should be paid to the failure to achieve the desired effects through training seafarers with updated knowledge, and the methods focusing more on the theoretical knowledge than the practical operation etc, especially the unsatisfied qualities of inter-disciplinary talented seafarers.

Therefore, it is not only the international obligations but also the political and economic need for us to fulfill the STCW Convention, and it is helpful to seek the opportunities to exchange with the experienced maritime states so as to really improve the competitiveness of Chinese seafarers. Fortunately, MIMSAS provides the exchange platform as VIMSAS while with stricter requirements and passing the audit is an effective propaganda for the competency of Chinese seafarers.

Generally speaking, a more authoritative audit scheme, i.e. MIMSAS is significant to draw more attention of various subjects to better implementing the STCW Convention and help improve the image of the contracting party with high qualified seafarers.

Yet there may still be objections on the necessity of the institutionalization even if consensus is achieved on the importance of evolution. They may hold the view that VIMSAS is good enough without worrying about the conflict between the national sovereignty and the audit scheme, if more countries are encouraged to apply for the audit. Therefore, whether the MIMSAS is necessary should be further discussed.

3.4.2 Necessity of the transformation

Based on the definition of Oxford Advanced Learner's Dictionary (2013b), necessity of transformation means the institutionalization of audit scheme is "a thing that you must have and cannot manage without" or "a situation that must happen and that cannot be avoided".

3.4.2.1 From the international perspective

(1) Full implementation of all contracting parties needs sharper teeth with mandatory character

Frankly speaking, there are some shortcomings of VIMSAS that can not be ignored from the initial objective of IMSAS. To be specific, VIMSAS lacks compulsory feature for the contracting parties; therefore, the numbers of and the degree of attention paid by them can not be ensured only with the free will. However, all contracting parties to the related IMO mandatory instruments are requested to be audited under MIMSAS and the IMO can play a vital role internationally with the sharper teeth of MIMSAS.

(2) Implementation of STCW Convention needs to be carried out with that of other instruments

When it comes to the STCW Convention, some have the dissent that the institutionalization may be unnecessary for the existing performance monitoring provisions within the STCW Convention itself. But the author thinks that the objection hold a part as the whole. Although we should recognize the usefulness of this kind of audit scheme and admit its improvement in the Manila Amendment, it is undeniable that the MIMSAS is more comprehensive and influential applying for six

IMO mandatory instruments. Moreover, the STCW performance practice is inseparable from that of the other Conventions. For example, the improvement of ship construction standards in SOLAS will certainly raise the requirements on competency of seafarers in the STCW to ensure the safe and efficient operation of ships. Meanwhile, the good performance of seafarers can hardly be made onboard ship whose construction has not passed the audit of IMO. As said in the MSC 91/11/5,

There is value in the inclusion of the Convention as part of the III Code, as it provides an overview of a country's ability to meet its obligations under all IMO Conventions; and that this audit can provide the oversight function for those STCW requirements that are not covered by the Convention's oversight structure.

(IMO, 2012b)

Therefore, it is necessary to have the MIMASA from the STCW implementation point of view.

(3) Fair competition needs the compulsory scheme

The mandatory audit is of necessity due to the countries' hesitation in implementing the higher requirements of Convention. The IMO slogan has changed from "safer shipping, cleaner ocean" to "safe, secure and efficient shipping on clean ocean", which means the security has stood side by side with the two traditional theme, i.e. safety and environmental protection by IMO, and the security responsibility has been involved in the training of seafarers. Meanwhile, as efficient shipping is the new

objective, IMO has recognized the development of navigational technology as the important technical guarantee, which also adds new requirements to the competency of seafarers. The added requirements lead to the amendment of Convention, and new obligations of the amended Convention will bring more pressure on the contracting parties from various aspects like legislation, politics, economy and human resources etc. Not all contracting parties are likely to voluntarily implement the Convention, leading to polarization of performance of states, which means only a portion of states comply with the Convention while some unqualified seafarers still exist in other states. So a mandatory audit amongst countries would be more appropriate in compelling the implementation of stricter standards.

On the other hand, MIMSAS will truly realize the fair competition in the seafarers' market with "No More Favorable Treatment (NMFT)", and encourage and offer the reassurance for the contracting states, including the related maritime administration and maritime universities/colleges as well as the training schools/entities, which have implement the STCW Convention actively.

Thus the MIMSAS is needed to strengthen the unified management of major seafarers supply countries, guarantee and improve the quality of the seafarers to reduce the accidents resulting from human failure and have the sustainable development of seafarer market worldwide. From this point of view, institutionalization is of significant urgency that can not be ignored. To sum up, MIMSAS is not only necessary but the task of priority.

3.4.2.2 With the practice in China

China, as a major seafarers supply countries, has been doing well in implementing the

STCW Convention. For example, China was listed in the initial White List as shown in Table 4 and passed the audit of VIMSAS in 2009 with good performance. However, seafarer market in China is facing the bottleneck of development nowadays. The number of seafarers working abroad and the total number of Chinese seafarers are asymmetric while the quality of seafarers and the reputation of China seem to be mismatched; therefore, a powerful boost is needed for China to open up the international seafarer supply and demand market and find the firm foothold.

Greater pressure will be brought with the appearance of MIMSAS on the development of seafarers, but the pressure can be well converted into motivation, and become the possible driving force for the present circumstances in China, like the saying says “Necessity is the mother of invention”. It is necessary for China to take actions with the help of MIMSAS to increase the international influence with better implementation image and strive for greater space for the seafarers dispatched abroad to amplify the occupational opportunities.

3.4.3 Feasibility of conversion

Every new system is a double-edged sword including MIMSAS, which has a great influence on the development of shipping industry and the shared homeland – the earth, so the feasibility analysis is urgently to be launched.

Feasibility means “that is possible and likely to be achieved” (Oxford Advanced Learner’s Dictionary, 2013c). Doubt has existed since the emergence of IMSAS in terms of its feasibility and it was claimed that the start-up capital and administrative

burden brought to the countries audited would lead to the failure of IMSAS. Yet history has witnessed the good function of IMSAS and is going to see its institutionalized development from VIMSAS to MIMSAS. Now it is high time for us to analyze the feasibility of MIMSAS because more countries with various situations than VIMSAS will be involved in the scheme which is bound to encounter lots of difficulties. Let us discuss the feasibility in detail.

3.4.3.1 From the international perspective

First of all, we need to face up the opposed voices of the MIMSAS since the institutionalization was brought up in 2009. The disadvantages of MIMSAS can be concluded as five aspects, which are the reasons that the IMSAS has started with the voluntary version:

- Difficult to be approved by contracting parties in IMO;
- Longer time is needed than VIMSAS to start the IMSAS;
- No enough time to test the feasibility of IMSAS in the mandatory style;
- Easy to embarrass the contracting states audited and to trigger the struggle/battle of sovereignty;
- Easy to bring sensitive political issues

With the development of VIMSAS, the first three disadvantages have been solved and MIMSAS is argued to be ready to board the stage of history. In addition to the last two disadvantages, there are some other issues to be considered for the feasibility of MIMSAS.

- (1) The appropriate punishment system should be established as soon as possible

IMSAS is aimed to audit the performance of the contracting states to certain Conventions, and the biggest challenge that IMSAS was confronted with is the sovereignty of state entitled by the international law which no organizations have the right to override. As specified in UNCLOS, a state has the right to handle its internal affairs without external interference, which can to some extent explain the existence of Flag of Convenience (FOC). VIMSAS has avoided the sensitive issue by contracting parties' voluntary application and the partly public implementation report with the permission of states audited or anonymously, while for MIMSAS, it has to face the sovereignty directly. Besides, the vague expression "to the satisfaction of the administration" in Conventions like the STCW Convention adds complexity to the audit. One of the prerequisites for MIMSAS to be carried out is the establishment of corresponding punishment measures without which the mandatory is meaningless. Here comes the problem: what should the audit standards be and how to deal with the failure in full implementation of the Conventions? The standards must effectively prevent the poorly performing states from passing the audit and the punishment measures should not be focused on blaming the states failing to implement Conventions but help them to be able to be fully and completely comply with the Convention. However, simply expelling this kind of states or temporally suspending the membership of them are not good choices. Therefore, although the MIMSAS is expected to make the contracting parties more actively implementing the obligations than VIMSAS, the sharper teeth will not work without the well functioned punishment system or warning scheme.

(2) The standards for MIMSAS should be made mandatory effectively

III Code is to MIMSAS what "Code for the implementation of mandatory IMO Instruments" is to VIMSAS. The difference is that III Code needs to be made

mandatory, and it is a controversial issue how to make III Code mandatory. One suggestion is to make III Code mandatory by establishing a new treaty. But it may take a lot of time for the treaty to enter into force and the treaty may not be accepted by all the related contracting parties. Another solution is to make III Code and auditing mandatory by amending the corresponding Conventions which is the final choice of IMO at the moment. The specific time for the amended Conventions to enter into force is scheduled as shown in Table 2. The latter way is much easier for the institutionalization with the tacit procedure; what is more, not only the existing contracting parties but the subsequent ones to the Conventions would be bound by the amendment.

(3) Confidentiality issues should be considered and addressed

The confidentiality of the audit report also evokes the fierce discussion. Reports of the VIMSAS are basically confidential and authorized by the countries audited. When it comes to MIMSAS, questions like “which kinds of reports are to be public?”, “which need the entitlement of the states audited?”, and “when and how?” are to be addressed. So far,

C 109 decided that the release of the executive summary report and the Member State’s comments on the implementation of its corrective action plan to the public or Member States should be subject to the authorization of the Member State concerned prior to the audit. The Council also agreed to keep this aspect of the mandatory scheme under review.

(IMO, 2013d)

However, the effect of the decision and the reaction of the contracting parties are still on the way. It is still worth thinking how to modify the STCW Convention in order to make III Code and auditing mandatory with the auditing provisions in the STCW Convention itself. There are different opinions internationally concerning the typical STCW issue when discussed in the sub-committee of MSC.

A significant number of countries did not support inclusion of the audit scheme into the Convention, considering that the Convention already includes an oversight structure that was significantly changed as part of the 2010 amendments. Article IV, regulations I/7 and I/8 of the STCW Convention requires that Parties: .1 communicate information to the Secretary-General to demonstrate that they are giving "full and complete" effect to the Convention; and .2 carry out an independent evaluation every 5 years. This is an ongoing process, whereas the III Code when made mandatory would take some time to implement.

(IMO, 2012b)

The United States supports the inclusion of the STCW Convention in the IMSAS, with the belief that "obligations that are already covered sufficiently within the oversight process in the STCW Convention should not be re-audited as part of the III Code audit, and that the Convention's oversight process and the IMSAS should complement each other" (IMO, 2012b).

(4) Cost comes first definitely while benefits maybe come later

The institutionalization has little effect on the countries passing the VIMSAS concerning the start-up capital and the cost of training auditors of their own. As for the other contracting parties which will be audited by the MIMSAS directly, the capital and training issue would not be tough enough to stop the institutionalization of IMSAS with the help of IMO. On the other hand, if the states have passed the MIMSAS, more competitiveness will be added to the seafarers and economic benefits may be brought to the shipping industry accordingly.

(5) Grace period should be provided and the latent risk should be evaluated

All contracting parties will be involved in the MIMSAS after its entry into force, should the MIMSAS set up different auditing standards facing the various implementation status of the STCW in the contracting states, or a universal one without exception? As is well known, the implementation status of the STCW can not be the same all over the world, and a grace period is always needed for some developing countries which can not fully implement some high standards of the STCW78/10. If all the countries are audited with the same standards, some major seafarers supply countries would be eliminated for its poor performance, and the rearrangement of the sequence of the supplying countries may cause big problems in the whole seafarers' market.

In other words, the harsh audit may disturb the normal pace of development of seafarers in the countries whose comprehensive strength including the training infrastructure is not as good as the developed countries. And the seafarers in those countries may lose their job as the dispatched crew, or even the seafarers who still have the job may encounter the decrease of the salary, which will influence the seafarer market and shipping industry of those countries and eventually the

international market. “The 2005 BIMCO/ISF study estimated that there was a modest shortage of officers (around 2% of the total stock in 2005). This was projected to increase marginally over the period to 2015” (BIMCO/ISF, 2010, p. 2). Thus it may be not too exaggerated to say we will not have enough seafarers worldwide. Specifically speaking, the seafarers will have to face the increasingly strict requirements with the institutionalization of IMSAS in the scheduled time as in Table 2, “together with the enhanced Flag State Control (FSC), PSC and the intervention behavior of Coastal States, which may leave little space for the development of the officers structure to fit for the shipping industry” (Wu, 2011, p. 25).

We admit the audit is very important and necessary; however, the results may be the last thing we want to see without the appropriate schedule. So, it should be carefully considered what kind of regional standards is workable or how long is enough for the countries to be prepared for the universal standards?

(6) The possibility of polarization between the international standard and the domestic standards should be considered

Under MIMSAS, the seafarers and ships in the international market will satisfy the high standards with high cost, and there is no doubt that the high cost will lead to high salary and working capital. With the demand of the regional development, some substandard ships and low qualified seafarers sifted out of the international market would appear in the region under the domestic standards for its low cost. The latent risk should be evaluated before it really happens.

(7) One obvious defect of the IMSAS itself should be recognized which is likely to

affect the development of MIMSAS

The public interest of global ocean management is not fully reflected in the IMSAS and the corresponding relationship between the ocean jurisdiction excessively exercised and obligation bore by the powerful states are not comprehensively considered. For example, The United State has not ratified the UNCLOS till now. However, the US takes advantages of the entire international platform and instruments, including the IMO and ILO instruments to exercise its power while, when it comes to the duties, the US would like to be evasive. As a matter of fact, “the government provisions have not been involved in the IMSAS and no audit has been carried out on the performance of obligations undertaken by the power state”. (Sha, 2009, p.25) To be honest, it is a loophole of IMSAS that needs to be fixed.

Whether the MIMSAS is feasible depends on how the above problems are solved, and there will be a long way to go for MIMSAS.

3.4.3.2 With the practice in China

China has applied for and passed the VIMSAS in 2009 and always been on the White List, and MIMSAS seems to be easier for China to accept and help China to improve the international influence. “The new estimates of supply for 2010, covering all countries of the world, amount to around 624 thousand officers and 747 thousand ratings” (BIMCO/ISF, 2010, p. 8) as shown in the Figure 5, and “shares from the Indian subcontinent and, in particular, the Far Eastern group of countries (especially China, Indonesia and the Philippines) continue to rise, in some cases at an accelerated pace” (ibid).

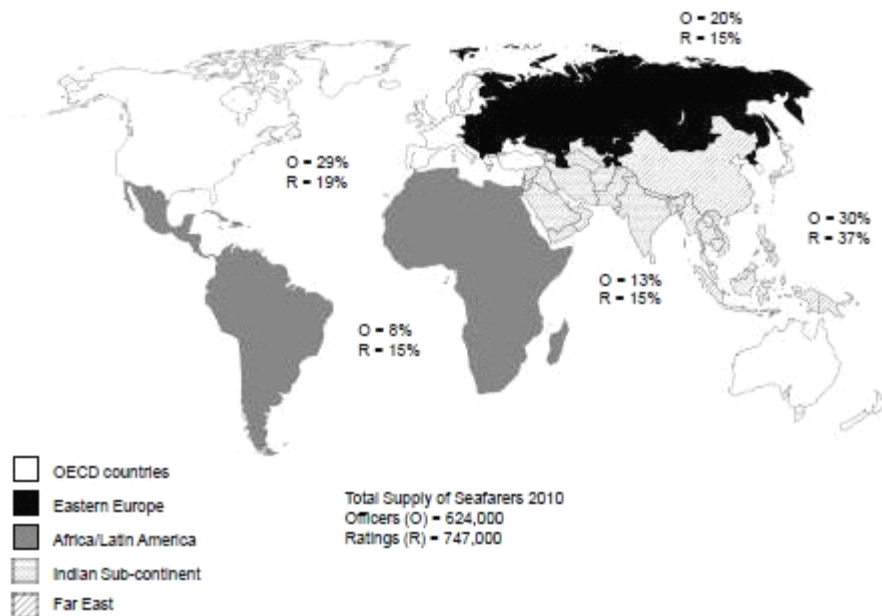


Figure 5 - Worldwide Supply of Seafarers

Source: BIMCO/ISF estimates

In spite of the advantages, we need focus more on the challenges and difficulties the MIMSAS may bring about. Firstly, we need time to improve the implementation defects found by VIMSAS in 2009. The seemingly satisfactory result of the 2009 audit with three non-conformities, four observations and eight problems, can not cover the shortcoming of our performance, like the nonsystematic management with passive and random features.

These problems leave China a long way to go for its China MSA to catch up with the advanced management system requested by the IMSAS. A scheme is to be established urgently to systematically assess and evaluate the implementation activities and timely discover and rectify the non-compliances of our country. All the work can not be done at one stroke and some time is needed for the preparation since hasty actions seldom turn out well. However, it is scheduled that on January 1st, 2016, III Code will enter into force, which means the work is arduous with limited

time.

In addition, the high standards of STCW Convention are difficult for China to fully implement instantly. Several problems need to be solved. Seafarers have to better understand the STCW Convention, be familiar with the corresponding national legislations, master the required skill and improve the language ability as well as the teamwork. Maritime universities/colleges and training schools/entities lack sufficient simulators, need to rewrite the textbooks and foster the qualified seafarers according to the new standards. Shipping companies may encounter issues like retraining and reallocating seafarers. China MSA, as the maritime authority will have to handle the allocation of the incompetent seafarers deal with the resulting employment issues and keep an eye on the performance of the above implementing subjects. All of them are new challenges for China, and as the butterfly effect, every small move may have great influence on the future shipping industry of China, even the world, which should be of great caution.

Therefore, MIMSAS is still a big challenge for China although we have done relatively well in VIMSAS. Of course, since the institutionalization of IMSAS is of importance and necessity, China as the Class A state of IMO, will endeavor to promote the entry into force and implementation of MIMSAS.

CHAPTER 4 SUGGESTIONS IN IMPLEMENTING STCW

With the analysis above, we have agreed on the importance and necessity of the MIMSAS and recognized the difficulties to carry it out. Therefore, more work need to be done for the MIMSAS to be implemented.

4.1 From the international aspect

As for the MIMSAS itself:

- The assorted punishment system, the confidentiality of implementation report and the way of making the III Code mandatory with different instrument should be decided in detail;
- The risk assessment with MIMSAS should be carried out, and how to cope with the possible consequences should be well prepared;
- More qualified auditors should be trained and be requested to communicate and learn from the auditors for the audit scheme of the STCW Convention.

Besides, all the implementation related subjects should fully understand the stipulations of the STCW Convention and of MIMSAS to achieve a better performance. The competent authority is definitely the most important

implementing subject to the STCW Convention, whilst the other subjects relating to seafarers' competency, namely, the seafarers, the shipping companies, and the maritime universities/colleges and training schools/entities, should not be neglected. Generally speaking, the contracting states should take the following actions:

- To strength the international exchange and learn the outstanding performance experience from others;
- To learn the IMO strategy and implement the STCW Convention actively in order to have more weight in the international platform and fight for more benefits;
- To make a feasible strategy by comprehending the content of national legislation, the policies and specific measures of distinct implementing subjects.

From the international aspect, all the implementation related subjects should realize the importance of active implementation and the inevitable trend of the institutionalization as well as the opportunities and challenges brought about by the MIMSAS.

4.2 From the domestic aspect

Countermeasures to implement the STCW Convention in China under the MIMSAS should be taken. As a matter of fact, more challenges will be brought to China MSA concerning the seafarer related work while more work will be done by the maritime universities/colleges and training schools/entities in terms of aspects like the curriculum setting.

As mentioned above, the amount of Chinese seafarers dispatched abroad can not

match the reality that China is the major seafarer supplying country worldwide, due to the relatively poor quality of Chinese seafarer. The disproportion will hinder the seafarer market from further developing and the poor quality of seafarers may stop China from passing the MIMSAS, thus the situation should be changed as soon as possible. Therefore, more challenges will be brought to China concerning the seafarer related work.

4.2.1 For seafarers

Only by enhancing pertinence and initiative of seafarers' training, can the STCW Convention be fully implemented and can the competitiveness of the seafarers be improved through implementation. As Professor Dr. Yu Shicheng, President of Shanghai Maritime University (SMU), points out in the BIMCO BULLETIN,

Modern seafarers must have sufficient training before they embark on their careers with the maritime and pollution prevention regulations, such as SOLAS, STCW, MARPOL and MLC2006 as well as international Conventions that are continually being updated. It is vital to educate seafarers to a standard that will ensure the continuity of a supply of high quality of seafarers.

(Asian Focus, 2007)

Thus, the following work should be done.

- Study on STCW78/10 should be carried out to help the seafarers better understanding the provisions;
- Efforts should be made to continuously improve the professional quality of Chinese

seafarers and overcome the “short board” (Liu & Shao, 2012, p.52) of them in accordance with the requirements of the STCW Convention combined with the need of market in China, such as the seafarers’ poor English level, poor professional ethics and obedient awareness, their failure to fully master the working skills concerning the modernized large-scale ship, and their insufficient capability of communication and cooperation, which influence the share of international seafarers market;

- The legislation should be made in China as soon as possible to govern the labor service and guarantee the right of seafarers.

4.2.2 For companies

Low cost in labor is the characteristic of China’s shipping enterprises which lead to the loose management of seafarers. The exposed problems of management should be solved, i.e. sub-standardization, randomness, lack of credit. Since the poor management endangers the ship navigation safety and efficient operation, thus,

- The pressure should be put on the shipping enterprises to improve the competency of managers and perfect the officers’ knowledge and skills concerning management;
- The seafarer information platform should be built for convenient management, in the light of the requirements of Convention;

4.2.3 For marine universities or colleges, and training schools or entities

The seafarers’ training and education will usher in the new challenges brought with the formal implementation of STCW 78/10 and the entry into force of the MIMSAS.

- The exam-oriented education should be changed to accelerate the construction of the navigational curricula and the reform of teaching methods, and to innovate the occupational skill training for seafarers;
- The updated Model Course should be made in accordance with the new requirements of the Amendment, where the standards of training and education including the security requirements are promoted, in order to enhance the competence of seafarers and better protect the maritime environment;
- The maritime educational and training institutes should focus on the operational ability and emergency response capacity, try to expand the international exchange and introduce the diversified seafarers training mode, and improve the international competitiveness of seafarers.

4.2.4 For Maritime Administration

China MSA is the competent authority that is responsible for the implementation of the STCW Convention. According to the Convention, “Traffic Safety Law of People’s Republic of China” and other applicable regulations, the main functions and duties of China MSA are as follows: legislative functions, training management function, examination and evaluation functions, certification and visa function, supervision management function of the seafarers’ post and duty, and supervision function of accountability of the companies. Therefore, China MSA should pay more attention to the supervision management function and mobilize the other subjects to perform initiatives.

In order to improve the quality of the seafarers, better implement the STCW78/10, prepare for the MIMSAS actively, we should do the following.

- Build the maritime performing mechanism in China, where the implementing work is involved in a systematic and sustainable management system;
- Promote the comprehensive elevation of the China's maritime management level;
- Establish the related domestic legislations based on the STCW Convention, emphasize the internal construction of organizations and the external supervision and guidance on performance;
- Strengthen the supervision function to improve the comprehensive ability of seafarers, pay more attention to the problems of brain drain and lack of seafarers' occupational ability; help to improve the training structure and enhance the teaching level as well the shipping company's management level;
- Correct the problems found in the VIMSAS;
- Seek the opportunities to improve the implementing capabilities in the transitional period, like the European Audit in 2012;
- Participate in the auditing work actively and cultivate the auditors.

The shipping industry in China seems to have entered a bottleneck period, after the STCW 78/10 (Manila Amendment) was passed. If taking the institutionalization of IMSAS as an opportunity and carrying out the deep reform, China may develop into the power state from the big maritime state; realize the sustainable development of the seafarer market with high quality and improve the international competitiveness of Chinese seafarers. Therefore,

A comprehensive understanding should be well established among all the seafarer related subjects on the various factors which influence our seafarers' competence and the competent authorities of all level, the industry organizations

and the related education and training institutions must work coordinately to form a sustainable development mode and cultivate high quality seafarers.

(Meng, 2010, p. 4)

These prerequisites may “offer China a strong seafarer market with qualified seafarers and keep China a highly competitive position concerning human resources in the world” (Meng, 2010, p. 5).

CHAPTER 5 CONCLUSION

Shipping industry with its internationalized feature has connected countries closely. It is a common phenomenon that a ship constructed in Country A has the nationality of Country B by registration, with seafarers from Country C. Argument that who is to blame shows up in the situations when the ship is found substandard in Country D, the seafarers are discovered incompetent onboard ships by Country E, or accidents relating to the ship happen in Country F, leading to the loss of life and property or pollution to the environment, etc. Each party concerned would claim for its complying with the Conventions and fulfilling its duties, while the media would either impose pressure on the related authorities and appeal for the instant conclusion or call on a new bill in order to prevent the tragedy from occurring. However, the maritime accidents have not been effectively reduced, let alone eradicated with the new bill.

In the hustle and bustle, someone starts thinking about the essential causation of accidents or casualties and focuses on the failure of fulfilling the obligations. Questions are raised: How to ensure the full implementation of the obligations of the contracting parties to the Conventions? How to effectively manage the open registration to enhance the genuine link between the flag and the ship? How can we practically improve the quality of seafarers dispatched abroad? And how to ensure

the developing countries equipped with enough amount of approved training infrastructure?

Then the international society realized the importance and necessity to audit the implementation of the Conventions. Thus, the ISM Code and PSC Regime have been established. However, the sovereign right has protected the contracting party from being audited by any other organizations, giving the state too much discretion to fulfill the obligations stipulated in the Conventions, which may be the latent danger to the maritime accidents and hinder the shipping industry from developing further. Fortunately, people were inspired with the success of ICAO's audit scheme, and the IMSAS emerged as the times require. After years of development, the institutionalization of IMSAS has been put on the agenda.

As for the STCW Convention, which stipulates the standards concerning the seafarers training and education, the full implementation plays a decisive role in the development of shipping industry. In order to help improve the performance of contracting states and reduce the maritime accidents, IMSAS has been introduced. So far, IMSAS has successfully promoted the performance of contracting parties and will embrace its institutionalization in the near future. Great efforts have been made by IMO in the process and the contracting parties have devoted themselves in implementing their obligations to the Conventions. All the ten mandatory instruments involved in the IMSAS will be influenced by the MIMSAS, and in this thesis the effects on the STCW Convention with its internal audit provisions have been discussed in various aspects.

After discussion, we have recognized the importance and necessity of MIMSAS for implementing STCW Convention, and analyzed the feasibility and put forward the

corresponding suggestions combined with the performance related subjects. The full implementation of STCW Convention is a significant while difficult work for many countries including China, which will be a milestone in the seafarers' development in those countries.

“All audits” including IMSAS, “are performed to establish facts rather than faults”. And “they aim to establish, by unbiased means, factual information on some aspects of performance” (Rasmussen, 2013, p. 13). Thus, it should be borne in mind that the ultimate object of IMSAS including VIMSAS and MIMSAS is not simply passing the audit itself, but the improvement of the performance level of the state and the achievement of the highly qualified seafarers, which may ensure the safe navigation and clean ocean as well as efficient shipping.

In addition, since the implementation status of the STCW Convention is various in different contracting states with distinct situations, MIMSAS still has a long tough way to go. As for China, the Class A member state of IMO, we believe it will try its best to make a contribution to the MIMSAS for its entry into force and good function.

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APPENDIX

Appendix 1 - Summary of Status of Conventions

As at 3 June 2013			
Instrument	Date of entry into force	No. of Contracting States/Parties	% world tonnage*
IMO Convention	17-Mar-58	170	97.16
SOLAS 1974	25-May-80	162	99.20
SOLAS Protocol 1978	1-May-81	117	96.86
SOLAS Protocol 1988	3-Feb-00	104	95.70
Stockholm Agreement 1996	1-Apr-97	11	8.59
LL 1966	21-Jul-68	161	99.19
LL Protocol 1988	3-Feb-00	98	95.96
TONNAGE 1969	18-Jul-82	152	99.06
COLREG 1972	15-Jul-77	155	98.71
CSC 1972	6-Sep-77	78	60.95
1993 amendments	<i>Not yet in force</i>	9	6.18
SFV Protocol 1993	<i>Not yet in force</i>	17	19.78
Cape Town Agreement 2012	<i>Not yet in force</i>	-	-
STCW 1978	28-Apr-84	157	99.23
STCW-F 1995	29-Sep-12	16	4.37
SAR 1979	22-Jun-85	104	62.49
STP 1971	2-Jan-74	17	23.98
SPACE STP 1973	2-Jun-77	16	23.33
IMSO 1976 Convention	16-Jul-79	97	94.92
1998 amendments	31-Jul-01	40	26.91
2008 amendments**	<i>Not yet in force**</i>	12	4.07
FAL 1965	05-Mar-67	115	90.77
MARPOL 73/78 (Annex I/II)	2-Oct-83	152	99.20
MARPOL 73/78 (Annex III)	1-Jul-92	138	97.59
MARPOL 73/78 (Annex IV)	27-Sep-03	131	89.65
MARPOL 73/78 (Annex V)	31-Dec-88	144	98.47
MARPOL Protocol 1997	19-May-05	72	94.30

(Annex VI)			
LC 1972	30-Aug-75	87	67.17
1978 amendments	<i>Not yet in force</i>	20	17.49
LC Protocol 1996	24-Mar-06	42	35.64
INTERVENTION 1969	6-May-75	87	75.10
INTERVENTION Protocol 1973	30-Mar-83	54	50.36
CLC 1969	19-Jun-75	36	2.59
CLC Protocol 1976	8-Apr-81	53	56.41
CLC Protocol 1992	30-May-96	130	97.19
FUND Protocol 1976***	22-Nov-94	31	47.33
FUND Protocol 1992	30-May-96	111	91.22
FUND Protocol 2000****	27-Jun-01	-	-
FUND Protocol 2003	3-Mar-05	29	18.91
NUCLEAR 1971	15-Jul-75	17	20.38
PAL 1974	28-Apr-87	35	45.88
PAL Protocol 1976	30-Apr-89	26	45.44
PAL Protocol 1990	<i>Not yet in force</i>	6	0.85
PAL Protocol 2002	23-Apr-14	10	2.40
LLMC 1976	1-Dec-86	54	54.55
LLMC Protocol 1996	13-May-04	47	45.13
SUA 1988	1-Mar-92	160	94.63
SUA Protocol 1988	1-Mar-92	148	89.65
SUA 2005	28-Jul-10	23	30.49
SUA Protocol 2005	28-Jul-10	19	29.75
SALVAGE 1989	14-Jul-96	63	50.48
OPRC 1990	13-May-95	105	71.04
HNS Convention 1996	<i>Not yet in force</i>	14	13.61
HNS PROT 2010	<i>Not yet in force</i>	-	-
OPRC/HNS 2000	14-Jun-07	29	45.67
BUNKERS Convention 2001	21-Nov-08	70	90.04
AFS Convention 2001	17-Sep-08	65	82.25
BWM Convention 2004	<i>Not yet in force</i>	36	29.06
NAIROBI WRC 2007	<i>Not yet in force</i>	6	2.81
HONG KONG Convention	<i>Not yet in force</i>	-	-
<i>Source: IHS-Fairplay - World Fleet Statistics 31 December 2011</i>			
** At its twentieth session, the IMSO Assembly decided to apply the amendments provisionally, with effect from 6 October 2008, pending their formal entry into force			

*** Consequent on the cessation of the 1971 Fund Convention on 24 May 2002 this Protocol is considered having ceased with effect from the same date.

**** Entered into force by means of tacit acceptance procedure on 27 June 2011

Source: International Maritime Organization. (2013c). *Summary of Status of Conventions*. Retrieved May 20, 2013 from the World Wide Web:

<http://www.imo.org/About/Conventions/StatusOfConventions/Pages/Default.aspx>

**Appendix 2 - Supporting Table of Corresponding Domestic Legislation to the
Primary Responsibilities in the Convention**

Responsibility clauses	Requirements in the Convention	Corresponding legislation in China	Remarks
I/2 certificates and endorsements	Authorization; Progress; Format; Dispensation	Article 6, 7 of Maritime traffic safety law (crew documented requirements); Article 9, 10, 11 of the Crew Rule of the People's Republic of China; Rules of Seafarer examination and certification of the people's Republic of China; Measures for the implementation of the exam; Management measures on certificate issuance for seafarers training in The people's Republic of China; Rules For the seafarers certificate management	
I/3 Principles governing near-costal voyages			No related practice
I/4 Control procedures	Scope supervised by PSC; Deficiency (detaining a ship)	Article 4, 8 of The safety inspection rules of people's Republic of China; Article 43, 44 of The seafarers competency examination and	

		certification rules of the people's Republic of China	
I/5 National provisions	<p>Holding certification;</p> <p>Investigation on Incompetency;</p> <p>Fraud of Certificates;</p> <p>Subsequent measures on incompetency</p>	<p>Article 44, 45, 46 of Maritime traffic safety law;</p> <p>Section 1 of Chapter 3 of Maritime Law;</p> <p>Article 48,49, 53-59 of The crew rule;</p> <p>Chapter 8 of Rules of examination and Certification on seafarers competency in The people's Republic of China Rules;</p> <p>Approach on Illegal Scorecard; Article 31-33, 34, 35, 36 of Regulations of maritime administrative punishment in the people's Republic of China(In violation of administrative order);</p> <p>Section 3-6 of Chapter 4 in Regulations of maritime administrative punishment in the people's Republic of China;</p> <p>Approach on crew illegal scorecard management in the people's Republic of China</p>	
I/6 Training and assessment	<p>Administration, supervision and monitor on the training and assessment;</p> <p>Method, procedure and material for competency training;</p>	<p>Regulations of crew of the people's Republic of China;</p> <p>Training management rules of crew of the people's Republic of China;</p> <p>Measures on seafarers training certificate issued management of the people's Republic of China;</p> <p>Outline and standards for Various examination and evaluation;</p>	

	Qualification of those responsible for the training and assessment	Standards for simulator; Management Approach on the examiner and assessor, etc.	
I/7 Communication of information	Report of the initial communication of information; Report of the independent evaluation; Other subsequent reports		As for China, the Implementation reported was submitted in 1997, and the independent Evaluation Report was submitted both in 2003 and 2008.
I/8 Quality Standards	Establishment of quality system and related standards; Carrying out of Independent evaluation	The crew rule; Rules of Crew training management; Rules of Maritime Education and training quality management of the people's Republic of China (Rules of the examination, assessment and Certification of quality management), etc.	
I/9 Medical standards	Medical standards; Medical certificate	The measures for the administration of the people's Republic of China seafarer certificate of health; On the issuance of notice of crew health inspection requirements (New); Seafarer examination requirements (transport industry standard), etc.	
I/10 Recognition of certificates	Procedure	Chapter 5 of Rules of seafarers competency examination and Certification of the people's Republic of China	China has signed the certificate of recognition or

			mutual recognition agreements with 22 countries and regions
I/11 Revaluation of certificates		<p>Article 15, 16, 42 of Rules of seafarers competency examination and Certification of the people's Republic of China;</p> <p>Special training in crew examination and certification procedures of the bulk liquid cargo ship of the people's Republic of China;</p> <p>Approach on the passenger special training, examination and certification to passenger ship crew of the people's Republic of China;</p> <p>Measures on seafarers training certificate issued management of the people's Republic of China</p>	
I/12 Use of simulators		<p>Training management rules for crew of the people's Republic of China(the bridge resource management training equipment requirements concerning the captain, the driver, chief engineer, engineers, GMDSS operators, etc);</p> <p>Notice on preparatory work related matters in performing the Manila amendments to the STCW Convention (engine room resource management, electronic chart display and information display system of teaching equipment requirements);</p> <p>Outline and standards for Seafarers</p>	

		competence assessment	
I/13 Conduct of trials	Trials having same degree of safety, security and pollution prevention as provided by the regulations		No related practices
I/14 Responsibilities of companies	Responsibility of Company to ensure the safe manning and competent seafarer	Article 6, 7, 8 of The maritime traffic safety law of the people's Republic of China; Chapter 6 of Rules of examination and Certification on seafarers competency in The people's Republic of China	
I/15 Transitional provisions		New regulation system	

Source: compiled by the author.