

The STCW Manila Amendments and its Challenges to the Far East

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Abstract : *The comprehensive review of the STCW 1978, as amended in 1995 and associated Code was carried out from 2006 to 2010. These amendments will have a certain degree of impact on Maritime Education and Training(MET) institutes in terms of education and training of seafarer worldwide. Particularly, the Far East region countries are effected more than other regions since they covered about 30% of officers and 37% ratings in the world. In view of these facts this dissertation conceived to analyze the problems in the Far East main seafarer supply countries faced the implementation of "STCW Manila Amendments" To analyze these problems, this dissertation carried out questionnaire research to 7 targeted main MET of major Far East seafarer supply countries. After research this dissertation suggests the possible solutions such as, Joint On-Board Training Center; Joint Asia Maritime E-learning Systems; methods to reducing work-load, ship inspection burden and determine mandatory minimum safety manning standards in a safe way; technical cooperation fund to installation of training equipment; and clarify vague terminology of STCW Manila Amendments, to solve problems identified through the questionnaires.*

Key words : *STCW Manila amendments, MET, implementation, far east region, possible solutions, seafarers, challenges comply with STCW, Joint On-Board Training Center, Joint Asia Maritime E-learning Systems, safety manning*

1. Introduction

The competence of seafarers is one of the most critical factors in the human element to ensure safe and efficient ship operations. (ISF/ICS, 2011) It is directly related with safety of life at sea and the protection of the marine environment as well. The STCW 78 as amended, constitutes a comprehensive set of regulations intended to maintain the highest standards of competence globally (ISF, 2011). Hence, the International Convention on Standards of Training, Certification and Watch-keeping for Seafarers (STCW) is placed as an important international convention that will affect the human element in the maritime industry.

There are about 1.4 million seafarers who were trained under the STCW Convention in the world (BIMCO/ISF, 2010). In addition, there are numerous MET institutions or universities located in these countries. Therefore, comprehensive revisions of STCW Manila Amendments, which completed on June 2010, will be a crucial factor to all seafarer supply countries to ensure that the highest standards of seafarer competence are maintained globally.

The STCW Manila Amendments entered into force on 1st January 2012 and have a 5 year grace period until 1st January 2017.

Most major seafarer supply countries are now amending

or have already amended their regulations to comply with the STCW Manila amendment. However, the same as after the major revision of STCW 1978 in 1995, there will be difficulties or problems met by MET institutes in implementing the new requirements within the country (Maquera, 1998).

Therefore alternative proposals or solutions should be available to resolve the difficulties or problems after STCW Manila Amendment.

This study will conduct a detailed review of the STCW Manila Amendments and some materials such as related publications, dissertations which done by former World Maritime University students and BIMCO/ISF manpower update report, will be used as the basic source of this dissertation research.

Also, a questionnaire survey will be carried out to identify the opinions and status of MET institutes or universities in implementing the STCW Manila Amendments locally. Particularly this dissertation will focus on Far East countries, which are the biggest seafarer supply region among five geographical areas on the BIMCO/ISF 2010 manpower update report. The biggest seafarer supply countries among 27 Far East countries are the Philippines, and followed by China, Indonesia, Vietnam, the Republic of Korea, Singapore and Malaysia in terms of

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the number of officer supply. Additional research will be carried out from the author's country such as status of training ship and accident rate of certain type of ships. In addition, the author will carry out a case study to understand hours of rest status in certain type of ships.

2. Reviews of the STCW Manila amendments

The comprehensive review of the STCW 78, as amended 95 had made major revisions from Chapter I to VIII of STCW Convention. This chapter will give detailed reviews of the STCW Manila Amendments from Chapter I to VIII with the exceptions of Chapter IV and VII as the amendments are minor.

2.1 STCW chapter I-Regulation I, Section A/I and B/I

The definitions of several important terms have been revised. The previous term "appropriate certificate", which was left for interpretation by administrations, has now been defined specifically in the "STCW Manila Amendments" as Certificate of Competency (CoC), Certificate of Proficiency (CoP) and documentary evidence as appropriate to discourage the fraudulent practices for CoC and CoP.

New definitions have also been developed to specify the qualification required for Electro-Technical Officers (ETO) and Electro-Technical Ratings (ETR), which was previously not defined in STCW 78, as amended 95. Under STCW 95, there are no requirements on proof of competency for deck and engine ratings. However, in the STCW Manila Amendments, the ratings which are serving on seagoing ships of 500 G/T or more will have to obtain certification showing their competency in areas such as navigation, cargo handling and stowage, controlling the operation of the ship and care for persons, maintenance and repair, at the support level.

Due to the development of technology and demand for more convenient training programs, distance learning and E-learning are gaining popularity. To ensure the quality and methodology of such programs, guidance on distance learning and E-learning have been added in Section B-I/6. Currently, many MET institutes or universities in the world are already running the distance learning and E-learning system. However, some MET institutes are facing challenges to cope with these programs especially those in

Far East countries where the internet and computer technology is not at an advance stage.

Regulation I/11, paragraph 3 and Section A-I/11, paragraph 3 are new requirements for ship masters and officers working on board tankers to establish continued professional competence for tankers, and

The implementation dates of the STCW Manila Amendments are as follows;

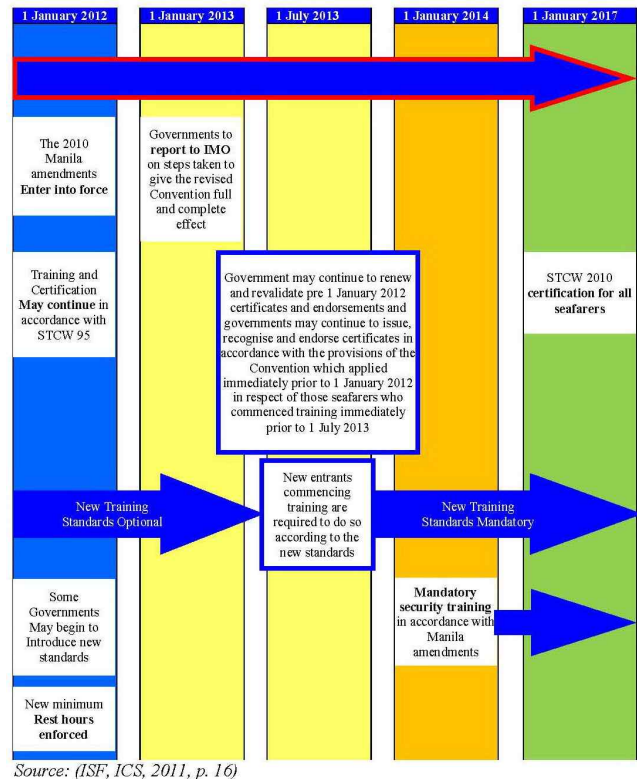


Fig. 1 Transitional provisions

2.2 STCW chapter II-Regulation II, Section A/II and B/II

The amendments to this chapter covers demonstration of additional competence by the officers at operational level and senior officers at management level in Sections A/II and B/II. The operational level seafarers will have to demonstrate competence in using advanced technology, such as ECDIS¹⁾, use of effective communication, and ability to transmit and receive visual signalling such as, the Morse code signalling in the area for navigation safety. Under the function for controlling the operation of the ship, the officers will have to demonstrate their competence in ensuring compliance with pollution prevention requirements, and application of leadership and team working skills such as Bridge Resources Management (BRM). One of the main

1) Electronic Chart Display and Information System

amendments in this chapter is the inclusion of minimum certification requirements of ratings as able seafarer deck.²⁾ This new requirement leads to standardization of the competence level of the able seafarers specially in the knowledge and skills in handling of deck and mooring equipment.

“The STCW qualification of Able Seafarer Deck is intended to reflect the wide range of tasks undertaken by more experienced deck ratings and should serve as an incentive for training and career progression”. (ISF, 2011)

2.3 STCW chapter III-Regulation III, Section A/III and B/III

The STCW Manila Amendment Chapter III prescribes the standards for seafarers working in the engine department.

The on board training requirements for officers in charge of an engineering watch or designated duty engineer, on seagoing ship powered by main propulsion machinery of 750 kW propulsion power or more, has been increased from 6 months to not less than 12 months as part of an approved training program including on board training with a documented training record book.

Similar to the new minimum certification requirements for able seafarers deck, the able seafarers engine are required to be duly certified. There are two certification categories for the able seafarers engine, namely, those forming part of an engineering Watch (RFPEW), and those acting as able seafarers in the engine-room. According to BIMCO manpower 2010 update, there are approximately 747,000 ratings engaged in the maritime industry as of 2010.(BIMCO/ISF, 2010) Therefore, this new amendments will have significant impact on the industry particularly to countries such as China, Indonesia, Malaysia and the Philippines which are the major ratings supply countries. (BIMCO/ISF, 2010)

Another main amendment in this chapter is the introduction of a new minimum certification category for Electro-Technical Officers and Ratings. The purpose of this category is to address the increasing demand for such expertise on board the vessels due to the electronic control

system of the ship is main propulsion and equipments.

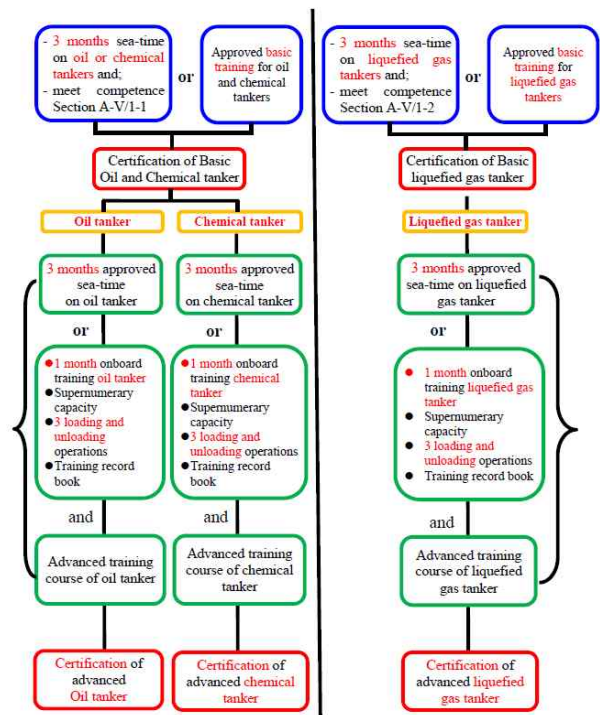
The Engine-Room resource Management (ERM) and team-work and leadership training are now mandatory at both the operational and management levels.

2.4 STCW chapter V-Regulation V, Section A/V and B/V

STCW Chapter V is standards regarding special training requirements for personnel on certain types of ships. This includes tankers and passenger ships. There are two levels, i.e. basic and advanced training, of certifications requirements for both the oil and chemical tankers, and liquefied gas tankers.

“For officers and engineers with “immediate responsibility”³⁾ for loading, discharging, care in transit, handling of cargo, tank cleaning or other cargo-related operations on oil tankers will be required to obtain a certificate in advanced training for oil tanker cargo operations.”⁴⁾

The requirement for certification in basic training and advanced training for oil, chemical and liquefied gas tankers are summarized in Figure 2.



Source: author

Fig. 2 Certification procedures of tankers

2) STCW Chapter II - Regulations II/5

3) The term “person with immediate responsibility” means a person in a decision-making capacity with respect to loading, discharging, care in transit, handling of cargo, tank cleaning or other cargo-related operations. (STCW Manila Amendments Chapter V, Section B-V/1, paragraph 1)

4) STCW Manila Amendments Chapter V, Regulation V/1-1, paragraphs 3

The point is all officers and engineers who has immediate responsibility for cargo handling need to have basic tanker training course and sea-time experience of tanker ship. In addition to the basic fire-fighting course, new competence requirements in carrying out fire-fighting operations on all types of tankers have been included.

2.5 STCW chapter VI-Regulation VI, Section A/VI and B/VI

The STCW Manila amendments chapter VI incorporates proficiency in emergency, occupational safety, medical care and survival functions. The term "Certificate of Proficiency" has replaced the phrase special certificate or documentary evidence, as appropriate to ensure consistency of interpretation among administrations.

Regulation VI/6 "Mandatory minimum requirements for security-related training and instruction for all seafarers" was also added, in view of the increasing piracy and armed robbery accidents at sea. The types of new security training as stated in the amendments are as follows :

- Security-related familiarization training; (all crew members)⁵⁾
- Security-awareness training or instruction; and (ISPS Code, all crew members)⁶⁾
- Training for seafarers with designated security duties (person with security duties)⁷⁾
- Requirements for issue of CoP for Ship Security Officers (ISPS Code)⁸⁾

The refresher training requirements were vague in Chapter VI, Section A. The requirement of "*within five years*" for basic safety training and other proficiency training was left for parties to interpret loosely before. (Safety4sea, 2011). The new Section A-VI/1, 2 and 3 has been included to ensure that competence for such training is being maintained. The refresher training may be carried out in the form of E-learning, shipboard drills and training or shore based training.

2.6 STCW chapter VIII-Regulation VIII, Section A/VIII and B/VIII

The most significant changes in Chapter VIII were hours of rest regulations. The amendments are highlighted as follows :

*"A minimum 10 hours of rest in any 24 hour period; and 77 hours in any 7-day period"*⁹⁾

*"The hours of rest divided into no more than two periods, one of which shall be at least 6 hours in length, and the intervals between consecutive periods of rest shall not exceed 14 hours."*¹⁰⁾

Exception clause of hours of rest regulations has also been included:

*"parties may to allow exceptions from the required hours of rest provided that the rest period is not less than 70 hours in any 7 day period" and on certain conditions, namely"*¹¹⁾

The objective for amending these regulations is to reduce fatigue. However, the consideration should be taken prior to inception of the exception clause in the STCW Manila Amendments, Section A/VIII, paragraph 9. Further details on this issue will be discussed in Chapter 3 of this study.

3. Challenges in complying with the STCW Manila amendments

3.1 Method of research to find challenges

According to BIMCO/ISF 2010 manpower Updates, the Far East region supplies 29.5 % of officers and 36.7 % ratings to the world wide shipping industry. (BIMCO/ISF, 2010)

These countries cover 86.8% of officers and 80.0% of ratings supplies in the Far East region. Therefore, these countries have been selected for detailed research on the challenges faced in the implementation of the STCW Manila Amendments. Questionnaires were sent to the seven (7) MET institutes or universities that are in charge of seafarers training under STCW Convention in their countries, in these 7 countries respectively.

5) Section A-VI/6, paragraph 1

6) Section A-VI/6, paragraph 4

7) Section A-VI/6, paragraph 6 to 9

8) Section A-VI/5, paragraph 1 to 4

9) Section A-VIII/1, paragraph 2

10) Section A-VIII/1, paragraph 4

11) Section A-VIII/1, paragraph 9

Table 1 Number of officer supply in Far East ranks 7 countries

Countries (Far East Rank No. 7) In terms of number of officers supply	Active supply		
	Officers	Ratings	Total
1 Philippines	57,688	23,492	81,180
2 China	51,511	90,296	141,807
3 Indonesia	15,906	61,821	106,202
4 Vietnam	10,738	11,438	22,176
5 Republic of Korea	9,890	2,888	12,778
6 Singapore	7,523	1,150	8,673
7 Malaysia	6,313	28,687	35,000
Sub-Total	159,569	219,772	379,341
Far East Total	183,814	274,510	458,324
%	86.8	80.0	82.7

Source: (BIMCO/ISF, 2010)

As it will be an uphill task to conduct questionnaire surveys for all MET institutes or universities located in the 7 countries, one main MET institute has been chosen in each country for the purpose of this research. The list of questionnaire replies received is listed as follows. It is noted that Indonesia did not reply to the questionnaire. Hence, in order to understand the challenges faced by Indonesia, the report submitted by the Indonesia to the Association of Southeast Asian Nations (ASEAN) related to STCW Convention has been referred to instead.

Table 2 Seven seafarers training institutes or universities in Far East ranks 7 countries

Country	Name of institute or university
Philippines	National Maritime Polytechnic (NMP)
China	Dalian Maritime University (DMU)
Indonesia	Report to ASEAN by Indonesian government (Association of Southeast Asian Nations)
Vietnam	Vietnam Maritime University (VIMARU)
Korea (ROK)	Korea Institute of Maritime and Fisheries Technology (KIMFT)
Singapore	Maritime and Port Authority of Singapore (MPA) with Singapore Maritime Academy (SMA)
Malaysia	Malaysian Maritime Academy (ALAM)

3.2 Analysis of questionnaires

The purpose of the survey was to investigate the challenges faced by each country in implementing the STCW Manila Amendments. These 7 countries represent 86.8% of the officers supplies in the Far East region.

Some of the problems faced by the countries in implementation of the STCW Manila Amendments are,

analysed after questionnaire replies received, as follows:

a) Difficulties in providing sufficient onboard training placements for cadets, to meet sea service requirements as required under STCW regulations, to get CoC;

b) The distance learning and E-learning are useful methods to eliminate barriers to give high quality education to seafarers. However, most MET institutes or universities do not have that system or have some difficulties even if they have it;

c) Hours of rest regulations is harmonized with MLC 2006¹²⁾. However, there are important factors that have to be considered to determine hours of rest and standard manning levels such as paper workload, disparity of manning standards and a lot of ship inspection by different authorities;

d) Additional budget needed for installation of new equipment to comply with STCW Manila Amendments or provide better training programs; and

e) Other issues that need to be considered in the STCW Manila Amendments as follows

- The possibility of misinterpretation of KUPs¹³⁾
- Definition of qualified person was not defined
- Issuing party of training record books for approved seagoing service of tanker ships

4. Possible Proposals

The STCW Manila Amendments are more comprehensive as compared to the previous version. Many core training courses have been made mandatory instead of optional. More emphasis has been put on the mandatory qualifications requirements of officers and ratings other than deck and engine. The STCW Manila Amendments also shows support in introducing more technology based on training methodology and they harmonize some of the certification requirements with other international conventions. However, it is not all a bed of roses. Based on the questionnaire survey conducted, some MET institutes or universities are facing problems in implementing the requirements as mentioned above.

4.1 Joint On-Board Training Center (JOBTC)

As highlighted previous Chapter 3.2 a), most MET institutes or universities are facing increasing challenges in

¹²⁾ Maritime Labour Convention 2006

¹³⁾ Knowledge, Understanding and Proficiency under STCW Convention Section A

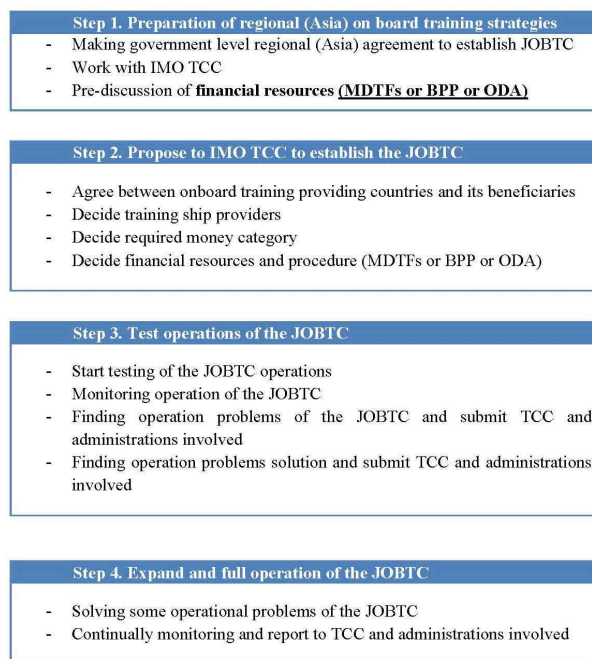
securing onboard ship training placement on seagoing ships as required in the STCW, Regulation II/1 and III/ 1

There are several reasons that led to insufficient placements capacity for on board training to cadets. High costs in building and maintaining of training ships are one of the contributing factors.

The countries with relatively sufficient capacity for on board training may extend such vacancies to other countries which require such placement for their cadets to fulfil their on-board training. This could be carried out through a Joint On-Board Training Centre (JOBTC). The JOBTC idea was first raised during the STCW diplomatic conference in Manila on 22nd June 2010. An agreement to establish a Global On-Board Training Centre (GOBTC) to provide on-board training placements was established. This is a potential organization in its embryonic stage, started by 5 maritime universities¹⁴⁾ and structured to support the initiative to have all shipping companies work globally to meet the current and future needs of qualified officers by supplying onboard training positions. However, so far there is no progress of GOBTC beyond the agreement. This may be due to several factors. First, the agreement was not established at governmental level, unlike the Official Development Assistance (ODA) programs (IMO, 2007). This makes it difficult for it to be pursued further at later stage. Second, the funding for supporting this program was not clearly established and properly worked. Taking as lessons learnt, the proposed JOBTC, could be funded by IMO through an international technical cooperation program. There are 4 funding resources in the IMO for Technical Co-operation.¹⁵⁾ Also there are 3 future priorities of ITCP¹⁶⁾ are as follows:

- a) Advocacy of global maritime rules and standards
- b) Institutional capacity-building
- c) Human resource development (IMO, 2011)

The JOBTC could be inserted as a future priority under the “Human resource development” which includes training of seafarers and shore-based personnel. The procedures to establish the JOBTC could be developed as follows:



Source: author

Fig. 3 Procedure to establish JOBTC

4.2 Joint Asia Maritime E-learning Systems(JAMES)

The STCW Manila Amendments are embracing enhanced learning methods such as distance learning and E-learning formats as guidance.¹⁷⁾ However, based on the questionnaires research, currently most of the MET institutes or universities will not be able to provide distance learning and E-learning programs due to the following reasons:

- a) Lack of infrastructure.(i.e. internet)
- b) Lack of trainer resources for monitoring and assessment.
- c) Difficulty in assessing distance learning and E-learning course by administrations.

The STCW Convention, focuses on standardizing qualification, training and certification for seafarers. Taking ‘standards’ as the concept, a Joint Asia Maritime E-learning System (JAMES) could be established to provide global E-learning courses for developing countries that have difficulty in implementing such training courses. It is, of course, not a mandatory requirement to provide distance learning and E-learning to seafarers. However, it will be popular since it has good advantages as mentioned in

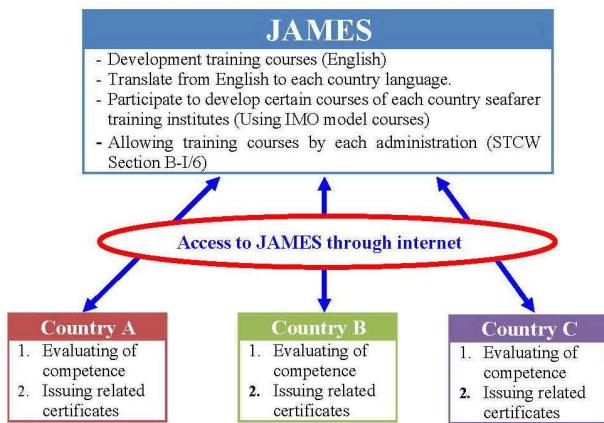
14) Korea Maritime University; Dalian Maritime University; Maritime State University of Russia; Istanbul Technical university ; and Jhon B. Lacson foundation maritime university

15) IMO TC fund, MDTFs, Bi-lateral arrangements, other arrangements and one-off cash donations.

16) Integrated Technical Co-operation Programme(ITCP) which is to assist governments which lack the technical knowledge and resources that are needed to operate a shipping industry successfully.

17) STCW Manila Amendments, Section B-I/6

Chapter 3. Figure 4 illustrates the possible approach of JAMES.



Source: author

Fig. 4 Concept of JAMES

There should be one expert representative from each participating country, and an assessor should be appointed. A Web-based assessment system could be set up to allow each participating country's assessor to evaluate its cadets easily. With the adoption of such a global platform for distance learning and E-learning, it will make it easier for developing countries to fulfil the STCW Manila Amendments Section B-I/6 paragraph 6.¹⁸⁾

4.3 Reducing work-load, ship inspection burden and determine mandatory minimum safety manning standards in a safe way

Based on the questionnaires research, most of the MET institutes or universities and experts consulted had opined that the hours of rest stated in the STCW Manila Amendments chapter VIII is reasonable and harmonized with MLC, 2006 requirements. However, also based on research the hours of rest requirement should take into consideration the work hours for carrying out paper work, disparity of manning standards among flag states and additional work hours in facilitating different types of ship inspections such as PSC, FSC¹⁹⁾, Class surveys and oil major inspections for tankers. Some of the factors within

human element which can potentially cause fatigue are workload aboard ship and in ports. The tasks such as paperwork requirement, schedule shifts and overtime can have big impact on seafarer's fatigue onboard leading to errors being made. (Ermal Xhelilaj, 2010)

4.3.1 Reducing paper work-load

The use of technology could be a solution to reduce the time required for doing paperwork and improvement in data recording procedures. For instance, "Det Norske Veritas (DNV) has developed the DNV Navigator, a computer-based tool that relieves the workload of the bridge team, secures ship operation and reduces costs and risks"(SSG, 2008). This system contains port entry information and checklists to assist specific to ports. This proposal is in line with IMO Facilitation Committee's (FAL) vision, as the committee is also looking at "Electronic means for the clearance of ships" in a Single Window System (MLTM, 2010) to facilitate and simplify the vessel's clearance processes. By moving towards the electronic platform, it will definitely reduce the paperwork load.

4.3.2 Mandatory minimum safety manning standards

The IMO instruments are binding, but do not sufficiently restrict countries and companies to specific manning levels. This leads to the proliferation of questionable manning scales where economic motives appear to be more of the issue than the principles of safety manning.

UNCLOS Article 94²⁰⁾, SOLAS, IMO Resolution A. 890(21)²¹⁾ and A. 955(23), ILO C180²²⁾, and MLC 2006²³⁾ are the international regulations which dealt with minimum safe manning standards for flag states and ships to ensure that ships are operated safely, efficiently and with due regard to security under all conditions. The UNCLOS Article 94 states the responsibility of flag states with regards to safety manning levels of ships, and paragraph 3 states that:

"Every flag states shall take measures for ships to ensure safety at sea with regard to certain matters such as construction of ships, manning of ships, labour conditions and the training of crews, taking into account the applicable international instruments"(UNCLOS, 1982)

18) Parties may allow the training of seafarers by distance learning and e-learning in accordance with the standards of training and assessment set out in section A-I/6.

19) Port State Control, Flag State Control

20) United Nations Convention on the Law of the Sea(UNCLOS), duty of the flag state.

21) Principles of Safe Manning, IMO Assembly 21st session.

22) International Labour Organization, Seafarers' Hours of Work and the Manning of Ships Convention, 1996 (No. 180)

23) International Labour Organization, Maritime Labour Convention 2006

The SOLAS consolidated edition 2009, mainly stipulates the certification requirements on ships for providing safe manning, with the objective of ensuring sufficiency and efficiency. ILO Convention C180, article 11 also stipulates rest hours for seafarers.

"Every ship to which this convention applies shall be sufficiently, safely and efficiently manned, in accordance with the minimum safe manning documents or an equivalent issued by the competent authority"(ILO, 1996)

The MLC 2006 regulation 2.7 (Manning levels) states that: "Each Member shall require that all ships that fly its flag have a sufficient number of seafarers employed onboard to ensure that ships are operated safely, efficiently and with due regard to security under all conditions, taking into account concerns about seafarer fatigue and the particular nature and conditions of the voyage"(MLC, 2006)

However, there is no particular procedure for determination of minimum safe manning levels. Most of the flag states determine safe manning based on the size and type of ship.

In order to unify this difference, developing mandatory international regulations which have more binding power to determine reasonable manning levels on board ships will ensure proper application of hours of rest regulations requirements.

4.3.3 Harmonizing ship inspections

Due to safety and commercial reasons, there are a series of inspection requirements, such as PSC, FSC, classification society and major oil companies. However, at a lot of times the items in these inspections are duplicated. To resolve the duplication of inspection items, it is hence proposed to harmonize the inspection requirements. For a start, each PSC region could consider recognising other PSC region's inspections which are conducted within 6 months. On the commercial side, the requirements from different oil major companies may be harmonized through the common platform of OCIMF, or recognising the inspection results from other major inspections (Chae, 2009). If the mandatory and commercial inspections can be combined as suggested above, it will reduce the multiple inspections burdens on ships, specially the tankers. This will help to improve hours of rest compliance on ships.

4.4 Technical cooperation fund to support installation of training simulation/equipment

The STCW Manila Amendments have recently added mandatory ECDIS, BRM and ERM training courses. Furthermore, the STCW Manila Amendments have added 84 new competence areas where methods for demonstrating competence has approved simulator training (DNV, 2010).

According to questionnaires research DMU, Indonesia MET institutes and VIMARU required enhanced ship simulator/equipment in order to provide those training courses. However, large capital investment is required for installation of training simulator/equipment. Hence, most of the MET institutes surveyed required more time and financial support.

MET institutes or universities which are lacking in training simulator/equipment could be supported by other developed countries such as Japan and EU countries which has interest in obtaining deck and engine officers to serve on board their merchant ships. For example, training institutes could be established in the Far East main seafarer supply countries such as in the Philippines. These efforts can be a possible approach to assist developing countries in enhancing their MET institutes and programs by installation of training simulator/equipment. However, this initiative should be restricted to certain MET institutes which are located in certain countries since the capital investments are restricted.

Step 1. Seminar with IMO, donor countries and recipient countries
<ul style="list-style-type: none"> - Identifying what kind of supporting are required for recipient countries - Identifying what kind of supporting can be by donor countries - Identifying support required sector - Identifying what kind help can be by IMO TCC
Step 2. Finding way to get financial resources
<ul style="list-style-type: none"> - Direct assistant from donor to recipient country (ODA); or - Through IMO TCC (MDTFs) or - Beneficiary Pays Principle (BPP)
Step 3. Take a step to supporting financial resources
<ul style="list-style-type: none"> - Make a agreement between donor and recipient country to support fund (ex : ODA or BPP); or - Propose to IMO TCC to get fund if agreed these support through IMO
Step 4. Install the equipment and monitoring
<ul style="list-style-type: none"> - Actual funding through ODA or BPP or IMO TCC - Install the simulator/equipment to recipient countries - Monitoring its operation usefulness

Fig. 5 Procedure for supporting financial resources

As this initiative will involve regional involvement, it could be funded by IMO (MDTFs)²⁴ or BPP²⁵ or ODA programs to resolve the financial difficulties faced by the

developing countries in installation of simulator/equipment. Figure 5 shows possible procedure for funding.

4.5 Clarify vague terminology

To eliminate the possibility of misinterpretation of KUPs which is not yet in-place after the STCW Manila Amendments, the HTW sub-committee²⁶⁾ and MSC²⁷⁾ may require that new IMO model courses which were newly added in the STCW Manila Amendment, be developed as soon as possible. Also, before developing new IMO model courses, the training providers need to work together between themselves as well as the administrations to ensure uniform compliance.

Each trainer has different teaching skills and levels even if they are all working in the same country and institutes. Some trainers may have very good skills or knowledge to teach whereas some trainers may not. (Rae, 2002). These differences may affect directly or indirectly the competence of seafarers. Therefore, a certain acceptable level to assess a qualified person is required. Hence, it is recommended to insert a definition for 'qualified person' in the STCW Convention, in order to ensure the acceptable level for such trainers. Also, the JAMES concept (see Figures 4) should be useful to ensure standardized teaching skills or related knowledge.

Lastly, it is also vital to determine the issuing party for tanker ships training books. It should be the Administration, or, by MET institutes on behalf of the Administration. Discussions of HTW sub-committee should be carried out together with parties to the STCW Convention to determine whether the issuing body of such training books.

5. Conclusion and suggestions

This paper attempted to identify the changes in the STCW Manila Amendments and the difficulties or problems faced by the MET institutes or universities in the Far East region. It also looks at the possible solutions for the difficulties or problems. The 7 MET institutes or universities chosen are located in these Far East countries in accordance to the ranking of the largest officers suppliers country to the least. Among them, this paper

identified some difficulties in implementing the STCW Manila Amendment through questionnaires.

Based on the outcome of the research, the author has developed the following recommendations to the Far East major seafarer supply countries, MET institutes, universities and IMO to solve their difficulties or problems with effective implementation of the STCW Manila Amendments.

a) The JOBTC can be good solution to provide on-board training services to cadets who have difficulties to meet on-board training requirements.

b) The MDTFs from IMO, Beneficiary pays principle from interested bodies and ODA from developed countries can be good financial resources to establish JOBTC. Further, these financial resources also can be used for installation simulation/equipment for developing countries who required more advanced training systems to meet the STCW Manila Amendments.

c) The JAMES can be good solution to provide global E-learning education programmes for seafarers who are staying in different countries.

d) The use of technology could be a solution to reduce the time required for doing paperwork and improvement in data recording procedures. The developing mandatory international regulations, which have more binding power to determine reasonable manning levels on board ships, will ensure proper application of hours of rest regulations requirements.

e) It will reduce the multiple inspections burdens on ships if the mandatory and commercial inspections can be combined specially the tankers. This will help to improve hours of rest compliance on ships.

f) The STW sub-committee of IMO should clarify the vague terminology of "qualified person" and make sure who can be the issuing party of training books for tanker ship training. Also, the training providers have to work together to ensure uniform compliance of KUPs.

24) Multi-donor Trust Funds(MDTFs) which provide financial and in-kind support to the ITCP.

25) Beneficiary Pays Principle(BPP)

26) Sub-Committee on Human Element, Training and Watch-keeping.(formerly STW)

27) Maritime Safety Committee

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