

THE MARITIME EDUCATIONAL TRAINING (MET) AND THE MARITIME SAFETY

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0 Introduction

This article analyses the well known relationship between the Maritime Educational Training (MET) and the serious deficiencies of the ships which can lead to maritime accidents.

We have focussed this question considering the importance that mainly has the educational training at the operational and management level on board the ships and its influence on the maritime safety and the pollution prevention.

The main problems of the present crews in most of the companies around the world have also been assessed; it is known that there are multinational crews and it can usually cause problems with the working language, other questions as the poor educational training in some countries, the actual problem of the certificates falsification, the crews ignorance of the international regulations related with maritime safety and the pollution prevention...

It is also included an exam of the serious deficiencies detected in the Port State Control Inspections related with the educational training of the crews and the establishment of the relationship with possible maritime accidents.

.1 Objectives

This article analyses the relationship between the Maritime Educational Training (MET), the Maritime Safety on board the ships and the serious deficiencies detected in relation with this subject by using data from the inspections made by the Paris Memorandum of Understanding on Port State Control.

.2 Used data

In this article have been used the SIRENAC database (this is the informatics application used by Memorandum of Understanding (MOU) on Port State Control (PSC) for consulting and reporting the data related with ships inspected under their provisions), the 2004 Blue Book and the results of the Concentrated Inspection Campaign (CIC) made on 2002 to verify the compliance of the STCW -78/95. The CIC's have as main objective the reinforcement of the inspections related with decided specific requirements, these campaigns are applied for a limited period of time, after which the results are analysed to achieve Conclusion.

.3 Methodology

Different ships registered in black, grey and white list flags have been selected, the inspections made on them during the year 2004 and the results of the Concentrated Inspection Campaign on STCW-78/95 made on the same ships during 2002 analysed. The followed criteria for selecting the ships has been that ships in which the CIC on STCW-78/95 had been applied in 2002, were also inspected in 2004, because the last blue book is referenced to the results obtained in 2004

With reference to the inspections made on 2004, only SOLAS related operational deficiencies have been selected in our analysis, and the study of the STCW Campaign has been centred in the questionnaire to be completed during the inspections.

All the ships have been selected by chance whenever they fulfilling the requirements above indicated.

1 SOLAS related operational deficiencies

- Muster list
- Communication
- Fire drills
- Abandon ship drills
- Damage control plan
- Fire control plan
- Bridge operational
- Operation of GMDSS equipment
- HSC operation
- Monitoring of voyage or passage plan
- Cargo operation
- Operation of machinery
- Manuals, instructions, etc.
- Establishment of working language on board
- Dangerous goods or harmful substances in packaged form
- Operation of fire protection systems
- Maintenance of fire protection systems
- Operation of live saving appliances
- Maintenance of live saving appliances
- Evaluation of crew performance
- Other (SOLAS operational)

2 Concentrated inspection campaign–STCW–78/95 questionnaire

Is the Flag State on the White List(IMO List)?

Safe manning document on board (SOLAS V/13)?

Is the ship manned according to the manning document?

Watch duty schedule posted(Ch VIII/1.5)?

Deck and Engineer officers hold appropriate certificates(Ch II & III)?

Are the certificates issued under the STCW95 amendments?

Is the correct number of personnel certified for operating the GMDSS in the sea area the ship is certified for (A-IV/2)?

Are the required documentation(s) for personnel with designated duties in order (Re: Muster list)?

If dispensation is issued to any of the required certified seafarers is it valid (not exceeding 6 months, Article VIII)?

Has the Flag State been consulted on any discrepancy?

3 Results

Three flags included in the very high risk category of the Black List Flags, three Grey List Flags and three White List Flags have been selected. Two ships per flag have been analysed for studying the SOLAS related operational deficiencies and the compliance of the STCW-78/95. The results are as follows:

Table 1 SOLAS related operational deficiencies (2004)

IMO	Flag list	Flag in 002	Current Flag	Inspections in 2004	Number of def. in 2004	Number of def. in 2004	Deficiencies
5070945	Black	Albania	Albania	3	26	3	Mainten. of <u>communications systems</u> deficient (2 <u>inspections</u>)-Mainten. of <u>fire protection systems</u> deficient- <u>Mainten. of life saving appliances</u> deficient (2 <u>inspections</u>)-Nautical public., navig. <u>charts not up to date</u> (3 <u>inspections</u>)-Nautical <u>public missing</u> - <u>Muster list not up to date</u>
7392244	Black	Albania	Albania	9	74	5	Mainten. of fire protect. systems deficient (6 inspections)- <u>Mainten. of life saving appliances</u> deficient (3 inspections)- <u>Navig. charts, nautic. publications not up to date</u> (5 inspections)- <u>Muster list not posted</u> - <u>Ship Security Plan not in working language</u> -ISM

							manual not in working language–Security operational deficiencies–ISM records delayed–Echo sounder missing (3 inspections)-SART & EEBD procedures missing–Mooring arrangements, one roller broken (2 inspections)-High pressure F.O. system not according with SOLAS–General mainten. of ship and equipment deficient
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7111860	Black	Tonga	Albania	1	4	1	Mainten. of fire protection systems deficient-Mainten. of life saving appliances deficient-Navig. charts not up to date
8230998	Black	Tonga	Korea Democr. Peop. Rep.	2	13	1	Mainten. of life saving appliances deficient -Nautical public., navig. charts not up to date–Muster list not up to date–Satellite EPIRB wrong location–Table of working hours not posted
7614965	Black	Cambodia	Cambodia	1	5	0	Annual survey not carried out–Cleanliness of ER–Crew certificates not original
6801212	Black	Cambodia	Cambodia	1	8	0	Mainten. of life saving appliances deficient -Compass correction log missing
8000123	Grey	Morocco	Morocco	2	7	0	Mainten. of life saving appliances deficient (embarkation ladder)
9143843	Grey	Morocco	Morocco	4	14	0	Mainten. of life saving appliances deficient -Mainten. of fire protection systems deficient-Nautical public. not up to date–Cleanliness of ER–Safety of navigation (arc of stern light not as required)-Operation of fire protection systems (fire doors key closed)
8301620	Grey	Cyprus	Cyprus	3	17	0	Mainten. of fire protection systems deficient-Nautical public. missing (3 inspections)-Navig. charts not up to date–Operation of GMDSS equipment–Mooring arrangements, four rollers sized
9064891	Grey	Cyprus	Cyprus	2	0	0	
8125844	Grey	Vanuatu	Vanuatu	1	3	0	Mainten. of fire protection systems deficient (emerg. fire pump)-Mainten. of life saving appliances deficient
7928794	Grey	Vanuatu	Vanuatu	1	0	0	
8420098	White	Germany	Germany	1	0	0	
9189574	White	Germany	Germany	2	0	0	
8801917	White	Isle of Man	France	2	1	0	Cleanliness of ER

9179751	White	Isle of Man	Isle of Man	1	0	0	
6704426	White	UK	UK	1	0	0	
8519954	White	UK	UK	3	2	0	Table of working hours not posted–Not manned according to the min. safe manning document

The ship Normand Pioneer–IMO 9179751 was inspected in 2005 and was found 11 deficiencies.

Table 2: Categories of deficiencies

Category of deficiencies	Number of inspections in which the categorie is repeated	Total number of insp. Analysed	Category found in black list flag	Category found in grey list flag	Category found in white list flag
Muster List	3	40	×		
Operation of GMDSS equipment	4		×	×	
Bridge operational	18		×	×	
Operation of machinery	3		×	×	×
Manuals, instructions, ...	12		×	×	
Establishment of working language on board	2		×		
Operation of fire protection systems	2		×	×	
Maintenance of fire protection systems	11		×	×	
Maintenance of live saving appliances	11		×	×	
STCW	2		×		×
Other (SOLAS operational): ISM /ISPS operational, general maint. of ship and equipment	7		×	×	

Table3: STCW deficiencies (CIC 2002)

IMO	Flag list	Flag in 2002	Current flag	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Def	Det	LW
5070945	Black	Albania	Albania	N	Y	Y	Y	Y	N	Y	Y	NA	NA	N	N	N
7392244	Black	Albania	Albania	N	Y	Y	Y	Y	Y	Y	Y	NA	NA	N	N	N
7111860	Black	Tonga	Albania	N	Y	Y	N	N	N	Y	Y	N	Y	Y	N	Y
8230998	Black	Tonga	Korea Democr. Peop. Rep.	N	Y	Y	Y	Y	N	Y	Y	NA	N	Y	N	Y
7614965	Black	Cambodia	Cambodia	N	Y	Y	Y	Y	N	Y	Y	NA	NA	Y	N	N
6801212	Black	Cambodia	Cambodia	N	Y	Y	N	Y	N	Y	Y	NA	N	Y	N	Y
8000123	Grey	Morocco	Morocco	Y	Y	Y	Y	Y	N	Y	Y	NA	NA	Y	N	Y
9143843	Grey	Morocco	Morocco	Y	Y	Y	N	Y	Y	Y	Y	NA	NA	N	N	N
8301620	Grey	Cyprus	Cyprus	Y	Y	Y	Y	Y	N	Y	Y	NA	NA	Y	N	Y
9064891	Grey	Cyprus	Cyprus	Y	Y	Y		Y	Y	Y	Y	NA	NA	Y	N	Y
8125844	Grey	Vanuatu	Vanuatu	Y	Y	Y	Y	Y	Y	Y	Y	NA	NA	N	N	N
7928794	Grey	Vanuatu	Vanuatu	Y	Y	Y	N	N	N	Y	Y	N	Y	Y	N	Y
8420098	White	Germany	Germany	Y	Y	Y	Y	Y	Y	Y	Y	NA	NA	N	N	N
9189574	White	Germany	Germany	Y	Y	Y	Y	Y	Y	Y	Y	NA	NA	N	N	N
8801917	White	Isle of	France	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N

		Man														
9179751	White	Isle of Man	Isle of Man	Y	Y	Y	Y	Y	Y	Y	Y	NA	NA	N	N	N
6704426	White	UK	UK	Y	Y	Y	N	N	N	Y	Y	N	N	Y	N	Y
8519954	White	UK	UK	Y	Y	N	N	Y	Y	Y	Y	NA	Y	Y	N	N

Y—Yes; N—No; NA—Not applicable; Def—Deficiencies; Det—Detention; LW—Letter of Warning.

Comments of the deficiencies detected per category:

Muster List: This category of deficiency on board the ships implies that the crew does not know their obligations in emergency cases, increasing the reaction time and generating confusion. This can lead to an aggravation of the emergency situation.

Operation of GMDSS equipment: The complete control of this system is always required; much more if an emergency takes place to receive the external assistance necessary to guarantee the maritime safety and the pollution prevention in such a case.

Bridge operational: Basic for the safety of navigation.

Operation of machinery: Cleanliness in engine room has been indicated in some of the reports by the inspectors; this deficiency is subjective and ambiguous because it does not specify if the risks related to this deficiency can take place according to the level of cleanliness found. These risks, known by everybody could be person falls, possible fires...

Establishment of working language: Obviously this is a necessity to understand and to be understood on board. The safety management/ship security plan has to be in the working language to achieve the control of the content and procedures.

Maintenance of fire protections systems: If the maintenance of fire protections systems is deficient, a controllable fire with the available means on board could move on to an uncontrollable emergency and lead to personal and material losses.

Maintenance of live saving appliances: Abandon ship cases and other cases in which human life can be threatened require the immediate availability of all the live saving appliances.

STCW: Photocopies of certificates of compliance can indicate that these certificates have been forged. It can also indicate that the crew training does not agree with the requirements of the STCW-78/95 Convention.

ISPS operational: Complete vulnerability faced with threats to the ship's security.

Comments of CIC on STCW-78/95

- had been found that Deck and Engineer officers did not hold appropriate certificates in Black, Grey and White List Flag ships
- had also been found certificates not issued under the STCW95 amendments in Black, Grey and White List Flag ships

There are several questions of the inspection reports do not understandable:

- Ships belonging to non White List Flag indicated in the reports that the Flag State was on the White List (IMO List)

- Ships in which different STCW deficiencies were found, it is indicated not deficiencies found in the inspection reports

4 Conclusion

Has been observed that the same ships have been inspected in several times and there are some deficiencies remaining on board in all the inspections without any kind of corrective action by any competent authority.

Ship owners whose Flag State is on the Black List inspected by MOU-PSC with a big number of deficiencies try to avoid future inspections by changing the ship's name and Flag, maintaining deficient safety standards.

Has also been verified that the crews do not know as well as required the different procedures related with the maritime safety and the pollution prevention, even being established in the safety management system, even though it is a common practice to maintain the files which indicate that periodical practices have been carried out.

In the different reports have been observed that the maintenance of fire protection systems and the maintenance of live saving appliances were deficient in a high number of inspections, even though neither the owners nor Administrations applied the required measures to avoid substandard ships.

In this article have also been analysed different cases of forged certificates, a common practice in Black List Flags.

According to the CIC on STCW results, sometimes the management and operation of the ships, whatever was the Flag State List of the ship, are under the responsibility of officers without appropriate certificates. In the same way, there are certificates not issued under the STCW95 amendments, this deficiency has also been found in ships whose Flag State were in any of the three Flag Lists.

To conclude, can be indicated that the inspection reports are ambiguous and they do not specify accurately the deficiencies, the consequences and the required action to be taken in order to rectify those deficiencies. Likewise that fact does not allow an adequate treatment in the future inspections made by other Administrations in the ambit of MOU-PSC.

In general, it is observed that the crew training and education do not agree with the requirements of the STCW-78/95 Convention.

Acknowledgements

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Reference

- [1] IMO. STCW-78/95 Convention, 1995.
- [2] IMO. SOLAS 2004.

- [3] SIRENAC Database of MOU of Paris.
- [4] Results CIC-STCW-78/95 Campaing 2002.
- [5] Blue Book of 2004 of MOU of Paris.