

**Report of the 2014 Concentrated Inspection Campaign (CIC)
on STCW Hours of Rest**

REPORT OF THE 2014 CONCENTRATED INSPECTION CAMPAIGN (CIC) ON STCW HOURS OF REST

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1. INTRODUCTION

1.1 Executive summary

From 1st September 2014 to 30th November 2014, the BS MOU carried out a Concentrated Inspection Campaign (CIC) on STCW Hours of Rest throughout the region. This campaign involved all member States of the BS MOU and was conducted in conjunction with the Tokyo MOU and Paris MOU. The Paris MOU Guidelines and Questionnaire were utilized.

During the campaign, a total of 1,146 inspections were carried out with the CIC questionnaire involving 1,146 individual ships. Of this quantity 21 ships were detained with 6 (28.57%) detentions were being within the CIC scope. This means that in 6 cases the watch-keeping personnel hours of rest are not meeting STCW 78 (as amended) requirements and had deficiencies, which were serious enough to detain the ship, resulting a CIC-topic related detention rate of 0.52 per cent.

A total of 168 deficiencies have been recorded as a direct result of this campaign. The overall number of CIC-topic related deficiencies per inspection was 0.15.

The most notable non-conformities observed were lack of correctly recorded records related hours of rest (7.33%), followed by lack of watch schedule posted in an accessible area (1.75%) and endorsement of the daily hours of rest records for each watch keeper (1.48%).

421 (36.74%) inspections concerned general cargo/multi-purpose ships, followed by bulk carriers with 399 (34.82%) inspections, oil tankers with 112 (9.77%) inspections and chemical tankers with 77 (6.72%) inspections.

5 (83.33%) of the ships detained for CIC-related deficiencies were general cargo/multipurpose ships. Also 1 (16.67%) of the ships detained was a commercial yacht.

Most inspections were carried out on board ships flying the flags of Malta with 160 (13.96%) inspections, Panama with 149 (13.00%) inspections, Turkey with 102 (8.90%) inspections and Liberia with 87 (7.59%) inspections.

It is observed that ships younger than 6 years age performing relatively good with 240 (20.94%) inspections without detentions.

Older ships, particularly those 30 years and older, show reason for concern with majority of detentions 6 (85.71%) and deficiencies 97 (65.54%), although subjecting minority of inspections 241 (21.29%).

Most inspections were carried out on board ships flying the flags of Malta with 160 (13.96%) inspections, Panama with 146 (13.00%) inspections, Turkey with 102 (8.90%) inspections and Liberia with 87 (7.59%) inspections.

A total of 6 flags had one each CIC-related detentions. These flags cover 22.86% of the CIC inspections.

A total of 52 flags, covering 77.14% of the CIC inspections, had no CIC-related detentions at all.

A total of 26 flags, covering 13.62% of the total CIC inspections, had no CIC-related deficiencies.

Additional information gathered on the watch system whether the MSMD requires an Engineer officer and whether the ship is to be operated as a UMS ship (Periodically Unattended Machinery Space).

1.2 Purpose of the report

This report documents the results of the Concentrated Inspection Campaign (CIC) on STCW Hours of Rest, which was carried out by 6 Member Authorities between September 1st and November 30th 2014.

The objective of this report is to analyse the results of this CIC on STCW Hours of Rest. Results of the inspections without questionnaire are not included in the statistical analysis.

1.3 Objective of the CIC

The objective of the Campaign on the STCW Hours of Rest is to get a detailed view of the industry's level of compliance of the relevant regulations. The results of the CIC, which reveal that a total of 6 detentions and 168 deficiencies being recorded, as a direct result of this campaign on board 1,146 individual vessel subjected CIC inspections.

1.4 Scope of the CIC

The campaign targeted to verify that both deck and engine room watch keepers' hours of rest comply with the STCW (as amended) requirements. CIC carried out during a regular Port State Control inspection conducted under the regional ship targeting and inspection system within the BS MOU region. Additional information gathered on the watch system, whether the MSMD requires an Engineer officer and whether the ship is to be operated as a UMS ship (Periodically Unattended Machinery Space) with 4 information only questions.

1.5 General remarks

This report presents analysis of the responses to the CIC Questionnaire submitted during the campaign period

Thereby for the purpose of this report:

- Inspection is an inspection with a CIC Questionnaire with applicable response (Except Table 1);
- Deficiency indicates a non-conformity which is represented by a "NO" response to the questions 1-9;
- The tables do not take into account inspections where the CIC questionnaire was not recorded; and
- Detention is a CIC-topic related detention which is indicated by a "NO" response to the Question 10.

Responses to the information only questions (Questions 11-14) are analysed separately.

2 SUMMARY ANALYSIS, CONCLUSIONS AND RECOMMENDATIONS

2.1 Summary analysis

During the campaign, a total of 1,146 inspections were carried out with the CIC questionnaire involving 1,146 individual ships. Only one CIC inspection has been carried out on board of an individual vessel.

Analysis of the results of the CIC revealed the following:

- .1 21 ships were detained, in which 28.57% of them were CIC-topic related which means that in 6 cases the STCW Hours of Rest had deficiencies, which were serious enough to detain the ship resulting a CIC-topic related detention rate of 0.52%.

- .2 A total of 168 deficiencies have been recorded as a direct result of this campaign. The overall number of CIC-topic related deficiencies per inspection was 0.15.
- .3 The requirements that reported the most favourable results related to the witnessing that the ship manned in accordance with MSMD or an equivalent document (0.17%), watch keeper on the first and subsequent watch after departure have sufficient time to rest (0.44%), followed by seafarers receiving adequate compensatory rest periods if disturbed by call-outs to work (0.52%).
- .4 The requirements that reported the least favourable results related to lack of correctly recorded records related hours of rest (7.33%), followed by lack of watch schedule posted in an accessible area (1.75%) and endorsement of the daily hours of rest records for each watch keeper (1.48%).
- .5 By ship type, container ships, bulk carrier, ro-ro cargo ships followed by oil and chemical tanker ships reported the most favourable results.
- .6 General cargo ships, ro-ro cargo ships and livestock carrier ships, by far, reported the least favourable results. Although they constituted only 38.2% of all inspections, they accounted for 83.3% of detentions and 70.8% of the deficiencies. General dry cargo ships also had the highest number of detentions at 5 which amounts to a detention rate of 1.19%.
- .7 By ship age, ships under six years reported the most favourable results but the situation worsened as the age of ships increased.
- .8 Older ships, particularly those 30 years and older, reported the least favourable results. Although they comprised only 38.48% of all inspections, they accounted for 83.3% of total detentions and 57.74% of deficiencies. The detention rate per inspection was 2.31% for ships 30 to 34 years old and 1.80% for ships over 35 years old.
- .9 A total of 6 flags had 1 each CIC-related detention. These flags cover 22.86% of the inspections. The flags, with the highest CIC-related detention rate were Sierra Leone (7.14%); and Cook Islands (5.0%) and Cambodia (4.55%) which cover 4.9% of the total number of CIC inspections 50.0% CIC-related detentions.
- .10 A total of 52 flags, which cover 77.14% of the CIC inspections, had no CIC-related detentions at all.
- .11 A total of 26 flags, which cover 13.62% of the total inspections, had no CIC-related deficiencies. When compared by ship flag, Hong Kong (China) and Singapore followed by Italy showed best results because having no deficiencies with 42; 36 and 17 inspections respectively, others with smaller number of inspections.
- .12 Breakdown of major non-conformities as indicated by "NO" responses have been studied by Flag, ship type and age presented in Section 3.7
- .14 Detailed analyses of the information only questions presented in Section 3.8.

2.2 Conclusions

Reflecting on the objective of the CIC, i.e. to provide indications as to the level of compliance with vital points of the requirements of the hours of rest both deck and engine watch officers, it can be reasonably concluded from the above results that the level of compliance with the provisions of STCW is reasonably good.

2.3 Recommendations

It is well recognised that fatigue is a major risk and frequently features as a contributory cause of casualties, particularly groundings.

Thereby, despite to the announcement of the CIC Questionnaire to the industry, observation of lack of correctly records related to the hours of rest raise great concern.

Non-compliance or inadequate record keeping is a significant potential danger to the vessel itself and all on board.

High rate of non-compliances observed on board ships 25 years and older indicates a potential risk.

Thereby it is recommended:

1. Basic findings of the report in general, analysis of the responses to the questionnaire and breakdown of major non-conformities by ship flag, ship type and age and responses to the information questions in particular, to be submitted IMO III 2nd session.
2. PSC Officers should be instructed to submit CIC Questionnaire for each initial PSC inspection during the campaign, and;
3. Continue to put emphasis on the vital requirements of the STCW Hours of Rest when performing PSC inspections, particularly the requirements that raised the most concern in the CIC.
 - a. lack of correctly records related to hours of rest (Q5);
 - b. non-compliance with the STCW requirements of watch schedule posted in an easily accessible area (Q1);
 - c. lack of records of daily hours of rest for each watch keeper (Q3)

3 ANALYSIS

3.1 General

The total number of ships inspected and the total number of inspections performed during the CIC are presented in Table 1.

Table 1 Summary of inspections during the CIC

	No. of individual ships with CIC Questionnaire	No. of inspections with a CIC questionnaire	No. of initial inspections without CIC questionnaire
Total	1,146	1,146	173
Total number of detentions	21	21	N/A ¹
Detentions with CIC-topic deficiencies	6	6	N/A ²

Looking at the number of inspections performed with a CIC questionnaire (Column 2&3 of Table 1), there is 21 detentions during CIC inspections and 6 (28.57%) of these detentions were CIC topic related Questionnaire submission rate was high e.g. 86.9% which around ninth out of ten initial inspections were accompanied with a CIC questionnaire.

¹ Only inspections with CIC Questionnaire were analyzed

² Only inspections with CIC Questionnaire were analyzed

Table 1 also illustrates that all individual ships that were involved with this CIC underwent only one CIC inspection. Thereby number of individual ship inspected for CIC are not incorporated in the inspection and detention data presented in this report.

3.2 Analysis of the response to the CIC questionnaire

Table 2 presents responses to the questionnaire. In order to analyse results on an individual question basis all Not Applicable (N/A) responses are filtered and total relevant/applicable responses compliance to the requirement presented in the last three column of the Table 2 indicates that the most unfavourable results are question 5, 1 and 3, which asked for correct recording of records related to hours of rest (7.33%), whether or not watch schedule posted in an accessible area (1.75%), and records of daily hours of rest each watch keeper (1.48%). Breakdown of the major non-conformities by flag, ship type and ship age are presented in **Section 3.6**.

The CIC questionnaire indicate that “unsatisfactory” answer was given to a question on 1.66 % of occasions. Number of yes responses to the Question 10 coincides with the recorded detentions as a result of an observed non-conformity (“NO” answer) to any of the questions (1-9) set out in the questionnaire.

Response to the information questions presented in the Table 2. Almost half (44%) of the ships inspected does not have two watch system including master. Majority of ships’ (91.36%) MSMD require an engineer officer. Majority of ships (55%) is not designated USM notation and 15 % of those ships do not have one certificated engineer on board. Breakdown of the responses to the information only questions are presented in **Section 3.7**.

Table 2 Responses CIC Questionnaire on CIC Hours of Rest⁽¹⁾

Nr.	Questions	YES Nr.	NO Nr.	N/A Nr.	Total Nr. of applicable responses	Compliance	
						YES %	NO %
1	Is a watch schedule posted in an easily accessible area?	1126	20		1146	98.25	1.75
2	Is the ship manned in accordance with MSMD or an equivalent document?	1144	2		1146	99.83	0.17
3	Are there records of daily hours of rest for each watch keeper?	1129	17		1146	98.52	1.48
4	Have the records in Qu 3 been endorsed by an appropriate person?	1130	16		1146	98.60	1.40
5	Are records related to hours of rest being recorded correctly?	1062	84		1146	92.67	7.33
6	Do rest periods for all watch keeping personnel comply with STCW requirements, including the weekly requirements of rest?	1135	11		1146	99.04	0.96
7	Will the watch keepers on the first and subsequent watch after departure have sufficient time to rest?	1141	5		1146	99.56	0.44
8	Is there evidence that on-call seafarers receive adequate compensatory rest periods if disturbed by call-outs to work?	950	5	191	955	99.48	0.52
9	Do the records indicate that a bridge lookout is being maintained?	1138	8		1146	99.30	0.70
	TOTAL	9955	168	191	10123	98.34	1.66
10	Was the ship detained as a result of this CIC?	6	1140		1146	0.52	99.48

Table 3 Responses to the Information Questions CIC Questionnaire on CIC Hours of Rest⁽¹⁾

Nr.	Information Questions	YES	NO	N/A	Total Nr. of applicable responses	Applicable responses	
		Nr.	Nr.	Nr.		YES %	NO %
11	Is there a two watch system on board including the master?	504	642		1146	43.98	56.02
12	Does the MSMD require an Engineer Officer?	1047	99		1146	91.36	8.64
13	Is the ship designated UMS?	632	514		1146	55.15	44.85
14	If ship does not have UMS notation is there more than one certificated engineer on board?	482	81	583	563	85.61	14.39

⁽¹⁾Includes Bulgaria and Romania data which are submitted also to the Paris MOU. Russian Federation and Turkey data includes only Black Sea ports

3.3 Analyses by Ship types

A breakdown of the results ship types subject to the CIC, including the number of inspections. Detentions, deficiencies presented in Table 4 below.

When considering the breakdown of ships inspected by ship type, largest group of the ship inspected during campaign period were general cargo/multi-purpose ships with 421 (36.74%) inspections followed by bulk carrier 399 (34.82%) and oil tanker 112 (9.77%) were also inspected.

Table 4 Results by ship type

Type of ships	Inspections	Detentions	Deficiencies	Detention %	Deficiency Rate
Bulk carrier	399	0	23		0.06
Chemical tanker	77	0	7		0.09
Commercial yacht	1	1	1	100.00	1.00
Container	34	0	1		0.03
General cargo/multipurpose	421	5	115	1.19	0.27
Livestock carrier	9	0	2		0.22
Offshore supply	8	0	1		0.13
Oil tanker	112	0	10		0.09
Other special activities	9	0	2		0.22
Ro-Ro cargo	25	0	2		0.08
Ro-Ro passenger ship	8	0	2		0.25
Tugboat	4	0	2		0.50
Other Types of Ships	39	0	0		0.00
TOTAL	1146	6	168	0.52	0.15

5 (83.3%) of the ships detained for CIC-related deficiencies were general cargo/multipurpose ships. Also 1 (16.7%) of the ships detained was a commercial yacht.

Majority of deficiencies observed were general cargo/multi-purpose ship 115 (68.45%), bulk carriers 23 (13.69%). and chemical tankers 10 (5.95%). Although they constituted only 81.32% of all inspections, they accounted for 85.71% of CIC-topic related detentions and 88.09% of CIC related deficiencies.

As it is clearly presented general cargo ships, ro-ro cargo ships and livestock carrier ships, by far reported the least favourable results. Although they constituted only 38.2% of all inspections, they accounted for 83.3% of detentions and 70.8% of the deficiencies. General dry cargo ships also had the highest number of detentions at 5 which amount to a detention rate per inspection of 1.19%.

3.4 Analyses by ship age

The following Table 5 presents the results of the CIC by ship age. It shows the number of inspections, detentions, deficiencies by ship age, as well as statistical analyses of this figures and detention performance by ship age.

Table 5 indicates that the older ship, particularly those which are 30 years and older raise most concern in regard to their level of compliance with the STCW requirements related to the both engine and deck watch personnel rest hours. Table 5 reveals that ships 30-35 years of age had the highest detention percentage of 2.31%, followed by ships over 35 years age with detention percentage of 1.80%.

It is observed that ships younger than 6 years age performing relatively good with 3 deficiencies per 100 inspections without detentions.

Table 5 Results by ship age

Type of ships	Inspections	Detentions	Deficiencies	Detention %	Deficiency Rate
0-5	240	0	6		0.03
6-10	255	0	14		0.05
11-15	112	0	12		0.11
16-20	146	0	10		0.07
21-24	65	0	16		0.25
25-29	87	1	13	1.15	0.15
30-34	130	3	48	2.31	0.37
35+	111	2	49	1.80	0.44
Total	1146	6	168	0.52	0.15

3.5 Analyses by ship flag

The following Table 6 presents the results of the CIC by ship flag. It shows the number of inspections, detentions, deficiencies by ship flag.

A total of 1.146 ships from 58 flag administration inspected during the campaign.

A total of 6 flags had 1 each CIC-related detention. These flags cover 22.86% of the inspections. The flags, with the highest CIC-related detention rate were Sierra Leone (7.14%); and Cook Islands (5.0%) and Cambodia (4.55%) which cover 4.9% of the total number of CIC inspections and 50.0% CIC-related detentions.

A total of 26 flags, which cover 13.52 % of the total inspections, had no CIC-related deficiencies. When compared by ship flag. Hong Kong (China) and Singapore followed by Italy showed best results because having no deficiencies with 42; 36 and 17 inspections respectively, others with smaller number of inspections.

Table 6 Results by ship Flag

Flag	Inspections	Detentions	Deficiencies	Detention %	Deficiency Rate
Antigua and Barbuda	27	0	3		0.11
Bahamas	29	0	3		0.10
Barbados	3	0	1		0.33
Belize	32	1	21	3.13	0.66
Bolivia	1	0	1		1.00
Cambodia	22	1	19	4.55	0.86
Comoros	11	0	3		0.27
Cook Islands	20	1	1	5.00	0.05
Cyprus	11	0	1		0.09
Denmark	5	0	1		0.20
Greece	31	0	2		0.06
Isle of Man (GB)	7	0	1		0.14
Lebanon	7	0	1		0.14
Liberia	87	0	4		0.05
Malta	160	0	7		0.04
Marshall Islands	83	0	2		0.02
Moldova. Republic of	22	0	7		0.32
Netherlands	19	0	4		0.21
Norway	6	0	1		0.17
Panama	149	1	21	0.67	0.14
Portugal	2	0	1		0.50
Russian Federation	43	0	11		0.26
Saint Kitts and Nevis	10	0	2		0.20
Saint Vincent and the Grenadines	18	0	2		0.11
Sierra Leone	14	1	4	7.14	0.29
Syrian Arab Republic	2	0	2		1.00
Tanzania. United Republic of	17	0	6		0.35
Togo	25	1	16	4.00	0.64
Turkey	102	0	13		0.13
Ukraine	12	0	3		0.25
United Kingdom	4	0	2		0.50
Vanuatu	9	0	2		0.22
Others	156	0	0		0.00
TOTAL	1146	6	168	0.61	0.15

3.7 Analyses of the major non-compliances

Major non compliances are Question 5 with 84 (50.0%) Question 1 with 20 (11.90%) and Question 3 with 17 (10.12%) unsatisfactory responses.

In this part of the report breakdown of the major non-compliances by ship flag, ship type and ship age are presented below for Question 5. 1 and 3.

Question 5 which asked whether records related to hours of rest being recorded correctly, recorded the highest per cent of unsatisfactory responses of the questionnaire of the 1146 inspections 84 were unsatisfactory in this area. This represents 7.33 % of inspections and 50% of the total unsatisfactory responses. Breakdown of the compliance to the **Question 5** by ship flag, ship type and ship age are presented below.

27 (22.1%) of unsatisfactory responses to the Question observed on board of ships flying five flag States, 57 (67.9%) unsatisfactory responses spreads over ships flying other flags. Togo and Comoros followed by Belize leads unsatisfactory responses.

Flag	Inspections	Deficiencies	% of total	Deficiency Rate x100
Togo	25	7	8.3	28.0
Comoros	11	3	3.6	27.3
Belize	32	8	9.5	25.0
Tanzania. United Republic of	17	4	4.8	23.5
Cambodia	22	5	6.0	22.7
Others	1039	57	67.9	5.5
Totals	1146	84	100.0	7.33

77 (91.7 %) of unsatisfactory responses in this are observed on boards four ships types presented below. High unsatisfactory response rate general cargo/multipurpose ships and chemical tanker followed by oil tanker raise concern.

Ship Type	Inspection	Deficiency	% of total	Deficiency rate x100
General cargo/multipurpose	372	49	58.3	13.2
Chemical tanker	72	5	6.0	6.9
Oil tanker	105	7	8.3	6.7
Bulk carrier	383	16	19.0	4.2
Others	214	7	8.3	3.3
Totals	1146	84	100.0	7.33

55 (32.74%) of unsatisfactory responses to this question observed on board ships over 20 years and older. Records related to hours of rest are being recorded correctly on board younger ships.

Ship Age	Inspections	Deficiency	% of total	Deficiency Rate x100
0-5	240	5	6.0	2.1
6-10	255	10	11.9	3.9
11-15	112	7	8.3	6.3
16-20	146	7	8.3	4.8
21-24	65	9	10.7	13.8
25-29	87	7	8.3	8.0
30-34	130	19	22.6	14.6
35+	111	20	23.8	18.0
Totals	1146	84	100.0	7.3

Question 1 was asked for a watch schedule posted in an easily accessible area, recorded the second highest number of unsatisfactory responses, of 146 inspections, 20 were unsatisfactory in this area. This represents 1.75% of inspections. Breakdown of the compliance to the **Question 1** by ship flag, ship type and ship age are presented below.

10 (50.0%) of unsatisfactory responses to the Question 1 observed on board of ships flying Belize and Republic of Moldova which cover 55 (4.8 %) of questionnaire submitted.

Flag	Inspections	Deficiencies	% of total	Deficiency Rate x100
Belize	32	6	30.0	18.8
Moldova. Republic of	22	4	20.0	18.2
Togo	25	2	10.0	8.0
Tanzania. United Republic of	17	1	5.0	5.9
Saint Vincent and the Grenadines	18	1	5.0	5.6
Others	1032	6	32.1	0.6
Totals	1146	20	100.0	1.75

Total 20 unsatisfactory responses to the Question 1 observed on board four ship types is indicated below. Ro-ro cargo ships and General cargo/multipurpose least favourable leading with high rate of unsatisfactory responses.

Ship Type	Inspection	Deficiency	% of total	Deficiency ratex100
Ro-Ro cargo	25	2	10.0	8.0
General cargo/multipurpose	421	14	70.0	3.3
Chemical tanker	77	1	5.0	1.3
Bulk carrier	399	3	15.0	0.8
Others	224	0	0.0	0.0
Totals	1146	20	100.0	1.75

18 (90 %) of unsatisfactory responses to this questions observed on board ships over 20 years an old records related to hours of rest being recorded correctly on board younger ships.

Ship Age	Inspections	Deficiency	5of total	Deficiency Ratex100
0-5	240	0	0.0	0.0
6-10	255	0	0.0	0.0
11-15	112	1	5.0	0.9
16-20	146	1	5.0	0.7
21-24	65	3	15.0	4.6
25-29	87	2	10.0	2.3
30-34	130	5	25.0	3.8
35+	111	8	40.0	7.2
Totals	1146	20	100.0	1.7

The results for **Question 3** which asked for records of daily hours of rest for each watch keeper also raises concern and account for the third highest number of unsatisfactory result in this area which represent 1.48% of inspections. Breakdown of the compliance to the **Question 3** by flag, ship type and age are presented below:

Flag	Inspections	Deficiencies	% of total	Deficiency Ratex100
Cambodia	22	2	11.8	9.1
Togo	25	2	11.8	8.0
Sierra Leone	14	1	5.9	7.1
Tanzania. United Republic of	17	1	5.9	5.9
Others	1068	11	64.7	1.0
Totals	1146	17	100.0	1.48

Ship Type	Inspection	Deficiency	% of total	Deficiency ratex100
General cargo/multipurpose	421	13	76.5	3.1
Oil tanker	112	1	5.9	0.9
Bulk carrier	399	2	11.8	0.5
Others	214	1	5.9	0.5
Totals	1146	17	100.0	1.48

Ship Age	Inspections	Deficiency	% of total	Deficiency ratex100
0-5	240	0	0.0	0.0
6-10	255	0	0.0	0.0
11-15	112	1	5.9	0.9
16-20	146	2	11.8	1.4
21-24	65	2	11.8	3.1
25-29	87	2	11.8	2.3
30-34	130	4	23.5	3.1
35+	111	6	35.3	5.4
Totals	1146	17	100.0	1.48

3.8 Analyses of the information questions

Responses to the information questions are presented in this section by ship flag, ship type and ship age for each questions 11, 12, 13 and 14 are presented in **Annex 1** of this report. Summary of the responses to the information questions by ship flag, ship type and ship age are presented in the tables below.

Table 7 Responses to the information questions by ship flag

Ship Flag	Q 11:Is there a two watch system on board including the master?		Q12:Does the MSMD require an Engineer Officer?		Q13:Is the ship designated UMS?		Q14 If ship does not have UMS notation is there more than one certificated engineer on board?	
	YES %	NO %	YES %	NO %	YES %	NO %	YES %	NO %
Antigua and Barbuda	40.74	59.26	88.89	11.11	85.19	14.81	62.50	37.50
Bahamas	41.38	58.62	96.55	3.45	72.41	27.59	87.50	12.50
Belize	40.63	59.38	96.88	3.13	15.63	84.38	84.62	15.38
Cambodia	81.82	18.18	100.00	0.00	9.09	90.91	90.48	9.52
Comoros	72.73	27.27	100.00	0.00	0.00	100.00	57.14	42.86
Cook Islands	35.00	65.00	90.00	10.00	40.00	60.00	77.78	22.22
Cyprus	45.45	54.55	90.91	9.09	90.91	9.09	100.00	0.00
Greece	25.81	74.19	96.77	3.23	93.55	6.45	100.00	0.00
Hong Kong. China	33.33	66.67	95.24	4.76	73.81	26.19	80.00	20.00
Italy	52.94	47.06	100.00	0.00	82.35	17.65	85.71	14.29
Liberia	26.44	73.56	94.25	5.75	68.97	31.03	86.11	13.89
Malta	40.00	60.00	90.63	9.38	61.25	38.75	89.19	10.81
Marshall Islands	31.33	68.67	97.59	2.41	80.72	19.28	79.17	20.83
Moldova. Republic of	63.64	36.36	72.73	27.27	27.27	72.73	83.33	16.67
Netherlands	47.37	52.63	89.47	10.53	94.74	5.26	100.00	0.00
Panama	46.98	53.02	91.95	8.05	44.30	55.70	86.36	13.64
Russian Federation	58.14	41.86	79.07	20.93	34.88	65.12	87.10	12.90
Saint Vincent and the Grenadines	61.11	38.89	77.78	22.22	44.44	55.56	90.00	10.00
Sierra Leone	71.43	28.57	100.00	0.00	28.57	71.43	50.00	50.00
Singapore	25.00	75.00	100.00	0.00	77.78	22.22	90.91	9.09
Tanzania. United Republic of	52.94	47.06	88.24	11.76	29.41	70.59	92.31	7.69
Togo	80.00	20.00	80.00	20.00	24.00	76.00	89.47	10.53
Turkey	54.90	45.10	91.18	8.82	42.16	57.84	88.89	11.11
Ukraine	33.33	66.67	83.33	16.67	16.67	83.33	90.91	9.09
Others	41.88	58.12	87.18	12.82	53.85	46.15	82.69	17.31
Totals	43.98	56.02	91.36	8.64	55.15	44.85	85.61	14.39

Table 8 Responses to the information questions by ship type

Ship Type	Q 11:Is there a two watch system on board including the master?		Q12:Does the MSMD require an Engineer Officer?		Q13:Is the ship designated UMS?		Q14 If ship does not have UMS notation is there more than one certificated engineer on board?	
	YES %	NO %	YES %	NO %	YES %	NO %	YES %	NO %
Bulk carrier	29.57	70.43	95.49	4.51	58.15	41.85	85.23	14.77
Chemical tanker	50.65	49.35	96.10	3.90	76.62	23.38	82.14	17.86
Container	14.71	85.29	97.06	2.94	91.18	8.82	100.00	0.00
Gas carrier	36.36	63.64	100.00	0.00	45.45	54.55	100.00	0.00
General cargo/multipurpose	59.62	40.38	85.27	14.73	41.09	58.91	82.63	17.37
Oil tanker	35.71	64.29	94.64	5.36	89.29	10.71	97.30	2.70
Passenger ship	60.00	40.00	100.00	0.00	20.00	80.00	100.00	0.00
Ro-Ro cargo	52.00	48.00	84.00	16.00	0.00	100.00	95.83	4.17
Others	48.08	51.92	90.38	9.62	55.77	44.23	85.71	14.29
All types	43.98	56.02	91.36	8.64	55.15	44.85	85.61	14.39

Table 9 Responses to the information questions by ship age

Ship Age	Q 11:Is there a two watch system on board including the master?		Q12:Does the MSMD require an Engineer Officer?		Q13:Is the ship designated UMS?		Q14 If ship does not have UMS notation is there more than one certificated engineer on board?	
	YES %	NO %	YES %	NO %	YES %	NO %	YES %	NO %
0-5	32.08	67.92	95.42	4.58	80.42	19.58	86.42	13.58
6-10	40.39	59.61	93.33	6.67	77.25	22.75	84.62	15.38
11-15	41.07	58.93	89.29	10.71	70.54	29.46	88.89	11.11
16-20	36.30	63.70	89.73	10.27	47.95	52.05	90.67	9.33
21-24	47.69	52.31	86.15	13.85	36.92	63.08	85.71	14.29
25-29	44.83	55.17	89.66	10.34	31.03	68.97	78.95	21.05
30-34	60.77	39.23	89.23	10.77	18.46	81.54	82.47	17.53
35+	68.47	31.53	89.19	10.81	16.22	83.78	88.10	11.90
All ages	43.98	56.02	91.36	8.64	55.15	44.85	85.61	14.39

ANNEX 1 RESPONSES TO THE INFORMATION QUESTIONS

Question 11 : Is there a two watch system on board including the master? Responses by ship Flag

FLAG	Total Nr. of applicable responses	Total Nr. of " NO" responses	% of total "NO" responses	% of "NO" Responses
Antigua and Barbuda	27	16	2.5	59.3
Bahamas	29	17	2.6	58.6
Belize	32	19	3.0	59.4
Cambodia	22	4	0.6	18.2
Comoros	11	3	0.5	27.3
Cook Islands	20	13	2.0	65.0
Cyprus	11	6	0.9	54.5
Greece	31	23	3.6	74.2
Hong Kong, China	42	28	4.4	66.7
Italy	17	8	1.2	47.1
Liberia	87	64	10.0	73.6
Malta	160	96	15.0	60.0
Marshall Islands	83	57	8.9	68.7
Moldova, Republic of	22	8	1.2	36.4
Netherlands	19	10	1.6	52.6
Panama	149	79	12.3	53.0
Russian Federation	43	18	2.8	41.9
Saint Vincent and the Grenadines	18	7	1.1	38.9
Sierra Leone	14	4	0.6	28.6
Singapore	36	27	4.2	75.0
Tanzania, United Republic of	17	8	1.2	47.1
Togo	25	5	0.8	20.0
Turkey	102	46	7.2	45.1
Ukraine	12	8	1.2	66.7
Others	117	68	10.6	58.1
Totals	1146	642	100.0	56.0

Question 11 : Is there a two watch system on board including the master? Responses by ship type

Ship types	Total Nr. of applicable responses	Total Nr. of " NO" responses	% of total "NO" responses	% of "NO" Responses
Bulk carrier	399	281	43.8	70.4
Chemical tanker	77	38	5.9	49.4
Container	34	29	4.5	85.3
Gas carrier	11	7	1.1	63.6
General cargo/multipurpose	421	170	26.5	40.4
Oil tanker	112	72	11.2	64.3
Passenger ship	15	6	0.9	40.0
Ro-Ro cargo	25	12	1.9	48.0
Others	52	27	4.2	51.9
Totals	1146	642	100.0	56.0

Question 11 : Is there a two watch system on board including the master? Responses ship age

AGE	Total Nr. of applicable responses	Total Nr. of " NO" responses	% of total "NO" responses	% of "NO" Responses
0-5	240	163	25.4	67.9
6-10	255	152	23.7	59.6
11-15	112	66	10.3	58.9
16-20	146	93	14.5	63.7
21-24	65	34	5.3	52.3
25-29	87	48	7.5	55.2
30-34	130	51	7.9	39.2
35+	111	35	5.5	31.5
Totals	1146	642	100.0	56.0

Question 12 Does the MSMD require an Engineer Officer? Responses by ship flag

FLAG	Total Nr. of applicable responses	Total Nr. of " NO" responses	% of total "NO" responses	% of "NO" Responses
Antigua and Barbuda	27	3	3.0	11.1
Bahamas	29	1	1.0	3.4
Belize	32	1	1.0	3.1
Cambodia	22	0	0.0	0.0
Comoros	11	0	0.0	0.0
Cook Islands	20	2	2.0	10.0
Cyprus	11	1	1.0	9.1
Greece	31	1	1.0	3.2
Hong Kong, China	42	2	2.0	4.8
Italy	17	0	0.0	0.0
Liberia	87	5	5.1	5.7
Malta	160	15	15.2	9.4
Marshall Islands	83	2	2.0	2.4
Moldova, Republic of	22	6	6.1	27.3
Netherlands	19	2	2.0	10.5
Panama	149	12	12.1	8.1
Russian Federation	43	9	9.1	20.9
Saint Vincent and the Grenadines	18	4	4.0	22.2
Sierra Leone	14	0	0.0	0.0
Singapore	36	0	0.0	0.0
Tanzania, United Republic of	17	2	2.0	11.8
Togo	25	5	5.1	20.0
Turkey	102	9	9.1	8.8
Ukraine	12	2	2.0	16.7
Others	117	15	15.2	12.8
Totals	1146	99	100.0	8.6

Question 12 Does the MSMD require an Engineer Officer? Responses by ship type

Ship types	Total Nr. of applicable responses	Total Nr. of "NO" responses	% of total "NO" responses	% of "NO" Responses
Bulk carrier	399	18	18.2	4.5
Chemical tanker	77	3	3.0	3.9
Container	34	1	1.0	2.9
Gas carrier	11	0	0.0	0.0
General cargo/multipurpose	421	62	62.6	14.7
Oil tanker	112	6	6.1	5.4
Passenger ship	15	0	0.0	0.0
Ro-Ro cargo	25	4	4.0	16.0
Others	52	5	5.1	9.6
Totals	1146	99	100.0	8.6

Question 12 Does the MSMD require an Engineer Officer? Responses by ship type

AGE	Total Nr. of applicable responses	Total Nr. of "NO" responses	% of total "NO" responses	% of "NO" Responses
0-5	240	11	11.1	4.6
6-10	255	17	17.2	6.7
11-15	112	12	12.1	10.7
16-20	146	15	15.2	10.3
21-24	65	9	9.1	13.8
25-29	87	9	9.1	10.3
30-34	130	14	14.1	10.8
35+	111	12	12.1	10.8
TOTAL	1146	99	100.0	8.6

Question 13 Is the ship designated UMS? Responses by ship flag

FLAG	Total Nr. of applicable responses	Total Nr. of "NO" responses	% of total "NO" responses	% of "NO" Responses
Antigua and Barbuda	27	4	0.8	14.8
Bahamas	29	8	1.6	27.6
Belize	32	27	5.3	84.4
Cambodia	22	20	3.9	90.9
Comoros	11	11	2.1	100.0
Cook Islands	20	12	2.3	60.0
Cyprus	11	1	0.2	9.1
Hong Kong, China	42	11	2.1	26.2
Italy	17	3	0.6	17.6
Liberia	87	27	5.3	31.0
Malta	160	62	12.1	38.8
Marshall Islands	83	16	3.1	19.3
Moldova, Republic of	22	16	3.1	72.7
Panama	149	83	16.1	55.7
Russian Federation	43	28	5.4	65.1
Saint Vincent and the Grenadines	18	10	1.9	55.6
Sierra Leone	14	10	1.9	71.4
Singapore	36	8	1.6	22.2
Tanzania, United Republic of	17	12	2.3	70.6
Togo	25	19	3.7	76.0
Turkey	102	59	11.5	57.8
Ukraine	12	10	1.9	83.3
Others	167	57	11.1	34.1
Totals	1146	514	100.0	44.9

Question 13 Is the ship designated UMS? Responses by ship type

Ship types	Total Nr. of applicable responses	Total Nr. of " NO" responses	% of total "NO" responses	% of "NO" Responses
Bulk carrier	399	167	32.5	41.9
Chemical tanker	77	18	3.5	23.4
Container	34	3	0.6	8.8
Gas carrier	11	6	1.2	54.5
General cargo/multipurpose	421	248	48.2	58.9
Oil tanker	112	12	2.3	10.7
Passenger ship	15	12	2.3	80.0
Ro-Ro cargo	25	25	4.9	100.0
Others	52	23	4.5	44.2
Totals	1146	514	100.0	44.9

Question 13 Is the ship designated UMS? Responses by ship age

AGE	Total Nr. of applicable responses	Total Nr. of " NO" responses	% of total "NO" responses	% of "NO" Responses
0-5	240	47	50.5	19.6
6-10	255	58	62.4	22.7
11-15	112	33	35.5	29.5
16-20	146	76	81.7	52.1
21-24	65	41	44.1	63.1
25-29	87	60	64.5	69.0
30-34	130	106	114.0	81.5
35+	111	93	100.0	83.8
Totals	1146	514	552.7	44.9

Question 14 If ship does not have UMS notation
is there more than one certificated engineer on board? Responses by ship flag

FLAG	Total Nr. of applicable responses	Total Nr. of " NO" responses	% of total "NO" responses	% of "NO" Responses
Belize	26	4	4.9	15.4
Cambodia	21	2	2.5	9.5
Hong Kong, China	15	3	3.7	20.0
Liberia	36	5	6.2	13.9
Malta	74	8	9.9	10.8
Marshall Islands	24	5	6.2	20.8
Moldova, Republic of	18	3	3.7	16.7
Panama	88	12	14.8	13.6
Russian Federation	31	4	4.9	12.9
Singapore	11	1	1.2	9.1
Tanzania, United Republic of	13	1	1.2	7.7
Togo	19	2	2.5	10.5
Turkey	54	6	7.4	11.1
Ukraine	11	1	1.2	9.1
Others	122	24	29.6	19.7
Totals	563	81	100.0	14.4

Question 14 If ship does not have UMS notation
is there more than one certificated engineer on board? Responses by ship type

Ship types	Total Nr. of applicable responses	Total Nr. of " NO" responses	% of total "NO" responses	% of "NO" Responses
Bulk carrier	176	26	32.1	14.8
Chemical tanker	28	5	6.2	17.9
General cargo/multipurpose	259	45	55.6	17.4
Oil tanker	37	1	1.2	2.7
Passenger ship	12	0	0.0	0.0
Ro-Ro cargo	24	1	1.2	4.2
Others	27	3	3.7	11.1
Totals	563	81	100.0	14.4

Question 14 If ship does not have UMS notation
is there more than one certificated engineer on board? Responses by ship age

AGE	Total Nr. of applicable responses	Total Nr. of " NO" responses	% of total "NO" responses	% of "NO" Responses
0-5	81	11	13.6	13.6
6-10	91	14	17.3	15.4
11-15	36	4	4.9	11.1
16-20	75	7	8.6	9.3
21-24	42	6	7.4	14.3
25-29	57	12	14.8	21.1
30-34	97	17	21.0	17.5
35+	84	10	12.3	11.9
Totals	563	81	100.0	14.4