

Report of the 2011 Concentrated Inspection Campaign (CIC) on Structural Safety and the International Convention on Load Lines (ICLL)

Paris MoU 
30th Anniversary on Port State Control

Executive Summary

The deficiencies related to structural safety and load lines accounted, as average in the last 8 years, for 15% of the total number of deficiencies within the Paris MoU.

Although two CIC's on structural safety for large bulk-carriers and for oil tankers had been carried out by the Paris MoU in 1999 and 2000 respectively, the structural safety of other types of ships and the compliance of ships with the provisions of the International Convention on Load Lines had never been assessed by any CIC.

The Paris MoU Port State Control Committee agreed at its 42nd session to organize in 2011 a CIC on the compliance of all types of ships with the structural safety requirements and the provisions of the International Convention on Load Lines (ICLL). A CIC questionnaire and guidelines were approved by the Paris MoU Port State Control Committee as a guidance for the Port State Control Officers through the inspection process.

In 4386 inspections carried out by the Paris MoU from the 1st of September to the 30th of November of 2011 on 4250 individual ships, a CIC questionnaire was recorded.

963 inspections (22% of the total number of CIC inspections) resulted in deficiencies related to the topic of the campaign.

A total of 150 detentions (3,4%) were recorded during the CIC, of which 42 (1,0%) were due to deficiencies directly related to the CIC topic.

The most frequently observed CIC related deficiencies have been "03103 – Freeboard marks" (in 172 inspections), "03108 - Ventilators, air pipes, casings" (in 108 inspections), "02103 - Stability/strength/loading information and instruments" (in 98 inspections), "09227 – Ropes and wires" (in 87 inspections) and "02107 – Ballast, fuel and other tanks" (in 70 inspections).

The CIC related deficiencies which have been considered as ground for detention with higher frequency have been "02107 – Ballast, fuel and other tanks" (in 7 inspections), "02103 – Stability/strength/loading information and instruments" and "03108 – Ventilators, air pipes, casings" (in 6 inspections each), "02106 – Hull damage impairing seaworthiness" (in 5 inspections) and "03102 – Freeboard marks" and "03109 – Machinery space openings" (in 4 inspections each).

The number of deficiencies directly related to the CIC topic was 1589, accounting for 13% of the total number of deficiencies recorded in all inspections carried out by the Paris MoU during the three months of the campaign.

The general cargo/multipurpose ships were the most inspected type, with 1563 inspections (36% of total), followed by bulk carriers with 795 inspections (18%), container carriers with 493 inspections (11%) and chemical tankers with 433 inspections (10%).

As far as CIC related detentions are concerned, general cargo/multipurpose ships account for 24 detentions, followed by bulk carriers with 5 detentions, while the highest detention index (CIC related detentions as % of inspections) corresponds to passenger ships (4,2%), followed by offshore supply vessels with 2,8% and refrigerated cargo ships with 1,8%.

The ships flying the flags of Panama with 493 inspections (11%), Malta with 387 (9%), Antigua and Barbuda with 343 (8%) and Liberia with 306 (7%) were the most inspected, while the highest detention rates affects ships flying the flags of Panama with 7 detentions (17%), Saint Vincent and the Grenadines with 6 (14%) and Turkey with 3 detentions (7%).

The RO responsible for the highest number of detentions with CIC related deficiencies is International Naval Surveys Bureau (INSB), with 2 detentions, out of a total of 11 detentions in which the RO's were considered to be responsible for having issued the certificates covering the CIC related detainable deficiencies.

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SECTION 1

Introduction

1.1 Purpose of this Report

This report analyses the results from the CIC on Structural Safety and the International Convention on Load Lines (ICLL) carried out in the Paris MoU region from 1st September 2011 to 30th November 2011.

1.2 Objective of the CIC

The objective of the CIC on Structural Safety and the ICLL was to get a detailed view of the compliance of the relevant provisions by the ships calling in the Paris MoU region.

1.3 Scope of the CIC

The CIC applied to all types of ships and was carried out during a normal targeted Port State Control (PSC) inspection.

The questionnaire should have been used at every inspection carried out during the three months period of the CIC. However, a questionnaire was not recorded in the database for 580 inspections (11,7% of total). On the other hand, 3% of the individual ships (127) inspected were subject to the CIC more than once.

The campaign deliberately omitted the cargo stowage and securing as this requirement is more related to the prevention of loss of cargo and damages to the ship or the persons on board.

However the carriage of grain and other bulk cargoes was addressed in the campaign as it is directly connected with the stability of the ship and therefore with the requirements of the ICLL. The same consideration applied to the stowage of timber on deck.

1.4 General Remarks

Since the adoption of the CIC topic for 2011 at the 42nd session of the Paris MoU Committee meeting (PSCC42, May 2009), the CIC questionnaire, guidance and explanatory notes produced by the TF3 have been presented, discussed and amended at the various meetings of the Technical Evaluation Group (TEG), as well as at PSCC43 and PSCC44.

Specific training for PSCO's on the CIC topic was provided during a Paris MoU Expert Training and a Seminar held in March and June 2011 respectively. As a result of the discussions held with the participants in those training activities, some guidelines were clarified and/or re-drafted and a flow chart covering all the applicable requirements on the areas covered by the CIC, for all types of existing and new ships, was produced by the trainer as an additional support (aide-memoire) for the PSCO's during the inspection process.

The development of the CIC was apparently smooth and did neither require any significant intervention from the TF for additional clarifications or guidance nor any specific difficulty in the completion of the questionnaires was reported.

SECTION 2**Summary, Conclusions and Recommendations****2.1 Summary**

The CIC questionnaire was recorded for 4386 inspections, corresponding to 4250 individual ships. In 580 inspections, however, there was no questionnaire recorded in THETIS.

42 ships (24 general cargo/multipurpose; 5 bulk ; 2 container; 2 offshore supply; 2 passenger; 2 refrigerated cargo; 1 chemical; 1 oil tanker; 1 other special activities; 1 ro-ro cargo; 1 other) were detained on grounds directly related with the CIC topic.

The CIC related detention index increased gradually with the age of the ship, from 0,1% for ships of ages between 6-11 years up to 3,7% for ships older than 35 years.

General cargo/multipurpose ships accounted for 57% of the CIC related detentions and bulk carriers accounted for another 12%. These results are slightly below the average detention percentages for these types of ships in the Paris MoU region in the last six years (60% and 14% respectively).

2.2 Conclusions

2.2.1 The CIC showed that 22% of the inspections carried out during the campaign resulted in deficiencies directly related with the CIC topic, and that 1% of the inspections resulted in a CIC related detention.

Conclusions concerning CIC related administrative issues can be found in Annex 2.

2.3 Recommendations

2.3.1 The two top deficiencies in terms of occurrences ("Freeboard marks" and "Ventilators, air pipes, casings") are related to the Load Line Convention, wich is of paramount importance for the structural safety of ships. A higher focus on the provisions of the ICLL in the form of a PSC Committee Instruction for a continued monitoring of compliance is recommended.

Recommendations concerning CIC related administrative issues can be found in Annex 2.

SECTION 3

CIC Questionnaire Results

3.1 Summary

The total number of ships inspected and the total number of inspections performed during the CIC are presented in Table 1. The number of ships and the number of inspections are different because some ships were inspected more than once during the CIC:

TABLE 1	Number of individual ships inspected with a CIC questionnaire	Number of inspections performed with a CIC questionnaire	Number of inspections performed without a CIC questionnaire
	(Number of individual IMO numbers)		
Total	4,250	4,386	594
Detentions	150	150	22
Detentions with <i>CIC</i> - <i>topic</i> related deficiencies	42	42	8

In fact, 2,8% of the ships (118) were CIC inspected twice and 0,2% (9 ships) were subject three times to the CIC questionnaire. These data are presented in Table 2 here below.

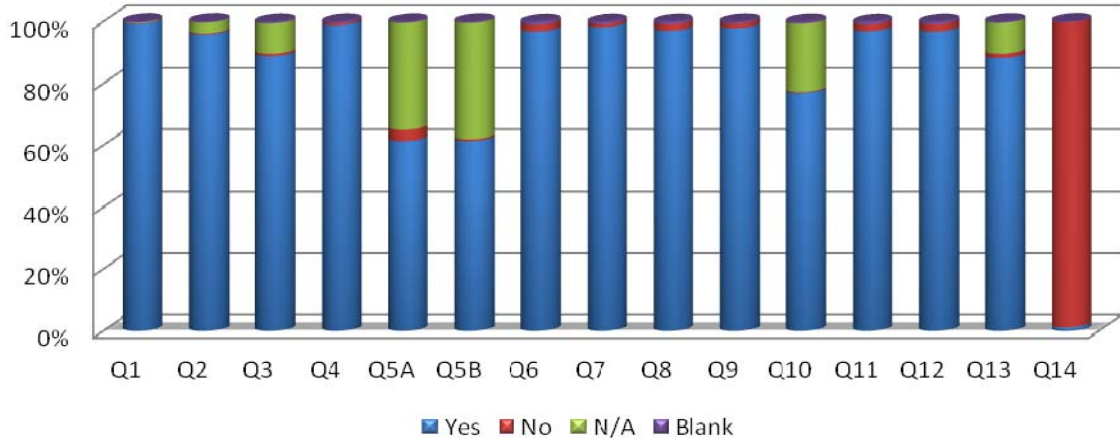
TABLE 2 Inspections during CIC campaign	Number of ships	% of total
1	4,123	97,0%
2	118	2,8%
3	9	0,2%
Total	4,250	100.00%

3.2 Results of the CIC Questionnaire

Table 3 in page 7 shows the number and percentage of the answers to the different questions of the CIC questionnaire. The grey areas of the "N/A" column correspond to the questions for which the only valid answer was "YES" or "NO".

TABLE 3			YES		NO		N/A		BLANK		Total
			Number	%	Number	%	Number	%	Number	%	
Q1	Is there a valid Load Line Certificate (incl. exemption) on board?		4,355	99,5%	7	0,2%	11	0,3%	13	0,3%	4,386
Q2	Is there a relevant valid Ship Safety Certificate (incl. exemption) on board?		4,202	96,0%	16	0,4%	155	3,5%	13	0,3%	4,386
Q3	Is the specific documentation regarding structural requirements for various vessel types in accordance with relevant conventions?		3,893	89,0%	37	0,8%	430	9,8%	26	0,6%	4,386
Q4	Have stability and strength data been found on board?		4,334	99,0%	27	0,6%			25	0,6%	4,386
Q5	a	Is there a loading instrument on board?	2,689	61,4%	166	3,8%	1513	34,6%	18	0,4%	4,386
	b	Does it appear to be in working order?	2,691	61,5%	28	0,6%	1648	37,7%	19	0,4%	4,386
Q6	Does the protection of hatch openings and of other openings appear to be satisfactory?		4,245	97,0%	98	2,2%			43	1,0%	4,386
Q7	Do the sea valves and overboard discharges, including their attachment to shell, appear to be satisfactory?		4,311	98,5%	41	0,9%			34	0,8%	4,386
Q8	Do the vessel's hull, bulkheads and deck, appear to be satisfactory?		4,256	97,3%	94	2,1%			36	0,8%	4,386
Q9	Do the means of protection for crew and means of access appear to be satisfactory?		4,295	98,1%	64	1,5%			27	0,6%	4,386
Q10	Do the freeing ports appear to be satisfactory?		3,373	77,1%	13	0,3%	970	22,2%	30	0,7%	4,386
Q11	Do the freeboard marks or other marks appear to be in accordance with the Certificates?		4,250	97,1%	95	2,2%			41	0,9%	4,386
Q12	Has it been verified as far as possible that the vessel is not submerged or loaded beyond the limits allowed by the Certificates?		4,245	97,0%	105	2,4%			36	0,8%	4,386
Q13	Do other items related with freeboard or the structural integrity of the ship appear to be satisfactory?		3,867	88,4%	63	1,4%	440	10,1%	16	0,4%	4,386
Q14	Has the ship been detained as a result of this CIC?		52	1,2%	4,324	98,8%			10	0,2%	4,386

Results questionnaire CIC structural safety and load lines



3.3 Analysis

The majority of ships inspected under the CIC complied with the basic structural and load lines requirements.

The highest non-compliance percentage (3,8%) correspond to Q5a (*"Is there a loading instrument on board"?*). This means that on 166 ships that should have an approved loading instrument on board, either the equipment was missing or it was not approved by the flag Administration.

On the other side, the highest percentage of compliance with the provisions corresponds to the existence of a valid Load Line Certificate (incl. exemption) on board (Q1) with a 99,5% of affirmative answers (0,2% of non-compliant ships). This confirms the importance of the Convention but, on the other side, it is also important to note the need to have a valid Ship Safety Certificate on board, and in this case the non-compliances reached 0,4% of the ships inspected.

The percentages of not completed questions (i.e. left blank by the PSCO's) have been rather low, with a maximum of 1,0% corresponding to Q6, relative to the condition of the hatch openings and other openings.

3.4 Specification of Related Deficiencies

TABLE 4		Inspections	Detentions CIC- topic related	Detentions CIC-topic related with RO responsible
		Number of inspections with this deficiency	(Number of inspections with this deficiency recorded as ground for detention)	Number of inspections with this deficiency recorded as ground for detention and RO related
01102	Cargo ship safety construction (including exempt.)	25	2	
01103	Passenger ship safety (including exemption)	2		
01105	Cargo ship safety (including exemption)	8		
01108	Load lines (including Exemption)	23	3	
01110	Authorization for grain carriage	3		
01120	Statement of Compliance CAS			
01121	Interim Statement of Compliance CAS			
01311	Survey report file	5		
01312	Thickness measurement report	4	1	1
01313	Booklet for bulk cargo loading/unloading/stowage	12	1	
02101	Closing devices/watertight doors	37	3	1
02103	Stability/strength/loading information and instruments	98	6	3
02106	Hull damage impairing seaworthiness	50	5	1
02107	Ballast, fuel and other tanks	70	7	3
02109	Permanent means of access	3		
02110	Beams, frames, floors-op.damage	16	1	1
02111	Beams, frames, floors-corrosion	23	2	
02112	Hull - corrosion	22		
02113	Hull - cracking	19		
02114	Bulkhead -corrosion	12	3	1
02115	Bulkheads - operational damage	9	1	
02116	Bulkheads - cracking	3		
02117	Decks - corrosion	53	2	
02118	Decks - cracking	8		
02119	Enhanced survey programme (ESP)	14		
02122	Openings to cargo area, doors, ..., scuttles	10		
02127	Safe access to tanker bows			
02129	Bulkhead strength			
02130	Triangle mark	1		
02131	Other (Bulk carriers)	6		
02132	Water level detectors on single hold cargo ships	3	2	1
03101	Overloading	5	1	
03102	Freeboard marks	172	4	2

TABLE 4 (CONT.)		Inspections	Detentions CIC-topic related	Detentions CIC-topic related with RO responsible
		Number of inspections with this deficiency	(Number of inspections with this deficiency recorded as ground for detention)	Number of inspections with this deficiency recorded as ground for detention and RO related
03103	Railing, gangway, walkway and means for safe passage	60	1	
03104	Cargo and other hatchways	29	3	
03105	Covers (hatchway-, portable-, tarpaulins, etc.)	58	1	
03106	Windows, side scuttles and deadlights	20	1	
03107	Doors	62	2	2
03108	Ventilators, air pipes, casings	108	6	1
03109	Machinery space openings	15	4	
03110	Manholes / flush scuttles	15		
03111	Cargo ports and other similar openings	8	1	1
03112	Scuppers, inlets and discharges	51	3	
03113	Bulwarks and freeing ports	6		
03115	Other (load lines)	46		
06102	Grain	3		
06108	Cargo density declaration	0		
09206	Safe means of access deck - hold/tank, etc.	16		
09220	Structural features (ship)	13		
09223	Gangway, accommodation-ladder	50		
09227	Ropes and wires	87		
09228	Anchoring devices	32		
09229	Winches and capstans	40		
09230	Adequate lighting mooring arrangements	3		
09231	Other mooring	44		

3.5 Analysis of CIC-topic Related Deficiencies

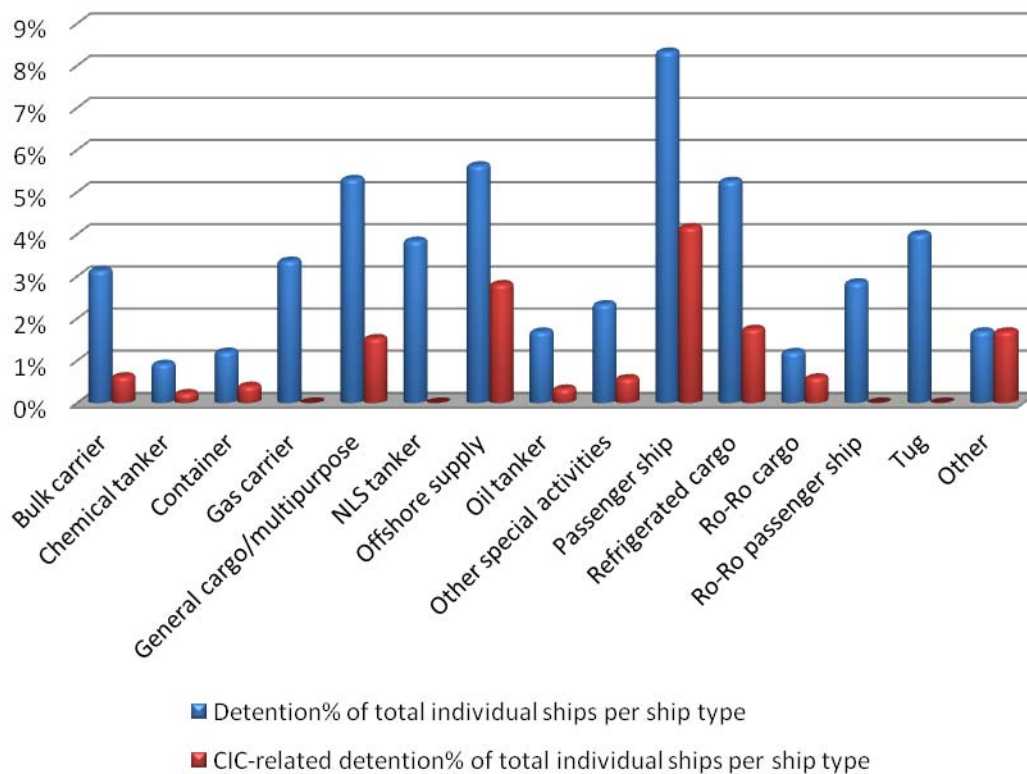
The most frequently observed CIC related deficiencies have been "03103 – Freeboard marks" (in 172 inspections), "03108 - Ventilators, air pipes, casings" (in 108 inspections), "02103 - Stability/strength/loading information and instruments" (in 98 inspections), "09227 – Ropes and wires" (in 87 inspections) and "02107 – Ballast, fuel and other tanks" (in 70 inspections).

In the lower end of the list, "02130 – Triangle mark", (recorded in 1 inspection) and "01103 – Passenger Ship Safety (incl. exemption) Certificate" (in 2 inspections) are the CIC related deficiencies less frequently observed.

The CIC related deficiencies which have been considered as ground for detention with higher frequency have been "02107 – Ballast, fuel and other tanks" (in 7 inspections), "02103 – Stability/strength/loading information and instruments" and "03108 – Ventilators, air pipes, casings" (in 6 inspections each), "02106 – Hull damage impairing seaworthiness" (in 5 inspections) and "03102 – Freeboard marks" and "03109 – Machinery space openings" (in 4 inspections each).

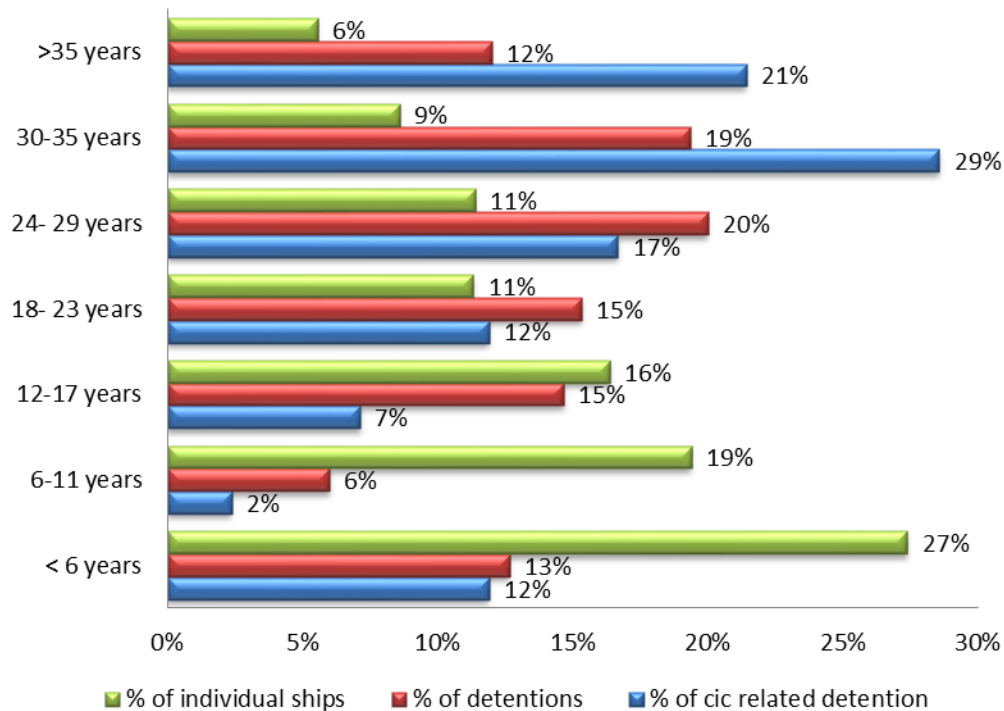
3.6 Results by Ship Type

Shiptype	Number of individual ships	Inspections	Detentions	Detentions as % of inspections	Detentions CIC-topic related	Detentions CIC-topic related as % of inspections
Bulk carrier	781	795	25	3,1%	5	0,6%
Chemical tanker	421	433	4	0,9%	1	0,2%
Container	479	493	6	1,2%	2	0,4%
Gas carrier	88	89	3	3,4%	0	0,0%
General cargo/multipurpose	1,490	1,563	83	5,3%	24	1,5%
NLS tanker	25	26	1	3,8%	0	0,0%
Offshore supply	70	71	4	5,6%	2	2,8%
Oil tanker	290	296	5	1,7%	1	0,3%
Other special activities	170	171	4	2,3%	1	0,6%
Passenger ship	47	48	4	8,3%	2	4,2%
Refrigerated cargo	109	114	6	5,3%	2	1,8%
Ro-Ro cargo	163	166	2	1,2%	1	0,6%
Ro-Ro passenger ship	35	35	1	2,9%	0	0,0%
Tug	25	25	1	4,0%	0	0,0%
Other	57	59	1	1,7%	1	1,7%
Total	4,250	4,386	150	3,4%	42	1,0%



3.7 Results by Ship Age

Ship age	Number of individual ships	Number of inspections	Detentions	Detentions as % of inspections	Detentions CIC-topic related	Detentions CIC-topic related as % of inspections
< 6 years	1,164	1,189	19	1,6%	5	0,4%
6-11 years	824	844	9	1,1%	1	0,1%
12-17 years	696	722	22	3,0%	3	0,4%
18- 23 years	481	503	23	4,6%	5	1,0%
24- 29 years	484	509	30	5,9%	7	1,4%
30-35 years	365	376	29	7,7%	12	3,2%
>35 years	236	243	18	7,4%	9	3,7%
Total	4,250	4,386	150	3,4%	42	1,0%



SECTION 3

Results other CIC Participants

4.1 Comparison of CIC Results with Other Participants

TABLE 7	PMoU	Tokyo MoU	BS MoU
PSC Inspections with CIC questionnaire	4,386	5,901	1,199
Total PSC Detentions	150	346	
Detentions % of inspections	3,4%	5,9%	
Detentions with CIC-topic related deficiencies	42	83	21
Detentions with CIC-topic related deficiencies % of inspections	1,0%	1,4%	1,8%
Detentions with CIC-topic related deficiencies % of detentions	28,0%	24,0%	

4.2 Analysis

The higher detention rate in the Tokyo MoU region compared with the one in the Paris MoU region is in line with the trend of the last years, with the detention index of the Tokyo MoU being as average around 2 percentage points above the detention index of the Paris MoU.

The gap in the number of inspections between both regions can be explained by the selection scheme introduced in the Paris MoU with the new inspection regime, which has significantly reduced the number of ships that can be inspected.

Common elements in the results of the Paris MoU and Tokyo MoU campaigns are some of the top deficiencies (as "Ventilators, air pipes, casings"), the types of ships inspected most (general cargo vessels and bulk carriers) and some of the flags with higher CIC related detention rate (as Panama).

ANNEX 1

Annex 1.1 CIC Inspection Questionnaire

Ship's name	
IMO Nr	
Date of inspection	

1) Before Physical Inspection

Nr.	Question	Yes	No	N/A
1	Is there a valid Load Line Certificate (incl. exemption) on board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	Is there a relevant valid Ship Safety Certificate (incl. exemption) on board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Is the specific documentation regarding structural requirements for various vessel types in accordance with relevant conventions?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	Have stability and strength data been found on board?	<input type="checkbox"/>	<input type="checkbox"/>	

2) After Physical Inspection.

Nr.	Question	Yes	No	N/A
5	A Is there a loading instrument on board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	B Does it appear to be in working order?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	Does the protection of hatch openings and of other openings appear to be satisfactory?	<input type="checkbox"/>	<input type="checkbox"/>	
7	Do the sea valves and overboard discharges, including their attachment to shell, appear to be satisfactory?	<input type="checkbox"/>	<input type="checkbox"/>	
8	Do the vessel's hull, bulkheads and deck, appear to be satisfactory?	<input type="checkbox"/>	<input type="checkbox"/>	
9	Do the means of protection for crew and means of access appear to be satisfactory?	<input type="checkbox"/>	<input type="checkbox"/>	
10	Do the freeing ports appear to be satisfactory?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11	Do the freeboard marks or other marks appear to be in accordance with the Certificates?	<input type="checkbox"/>	<input type="checkbox"/>	
12	Has it been verified as far as possible that the vessel is not submerged or loaded beyond the limits allowed by the Certificates?	<input type="checkbox"/>	<input type="checkbox"/>	
13	Do other items related with freeboard or the structural integrity of the ship appear to be satisfactory?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14	Has the ship been detained as a result of this CIC?	<input type="checkbox"/>	<input type="checkbox"/>	

Note:

If "No" is ticked off (for questions 1 to 13) and in conjunction with reference to the information after each explanatory note of the attached guidelines the ship should be considered for detention. The detail of any detention should be appropriately entered on the PSC Report Forms.

Annex 1.2 Additional Instructions for the CIC

1. INTRODUCTION

- .1 The deficiencies related to structural safety and load lines account, as an average in the last 8 years, for 15% of the total number of deficiencies within the Paris MOU.
- .2 A CIC on structural safety of large bulk-carriers was carried out by the Paris MOU in 1999 and on structural safety of oil tankers in 2000. Structural safety of other types of ships has never been the subject of a CIC.
- .3 Compliance of ships with provisions of the International Convention on Load Lines has never been assessed by any CIC.
- .4 Taking all the above into consideration, at the 42nd session of the Paris MOU Committee meeting (PSCC42), it was agreed to organize in 2011 a CIC on the compliance of all types of ships with the structural safety requirements and the provisions of the International Convention on Load Lines. The agreed terms of reference are attached as Annex 5.

2. PURPOSE

- .1 The purpose of the campaign on structural safety and Load Lines is to get a detailed view of the compliance of the relevant regulations. It is strongly recommended that PSCO's read the explanatory notes in detail before undergoing the CIC.
- .2 In the application of the requirements of the International Convention on Load Lines special attention is to be paid to the age of the vessel and whether the Maritime Administration is a signatory of the 1988 Protocol and the 2004 amendments as per MSC.172(79). For verification of compliance, LL Unified Interpretations may be taken into consideration bearing in mind that these interpretations might not be required by some flag Administrations depending on their national regulations..
- .3 This campaign is deliberately omitting cargo stowage and securing as this requirement is more related to the prevention of loss of cargo, damages to the ship or the persons on board. However the carriage of grain and other bulk cargoes has been addressed in the campaign as it is directly connected with the stability of the ship and therefore with the requirements in ICLL. The same consideration has been made for the stowage of timber on deck as it is regulated in ICLL Reg. 41 to 45.
- .4 The questionnaire is divided into two parts:
 - .4.1 Part 1 is to be completed when examining Certificates. This includes the review of other technical documentation required on board. In order to complete the Part 1, manuals and other relevant documentation are to be facilitated by the Master and senior officers.

The relevant certificates and documents that may be examined within the scope of this campaign are:

- Ship Safety Certificate (Passenger Ship Safety Certificate, or Cargo Ship Safety Construction Certificate, or Cargo Ship Safety Certificate, or Special Purpose Ship Safety Certificate, or Exemption Certificate);
- Freeboard Condition Assignment document;
- International Load Line Certificate (1966), or International Load Line Exemption Certificate;
- Stability information and loading guidance manuals;
- Certificates issued by the classification society in question (only to be required if the ship maintains its class with a classification society);
- High speed craft safety certificate and permit to operate high speed craft;

- Ship's log book with respect to the records of tests and drills according SOLAS II-1 reg.21, 22 and 23;
 - Survey report files (in case of bulk carriers and oil tankers);
 - Reports of previous port State control inspections;
 - Document of authorization for the carriage of grain;
 - Loading and unloading plan for bulk carriers, and
 - CAS Statement of Compliance (in case of oil tankers).
- .4.2 Part 2 shall be completed after the full inspection of the ship. The PSCO may need to carry out tests or examine spaces internally if considered necessary. There may be a need for a practical demonstration (operational control) of hatch covers and watertight doors and verification of the good condition of closing devices for other openings.
- .5 A more detailed inspection shall be carried out if clear grounds are established. This shall be performed in accordance with Annex 9 of Paris MOU text and PSCC Instruction "Guidance on type of inspection".
- .6 Explanatory notes are attached to all questions. Further guidance may be found in the relevant international conventions and associated codes, relevant MSC resolutions and circulars as well as in the following PSCC instructions:
- "Guidelines for PSCO's on control of the Condition Assessment Scheme (CAS) of single hull oil tankers".
 - "Guidelines for PSCO's for the examination of ballast tanks and main power failure simulation (B/O test)".
 - "Guidance for checking the structure of bulk carriers".
 - "Criteria for responsibility assessment of Recognized Organizations (RO)".
 - "Guidelines for PSCO's on checking ship hull structure condition on the basis of residual thickness measurement reports".
 - "Guidelines for PSCO's on checking ships hull for thickness measurement on ships other than those covered by Enhanced Survey Program (ESP) and Condition Assessment Scheme (CAS)".
- .7 To answer "No" in the questionnaire should not automatically lead to the detention of the ship. In this case, the PSCO should use his/her professional judgment to determine whether the vessel should be considered for detention. A non-exhaustive list of deficiencies which can be considered as ground for detention is provided in Annex 4 for guidance of the PSCO.
- .8 The column "N/A" shall be used when the question can not be answered. Questions nr. 4, 6, 7, 8, 9, 11, 12, and 14 only admit "Yes" or "No" as a valid answer.
- .9 Reporting in the database should be in accordance with normal procedures for a CIC in the module which will be made available in the database from September 1st to November 30th 2011.
- .10 The applicable deficiency codes are indicated in *(italics)* in the explanatory notes for each question.
- .11 The questionnaire shall be used at every inspection during the CIC.

Explanatory notes to the questions.

1. Is there a valid Load Line Certificate (incl. exemption) on board?

A Load Line Certificate (01108) shall be issued to every ship which has been surveyed and marked in accordance with the Convention (ICLL Art. 3). Vessels of 24 m. length or above may be exempted of ICLL in accordance with paragraph (1), (2) or (4) of Art 6.

Compliance with ICLL Ch. 2 might be recorded in the document "Record of Conditions of assignment"¹. This document, when existing, is issued either by the flag Administration or by the RO, prior the issuance of the Load Line Certificate, by completion of the form through direct verification that all physical and technical conditions of Load Line assignment have been satisfied and that markings have been properly placed on the vessel's sides.

All conditions of assignment shall be met prior to the issuance of Load Line Certificate.

It is, however, not compulsory by any of the relevant instruments to have this document available on board. The PSCO may request this document. If it is not found on board, a random check including measurements may be carried out to ascertain compliance with Load Line Convention.

The PSCO should check that:

- A valid Load Line Certificate is on board duly completed, and
- Surveys have been carried out in accordance with ICLL Art. 14 and validity is in accordance with ICLL Art. 19.

In case the vessel has been exempted from any of the provisions of ICLL, the PSCO should check that:

- A valid Load Line Exemption Certificate is on board, and
- The relevant conditions for granting the exemption as provided in ICLL Art. 6 are complied with.

2. Is there a relevant valid Ship Safety Certificate (incl. exemption) on board?

All vessels to which SOLAS I, Reg. 1 and 3 applies must have a Ship Safety Construction Certificate (01102), Cargo Ship Safety Certificate (01105) or Passenger Ship Safety Certificate (01103) (ships may also have a valid exemption as per SOLAS I Reg. 4).

The PSCO should check that:

- A relevant valid Ship Safety Certificate is on board duly completed, and
- SOLAS surveys have been carried out in accordance with SOLAS I, Reg. 10, including the verification that the outside of the ship's bottom was inspected as applicable with the stem, stern, keel, bottom and side shell plating examined, found in satisfactory condition and recorded in the Safety Construction Certificate or Cargo Ship Safety Certificate.²

In case the vessel has been exempted from any of the provisions of SOLAS, the PSCO should check that:

- A valid Exemption Certificate is on board, and
- The relevant conditions for granting the exemption as provided in SOLAS I Reg.4 are complied with.

3. Is the specific documentation regarding structural requirements for various vessel types in accordance with relevant conventions?

According to ICLL Annex I, Chapter I Reg 1, ships built to the rules of a Classification Society recognized by the ship's flag may be considered as having sufficient strength.

¹ The assigning authorities use a record of conditions of assignment to check the watertight integrity of the hull [(02101), (02106), (03105), (03106), (03107), (03110), (03111)], superstructures [(03106), (03107)], vent heights (03108), overboard discharges (03112), closures [(03105), (03107)], and other conditions (03115) required for load line assignment. A copy of the record should be kept on board (although it is not compulsory) and is valid for the life of the vessel provided no changes are made to the vessel.

² In general, as per SOLAS requirements, there should be a minimum of two inspections of the outside of the ship's bottom for cargo ships during any five year period, with an interval between bottom inspections in dry-dock not exceeding 36 months. Where acceptable to the Administration, the minimum number of inspections in dry-dock of the outside of the bottom of a passenger ship of 15 years of age or less (which is not a Ro-Ro passenger ship) in any five year period may be reduced from two to one (MSC.1/Circ. 1348). In such cases, the interval between consecutive inspections in dry-dock should not exceed 60 months. The last inspections of the outside of the ships bottom have to be recorded in the Cargo Ship Certificate or Safety Construction Certificate. This is to be verified in the Certificates. Evidence that sea valves and overboard discharges have been inspected should also be provided.

Note that SOLAS II-1, Part A-1, Reg 3-1³ requires that a vessel is designed, constructed and maintained in accordance to the requirements of a Classification Society recognized by the ship's flag or by equivalent national standards. If the vessel is classed, a valid Class Certificate should be found on board. In case the vessel is not classed, the PSCO may consult the flag Administration for further details and, on the basis of their professional judgement, may carry out a more detailed inspection.

ICLL, Ch.II, Reg. 10(1) states that the Master of the ship shall be supplied with sufficient information in an approved form to avoid the creation of any unacceptable stresses when loading and ballasting the ship (02103).

For some types of vessels such as general cargo or other ships carrying heavy or high density cargoes, regardless of length, loading guidance manuals with strength requirements are needed (02103).

Vessels carrying bulk cargoes other than grain will have to comply with SOLAS VI/7 (loading sequences for different loading conditions-including alternate light and heavy cargo, deck cargo condition, block loading, etc.)(01313).⁴

Vessels under SOLAS XI-1 Reg. 2 (bulk carriers as defined in regulation IX/1.6⁵ and oil tankers as defined in regulation II-1/2.12) shall be subject to an enhanced program of inspections (ESP) (02119) by flag Administration or RO (under the specifications adopted by SOLAS XI-1 Reg. 1 (A.789(19) as amended)), as per Resolution A744(18) as amended⁶.

Therefore the following documentation is to be found on board:

- Data and information on the structural condition of the ship collected during the survey (01311) evaluated for acceptability and continued structural integrity of the ship (Class reports and thickness measurements reports including related major steel structure replacement).
- Analysis of data carried out and endorsed by the Administration, the conclusions of which should form part of the Condition Evaluation Report.

Oil Tankers as per definition of MARPOL Annex I Reg. 1.5 and under Annex I Reg. 20 must hold a CAS⁷ Statement of Compliance (01120) issued by the Administration or an Interim Statement of Compliance (01121) issued by the RO if its CAS due date has passed⁸ together with a copy of the CAS Review record.

For ships not covered by ESP or CAS, when SOLAS and ICLL structural requirements are met by a valid Certificate of Class issued by a Classification Society, the society may have thickness measurements requirements⁹.

Evidence of thickness measurements (01312) in renewal surveys may not be available on board ships not covered by ESP or CAS, and this issue cannot be considered a deficiency. In these cases, evidence of a valid Class Certificate should be adequate proof that thickness measurements were taken in accordance to the rules.

If areas of corrosion or pitting of plating and associated stiffening are observed during the inspection of the hull [(02111), (02112), (02114), (02117)], then any records of thickness measurements, if available, may be taken into account in deciding whether the corrosion represents significant structural deterioration affecting seaworthiness (02103) or strength (PMOU annex 1 section 9.3.4.5.1 includes significant structural deterioration as possible grounds for detention)

³ For vessels built on 1 July 1998 or after.

⁴ Refer to Resolution A.862(20) as amended - "Code of practice for the safe loading and unloading of bulk carriers" - Section 2.2.1.4 and 2.2.2.

⁵ For clarification on bulkcarrier definition, Res. MSC.277(85) may be used as reference for new ships. For existing ships inspected refer to: a) SMS or b) Class Certificates. Definition in SMS Certificate will prevail.

⁶ Resolution from the 18th Session of the Assembly of IMO, November 1993, as amended by the November 1997 SOLAS Conference Res. 2, res.'s MSC.49(66), MSC.105(73), MSC.125(75), MSC.144(77), MSC.197(80) and MSC261(84).

⁷ Condition Assessment Scheme (CAS) as per resolution MEPC.94(46), as amended

⁸ Refer to MEPC/Circ. 479. In order to determine whether the CAS requirements apply to a particular oil tanker, the PSCO should check Form B of the Supplement to the International Oil Pollution Prevention Certificate and, based on information contained therein, determine if the oil tanker complies with Regulation 19 or 20.1.3.

⁹ For example, IACS Unified Requirement Z7 covering Hull Classification Surveys includes thickness measurement requirements for all types of ships, mainly related to Special Surveys (every 5 years) and increase with age.

Regardless of whether or not there are relevant thickness measurement records on board, if the PSCO considers that there is significant structural deterioration, then the RO or the flag Administration should be consulted to consider the need for a further survey by the RO (see SOLAS I-11).

For further guidance, please refer to PSCC Instruction "Guidelines for PSCO's on checking ship's hull for thickness measurement on ships other than those covered by Enhanced Survey Program (ESP) and Condition Assessment Scheme (CAS)".

In addition, ship's documentation of compliance with structural requirements of SOLAS is to be verified by PSCO as follows according to the type and age of the ship as applicable:

3.1. SOLAS II-1 3-2 Corrosion prevention of seawater ballast tanks.

In Oil Tankers¹⁰ and bulk carriers constructed on or after 1st July 1998: all dedicated seawater ballast tanks shall have an efficient corrosion prevention system (02107), such as hard protective coatings or equivalent. The scheme for the selection, application and maintenance of the system shall be approved by the Administration, based on the guidelines adopted by the Organization (resolution A.798(19)).

In ships with a building contract after 1st July 2008; or which keels are laid or which are at a similar stage of construction on or after 1st January 2009; or delivered on or after 1st July 2012: all dedicated seawater ballast tanks arranged in all types of ships of not less than 500 gross tonnage and double-side skin spaces arranged in bulk carriers of 150 m in length and upwards shall be coated during construction in accordance with the Performance standards for protective coatings for dedicated seawater ballast tanks in all types of ships and double-side skin spaces of bulk carriers, adopted by the Maritime Safety Committee by resolution MSC.215(82).

For the latter ships maintenance of the protective coating system shall be included in the overall ship's maintenance scheme. The effectiveness of the protective coating system shall be verified during the life of a ship by the Administration or an organization recognized by the Administration, in accordance with the Ships Coating Technical File.

3.2. SOLAS II-1 3-6 Access to and within spaces in, and forward of, the cargo area of oil tankers and bulk carriers.

Oil tankers of 500 gross tonnage and over and bulk carriers, as defined in regulation IX/1, of 20,000 gross tonnage and over, constructed on or after 1st January 2006 shall comply with the means of access (02109) to cargo and other spaces as per MSC.158(78), taking into consideration provisions in case of damage, safe access (09206) and ship structure access manuals, and the general technical specifications contained therein. An updated copy of the Ship Structure Access Manual approved by the Administration shall be kept on board including the requirements as per 4.1 of this regulation.

3.3. SOLAS II-1 3.7 Construction drawings maintained on board and ashore.

A set of as-built construction drawings in accordance with circular MSC/Circ. 1135 or equivalent and other plans showing any subsequent structural alterations shall be kept on board a ship constructed on or after 1st January 2007¹¹.

3.4. Ship oil Pollution Emergency Plan (prompt access to damage stability).

In accordance to MARPOL Annex I Reg. 37.4 all oil tankers¹² of 5,000 tons deadweight or more shall have prompt access to computerized, shore-based damage stability and residual structural strength calculation programs. Evidence of compliance with this requirement is to be found on board by PSCO.

¹⁰ As per MARPOL Annex I Reg 1.5 *Oil tanker* means a ship constructed or adapted primarily to carry oil in bulk in its cargo spaces and includes combination carriers, any "NLS tanker" as defined in Annex II of the present Convention and any gas carrier as defined in regulation 3.20 of chapter II-1 of SOLAS 74 (as amended), when carrying a cargo or part cargo of oil in bulk.

¹¹ Additional set of such drawings shall be kept ashore by the Company, as defined in regulation IX/1.2.

¹² See footnote 6.

Whenever none of the above requirements is applicable to the ship, "N/A" should be answered to this question.

4. Have stability and strength data been found on board?

ICLL Regulation 10.1) and 2) states that the Master shall be supplied with sufficient information, in an approved form, giving guidance for the stability of the ship under varying conditions of service and to avoid the creation of unacceptable stresses (02103).

Note that:

- In accordance with ICLL Convention Reg. 1.3., ships built before 1 July 2010 shall comply with an intact stability standard acceptable to the Administration¹³. Ships built on or after 1 July 2010 shall, as a minimum, comply with the requirements of part A of the Intact Stability Code (IS 2008)¹⁴.
- If the vessel is assigned a timber freeboard as per ICLL Reg. 44(7), provision shall be made for margins of stability if the vessel is carrying timber deck cargoes. In this regard, stability requirements as per IMO A.715(17) or A.287(VIII) may be considered in the approved stability booklet.
- As per SOLAS VI¹⁵ Reg 7.2 a booklet written in a language familiar to the ships officer responsible for cargo operations is to be provided on ships carrying bulk cargoes other than grain including the information indicated in this item. Apart from the availability of the booklet the limitations, if any, to the carriage of cargoes should be noted in particular to check the compliance with SOLAS XII (01313).
- As per SOLAS VI Reg 9 Cargo ships and bulk carriers, when loading grain, shall be loaded in accordance with the regulations of the International Code for the Safe Carriage of Grain in Bulk (MSC. 23 (59)) and must have a Document of Authorization for the carriage of grain (01110) issued either by the Flag Administration or by a Recognized Organization (RO) accompanying or incorporated into the approved grain loading manual (01313), provided to enable the master to meet the stability requirements of the Code¹⁶ (06102).
- From the damage stability point of view ICLL Convention Reg. 27 has specific requirements for damage stability of some ship types (A, B-60 and B-100). These damage stability requirements can be either treated separately in the Stability booklets or incorporated in the approval of damage stability requirements in SOLAS, MARPOL or in other instruments developed by the Organization.

The PSCO shall ensure that the approved Stability Booklet and strength data, if needed, is on board and where required, an approved Loading Manual is on board.

5. a) Is there a loading instrument on board?

b) Does it appear to be in working order?

In the case of ships which should have an approved loading instrument on board and either don't have it or it is not approved by its Administration, "No" should be answered to question 5.

For vessels different than HSC, bulk-carriers under SOLAS XII/Reg. 11 and ships with stability instruments installed before July 2010, "N/A" should be answered to question 5.

¹³ SOLAS II-1, MARPOL Annex I, IGC, BCH, IBC and 2000 HSC, 1994 HSC Codes contain specific intact stability requirements.

¹⁴ Intact Stability Code Part A (compulsory) has incorporated specific requirements for tankers –same as MARPOL, Reg. 27-, High Speed craft –HSC Code 2000-, cargo ships carrying timber deck cargoes and cargo ships carrying grain in bulk.

¹⁵ The International Maritime Solid Bulk Cargo (IMSBC) Code, in force from 1 January 2011, refer that the prime hazards associated with the shipment of solid bulk cargoes are those relating to structural damage due to improper cargo distribution, loss or reduction of stability during a voyage and chemical reactions of cargoes.

¹⁶ A ship without such a document of authorization shall not load grain until the master demonstrates to the satisfaction of the Administration, or of the Contracting Government of the port of loading acting on behalf of the Administration, that, in its loaded condition for the intended voyage, the ship complies with the requirements of this Code. See also A 8.3 and A 9. In addition existing ships not having on board a document of authorization issued in accordance with A 3 of the Code may apply the provisions of A 9 without limitation of the deadweight which may be used for the carriage of bulk grain.

A loading instrument capable of providing information on hull girder shear forces and bending moments is only required for bulk carriers with length of 150 m. or above in accordance with SOLAS XII Reg. 11 (02103). Approval of the loading computer is recommended but not compulsory.

Bulk carriers of less than 150 m in length constructed on or after 1st July 2006 shall be fitted with a loading instrument capable of providing information on the ship's stability in the intact condition. The loading computer must be approved by flag Administration or RO (SOLAS XII Reg 11.3)

For vessels whose keels are laid on or after 1st July 2010 and length of 24 m. or above, if a stability instrument is used as a supplement to the stability booklet for the purpose of determining compliance with the relevant stability criteria such instrument shall be subject to the approval by the Administration (Intact Stability Code 2008, Res MSC 267(85))

Additionally, the 1994 High-Speed Craft Code (HSC 1994) (mandatory under Chapter X of the 1974 SOLAS Convention for all high-speed crafts constructed on or after 1st January 1996 but before 1st July 2002), and the HSC 2000 (after 1st July 2000) requires that, on completion of loading of the craft and prior to its departure on a voyage, the master shall determine the trim and stability of the craft and also ascertain and record that the craft is in compliance with stability criteria of the relevant requirements. The Administration may accept the use of an electronic loading and stability computer or equivalent means for this purpose.

For ships which have requirements for damage stability (e.g. ship Types: A, B-60, B-100), loading instruments for checking stability should be capable of checking both damage conditions as well as intact (e.g. IACS URL5 Type 2 and Type 3) and not rely solely on intact stability computers. (Refer also to CIC on Tanker Damage Stability as appropriate).

The loading instrument (i.e., instrument, or hardware and software) and/or stability instrument (as appropriate) shall be verified to be in working order during inspection if provided on board. In this respect, the PSCO may conduct a random check in order to verify if the instrument appears to be in working order, and its correct use by the responsible officer.

6. Does the protection of hatch openings and of other openings appear to be satisfactory?

Refer to ICLL Reg. 14, 15, 16 and 26¹⁷, 44(1) and SOLAS II-1 Reg. 15,15-1¹⁸, 17 and 17-1¹⁹ The PSCO is to verify that these items are properly maintained²⁰:

6.1 Protection of hatch openings:

- Coamings including deck connections, stiffeners, stays and brackets.
- Hatches fitted with portable covers (wood or steel), portable beams²¹, carriers and securing devices, steel pontoons, tarpaulins¹⁹, cleats, battens¹⁹ and wedges, including structural integrity and weather tightness [(03104), (03105), (03111)].

6.2 Protection of other openings:

- Hatchways, manholes and scuttles in the freeboard deck and superstructure decks [(02122), (03104), (03110), (03111)].
- Machinery casings, companionways and deck houses protecting openings in the freeboard deck or enclosed superstructure decks [(02123), (03109)].
- Portlights and windows together with dead covers or other openings in the vessel's sides or ends below the freeboard deck in cargo ships, or in passenger vessels below the bulkhead deck, or in way of enclosed superstructures.
- Ventilators, air pipes together with flame screens, scuppers and discharges serving spaces on or below the freeboard deck. Particularly in tankers and tank barges: cargo tank openings, including gaskets, covers and coamings, pressure-vacuum relief valves, flame arrestors and

¹⁷ For Type A ships.

¹⁸ For cargo ships

¹⁹ For Ro-Ro and Ro-Pax ships together with Special Purpose Ships as applicable.

²⁰ The IACS guidelines on hatch cover securing and tightness (IACS Rec. 1986/Rev.2 July 2005/Corr. 1 2005) could also be consulted for further reference.

²¹ This item refers to old vessels but may appear.

cargo, crude oil washing, bunker, ballast and tank vent piping systems above the weather deck and in the cargo pump rooms and pipe tunnels [(02124), (02125), (02126), (03108), (03112)].

- Watertight bulkheads, bulkhead penetrations, end bulkheads of enclosed superstructures and the operation of any doors in same. In passenger vessels opening and their closures in watertight bulkheads below the bulkhead deck with watertight doors [(02114), (02115), (02116)].
- Weather tight doors and closing appliances for all of the above including stiffening, dogs, hinges and gaskets, including weather tight gangways in passenger ships [(02101), (09223)].
- Watertight doors in Ro-Ro cargo spaces, including watertight gangways in passenger ships [(02101), (09223)].

All securing devices must be available and in good condition and no cracks, excessive buckling or heavy corrosion should be observed. Corrosion, fractures or buckling are not considered acceptable in watertight doors in Ro-Ro cargo spaces.

In Ro-Ro and special category spaces due consideration is to be given to watertight doors (02101). In this regard, the sealing arrangements must be in good condition: packing (including retaining bars or channels and welding, etc...), rubber (uniform compression, free of paint, free of fractures or buckling, greased for cold climates, etc...), functioning (smooth, uniform, proper engagement of bearings, proper working of devices for locking the doors, interlocks, etc...), securing and locking devices.

Random operation of cargo hatch covers may also be requested to be carried out if not interfering with cargo operations in cargo holds. Checking that means of closure are of easy operation may be also to be carried out especially in watertight bulkheads below bulkhead deck [(03104), (03105), (03111)].

In case the PSCO has grounds to believe that the weather or water tightness may be impaired, a hose test may be requested. Records of Ultrasonic or hose tests of hatch covers during last renewal or intermediate survey, if available, can be considered for evaluating the weather tightness.

In addition to this, random measurement of coaming heights may be carried out in case the PSCO has grounds for believing that they are not in accordance with the record of conditions of freeboard assignment.

7. Do sea valves and overboard discharges, including their attachment to shell, appear to be satisfactory?

Refer to ICLL Reg. 22, 22-1, SOLAS II-1 Reg. 15 and SOLAS II-1 Reg. 48.

A general examination of machinery and associated piping is to be carried out.

The PSCO should check by means of external inspection (03112) and random operation of the valves if needed that in manned/unmanned²² machinery spaces controls for main and auxiliary sea inlet and discharge valves are readily accessible, hull and distance pieces around valves are in good condition and valves are provided with indicators showing whether the valves are open or closed. In addition for passenger vessels shell connections below the bulkhead deck, cargo ports, ash and rubbish chutes below the bulkhead deck must be in good condition.

Materials, type of valves, position and fittings should be acceptable based on the record of the conditions of assignment of freeboard and therefore no further investigation is required unless clear grounds for non compliance are found.

8. Do the vessel's hull, bulkheads and deck appear to be satisfactory?

Refer to ICLL Reg 1, SOLAS II-1 Reg 3-1 and SOLAS XI-1 Reg 2 (Res A.744(18)).

Overall inspection of the ship hull, as far as could be seen, is to be carried out by the PSCO from the pier or quay in case of boarding the ship from that side, and the opposite side from main deck. This visual inspection can be carried out from the boat in case of boarding the vessel at sea (02106).

Deck is to be inspected in conjunction with verification of items as per questions 7, 10 and 11. In particular the following areas may be taken in consideration:

²² For unmanned machinery spaces, valves are not required to be operated remotely provided the inboard end line is ≥ 0.01 LWL above sea water line and controls for the valve are compliant with SOLAS II-1 R 48.3.

- Oil tankers with pump room bulkheads may be examined for signs of leakage or fractures.
- Ships with structure changing from longitudinal to transverse primary members at engine room bulkhead (mainly bulk carriers) may be inspected for signs of leakage from deep fuel oil tanks bounding the bulkhead or fractures (02129).

In case that the main deck or the ship's hull is found with cracks, buckling or excessive wastage [(02110), (02111), (02112), (02113), (02114), (02115), (02116), (02117), (02118)] and no evidence of flag Administration or RO being aware of these defects, or if the condition of the hull and associated structure in general give rise to concern, the flag State/RO should be consulted to consider the need for a more detailed survey. Specification of repairs is for the RO surveyor to propose and need to be agreed on by the PSCO.

Significant areas of damage in decks and hull affecting seaworthiness (02106) or strength to take local loads may justify the detention of the ship. Damage not affecting seaworthiness will not constitute grounds for judging that a ship should be detained, nor will damage temporarily but effectively repaired and verified by flag Administration/RO for a voyage to a port for permanent repairs.

Areas which should be given special attention concerning corrosion problems are permanent sea water ballast tanks, top side tanks (bulk carriers), edges of openings, areas around draining openings and areas of stress concentrations.

If there are clear grounds of vessel cargo holds, ballast tanks or voids being in a poor condition, these compartments may be internally examined if needed provided safe access is guaranteed.

In special cases, such as aluminum vessels, parts liable to rapid deterioration, particularly areas adjacent to dissimilar metals which are in close proximity should be in good condition. In case internal examination is carried out in cargo spaces, dry or liquid, together with any other space deemed necessary by the PSCO on such ships, particular attention is to be given to bilges and drain wells.

If the PSCO considers that there is significant structural deterioration then the RO or flag State should be consulted. The RO surveyor may then propose repairs to be carried out. If the proposals are acceptable to the PSCO, care is to be taken to ensure that the flag State and the RO oversee the repairs. However if the PSCO has clear doubts over the proposals of the RO and the strength of the hull, he may ask the RO to demonstrate by calculation that the structure of the ship remains in compliance with its rules.

9. Do the means of protection for crew and means of access appear to be satisfactory?

Refer to ICLL Reg. 25, 25-1, 44 and SOLAS II-1/3.9

Efficient bulwarks or guard rails of at least one meter height from the deck (with stanchions, wires or chains and openings in between guard rails) on quarters, machinery spaces, deck and parts used for the work²³ of the ship must be found in good condition. Special requirements for protection of the crew on vessels carrying timber deck are also to be considered if the vessel is assigned a timber freeboard (03103).

In case of SOLAS ships the compliance with SOLAS II-1 Reg. 3-3 (Safe access to tanker bows, applicable to new and existing tankers²⁴) shall be verified. Means will be provided to enable the crew to gain safe access to the bow even in severe weather conditions (02127). Such means of access shall be approved by the Administration based on the guidelines for safe access to tanker bows, adopted by the Maritime Safety Committee by resolution MSC.62(67).

Under regulation II-1/3-9 of the SOLAS Convention approved means of embarkation/disembarkation for use in port and for port-related operations must be installed on ships constructed (having their keel laid) on or after 1 January 2010. This means of embarkation and disembarkation shall be constructed, tested, installed and maintained in accordance with MSC.1/Circ. 1331. For all ships the means of embarkation and disembarkation shall be inspected and maintained in suitable condition for their intended purpose, taking into account any restrictions related to safe loading. All wires used to support the means of embarkation and disembarkation shall be maintained as specified in regulation III/20.4

²³ As appropriate in accordance to LL Unified interpretations for vessels built after 1982 (LL UI 50) and in accordance with regulation 25-1 for ships under HSSC 88 built after 1 January 2005.

²⁴ For the purpose of regulation (3-3 and 3-4), tankers include oil tankers as defined in regulation I/ 2, chemical tankers as defined in regulation VII/8.2 and gas carriers as defined in regulation VII/11.2.

PSCO will note the deficiencies in the report. In the case of areas found not in accordance with the regulations affecting any of the above requirements flag State or RO may be contacted.

10. Do the freeing ports appear to be satisfactory?

Refer to ICLL Reg. 24.

In areas where wells may originate, means for freeing and draining the decks from water must be provided. In this regard the PSCO should verify that these areas are free from obstructions that might impair the proper draining [(03112), (03113)].

PSCO will note the deficiencies in the report. In the case of areas found not in accordance with the regulations affecting any of the above requirements flag State or RO may be contacted.

If no requirements are applicable to the ship, "N/A" should be answered to this question.

11. Do the freeboard marks or other marks appear to be in accordance with the Certificates?

Refer to ICLL Reg. 6 to 9 and 45, II-1 Reg. 13 (SOLAS 2004 Amendments), Reg. 18 (SOLAS 2006 Amendments), SOLAS II-1 Reg. 5.6, SOLAS XII Reg. 8.3, HSC 2000 Ch.2.9 and 1994 HSC Ch. 2.9.

Visual inspection is to be carried out as far as feasible to confirm that loadline marks (deck line, lines, mark of assigning authority) are the same as those noted in the ICLL Certificate. Marking is to be permanent and in a contrasting color (03102).

In addition to this PSCO should note that:

- In accordance with ICLL Reg. 6.6 where a ship is assigned with a greater than minimum freeboard, so that the load line is marked at a position corresponding to, or lower than, the lowest seasonal load line assigned at minimum freeboard, only the Fresh Water Load Line need to be marked.
- As per SOLAS II-1 Regulation 5.6 every cargo ²⁵and passenger ship built after 1 January 2009 shall have scales of draughts marked clearly at the bow and stern. In the case where the draught marks are not located where they are easily readable, or operational constraints for a particular trade make it difficult to read the draught marks, then the ship shall also be fitted with a reliable draught indicating system by which the bow and stern draughts can be determined
- A solid equilateral triangle having sides of 500 mm and its apex 300 mm below the deck line, permanently marked and painted a contrasting color to that of the hull is to be found on the side shell at midship (port and starboard side) for bulk carriers with any restrictions imposed on the carriage of solid bulk cargoes having a density of 1,780 kg/m³ and above in accordance with SOLAS XII Reg. 6²⁶ as per SOLAS XII Reg. 8.3 (02130)²⁷.
- Passenger ships intended for alternating modes of operation may have one or more additional load lines assigned and marked to correspond with the subdivision draughts which the Administration may approve for the alternative service configurations with subdivision load lines assigned, marked and recorded in the Passenger Ship Safety Certificate, and shall be distinguished by the notation C1(P1) for the principal passenger service configuration, and C2(P2), C3(P3).
- High Speed Craft constructed and certified in accordance with HSC 2000 shall be marked with design waterline mark (permanent mark) in accordance with Chapter 2.9.1. of the Code and load line marks in accordance with Chapter 2.9.2 (horizontal bar and disk)
- High Speed Craft constructed and certified in accordance with HSC 1994 shall be marked with design waterline mark²⁸ in accordance with Chapter 2.9. of the Code.
- Bulk-carriers, general cargo ships and particularly tankers may have concurrent loadline assignments. If this is the case the PSCO shall verify that affected certificates due to the change

²⁵ Cargo ships to which Part B-1 of SOLAS II-1 applies. See footnote on SOLAS II-1 Reg 4

²⁶ Restrictions imposed on the carriage of solid bulk cargoes having a density of 1,780 kg/m³ and above in accordance with the requirements of regulations 6 and 14 shall be identified and recorded in the booklet.

²⁷ Refer to MSC 89(71) on the interpretation on the provisions of SOLAS XII

²⁸ Waterline should be distinguished with the notation H.

in deadweight or load lines are consistent with the freeboard assigned²⁹ at the time of the inspection.

In case that clear grounds for non compliance are found, the PSCO may request measurement of marks and freeboard.

12. Has it been verified as far as possible that the vessel is not submerged or loaded beyond the limits allowed by the Certificates?

Refer to ICLL Art 12, SOLAS II-1 Reg. 13 (SOLAS 2004 Amendments), Reg. 18 (SOLAS 2006 Amendments) SOLAS VI Reg. 7 and SOLAS XII Reg. 14. These requirements apply to all ship types, although the issue is more “sensitive” on bulk carriers.

Special attention is to be paid on bulk carriers loading/unloading heavy cargoes (density over 1,780 kg/m³) (06108) in alternate holds or holds with less than 10% in full loaded condition (>90% deadweight)³⁰.

In addition it should be checked that as per SOLAS XII Reg. 8.3 bulk carriers permanently marked on the side shell with solid equilateral triangle (02130) as indicated in explanatory notes to question 11 are not loaded in contravention of the restrictions in the booklet required by regulation SOLAS VI/7.2 (01313).

Passenger ships intended for alternating modes of operation may have one or more additional load lines assigned and marked for the alternative service configurations with subdivision load lines assigned, marked and recorded. Passenger ships shall never be loaded so as to submerge the subdivision load line marks in accordance with SOLAS II-1 as applicable.

See question 11 for vessels with concurrent load line assignments.

In case the vessel arrives at port with the disk or applicable marks submerged beyond the limits allowed by the Certificates (03101) the vessel is to be considered for detention (unless force majeure is demonstrated). Bulk carriers found loaded with empty or alternate cargo holds, as indicated above, not complying with SOLAS XII Reg. 5.1 or with heavy cargoes not complying with the restrictions in the booklet required by regulation SOLAS VI/7.2 (01313) are also to be considered for detention, especially where overstressing of the hull may have occurred (02129). Vessels that are overloaded (03101) prior to departure should be considered for detention until the situation is rectified. Flag Administration and/or RO are to be informed accordingly.

13. Do other items related with freeboard or the structural integrity of the ship appear to be satisfactory?

Items not specifically addressed in the previous questions and included in the purpose of this Campaign are to be considered in this item [(02128), (03115), (09220)].

If more detailed examination is carried out and vessel is not found physically in compliance with the requirements indicated in question 3, they may be noted in this item such as corrosion prevention of seawater ballast tanks or access to and within spaces [(02111), (02112), (02113)].

In addition the following may be verified on board:

13.1. SOLAS II-1 Reg. 3-4.1 Emergency towing arrangements on tankers.

Applicable to New and Existing tankers of not less than 20000 tonnes deadweight requiring Emergency towing arrangements shall be fitted at both ends.

- Tankers constructed on or after 1st July 2002 will comply with easy rapid deployment; and emergency towing arrangements at both ends of adequate strength taking into account the size and deadweight of the ship, and the expected forces during bad weather conditions. These towing arrangements shall be approved by the Administration.

²⁹ Freeboard disk and marks painted in contrasting color.

³⁰ Refer to SOLAS XII Reg 5.1 if applicable and “Standards and criterion for the structure of bulk carriers of single skin construction”, MSC.168(79). Compliance may be checked in the booklet required by regulation VI/7.2 which must be endorsed by the Administration or on its behalf, to indicate that regulations 4, 5, 6 and 7, as appropriate, are complied with. If there are restrictions on the carriage of cargoes having a density of 1780 kg/m³ or above these shall be identified in the booklet and the triangle marked accordingly.

- Tankers constructed before 1st July 2002, the design and construction of emergency towing arrangements shall be approved by the Administration, based on the Guidelines on emergency towing arrangements for tankers adopted by the Maritime Safety Committee by resolution MSC.35(63), as may be amended).

13.2. SOLAS II-1 Reg. 3-4.2 Emergency towing procedures.

Ships³¹ shall be provided with a ship-specific emergency towing procedure. Such a procedure shall be carried aboard the ship for use in emergency situations and shall be based on existing arrangements and equipment available on board the ship as per paragraphs 2.1 to 2.3 of Regulation 3-4 (resolution MSC.35(63) and MSC.1/Circ.1255 as applicable).

13.3. SOLAS II-1 Reg. 3-8 Towing and mooring equipment.

For ships constructed from 1st July 2007, not applying emergency towing arrangements provided in accordance with regulation 3-4. Ships shall be provided with arrangements, equipment and fittings of sufficient safe working load to enable the safe conduct of all towing and mooring operations associated with the normal operation of the ship meeting the requirements of the Administration or an organization recognized in accordance with MSC/Circ.1175 on Guidance on shipboard towing and mooring equipment or equivalent [(09227), (09228), (09229), (09230), (09231)]

Each fitting or item of equipment provided under this regulation shall be clearly marked with any restrictions associated with its safe operation, taking into account the strength of its attachment to the ship's structure.

13.4. ICLL Reg 43(1), 44 Special Requirements for ships carrying timber.

An examination shall be made of the structural arrangements, fittings and appliances as related to timber load line assignments [(03114), (06103)]. Vessel carrying timber cargoes might be in compliance with the Code of Safe Practice for Ships Carrying Timber Deck Cargoes, 1991 as per Resolution A.715 (17) or the previous code as per A.287(VIII).

13.5. Other SOLAS and Mandatory Codes requirements.

[Other requirements regarding structural strength of the ships addressed in SOLAS, MARPOL, IBC, IMSBC Code, etc... not considered in this notes may be referred herein].

If the ship is not in compliance with any statutory requirement when she should, the "No" box should be ticked.

Whenever none of these requirements is applicable to the ship, "N/A" should be answered to this question.

14.- Has the ship been detained as a result of this CIC?

If as a result of the inspection of the items listed in the questionnaire the PSCO detains the ship then the "Yes" box should be ticked.

Grounds for detention.

The PSCO will exercise his professional judgement in determining whether to detain the ship until the deficiencies are corrected or to allow it to sail with certain deficiencies without unreasonable danger to the safety, health, or the environment, having regard to the particular circumstances of the intended voyage.

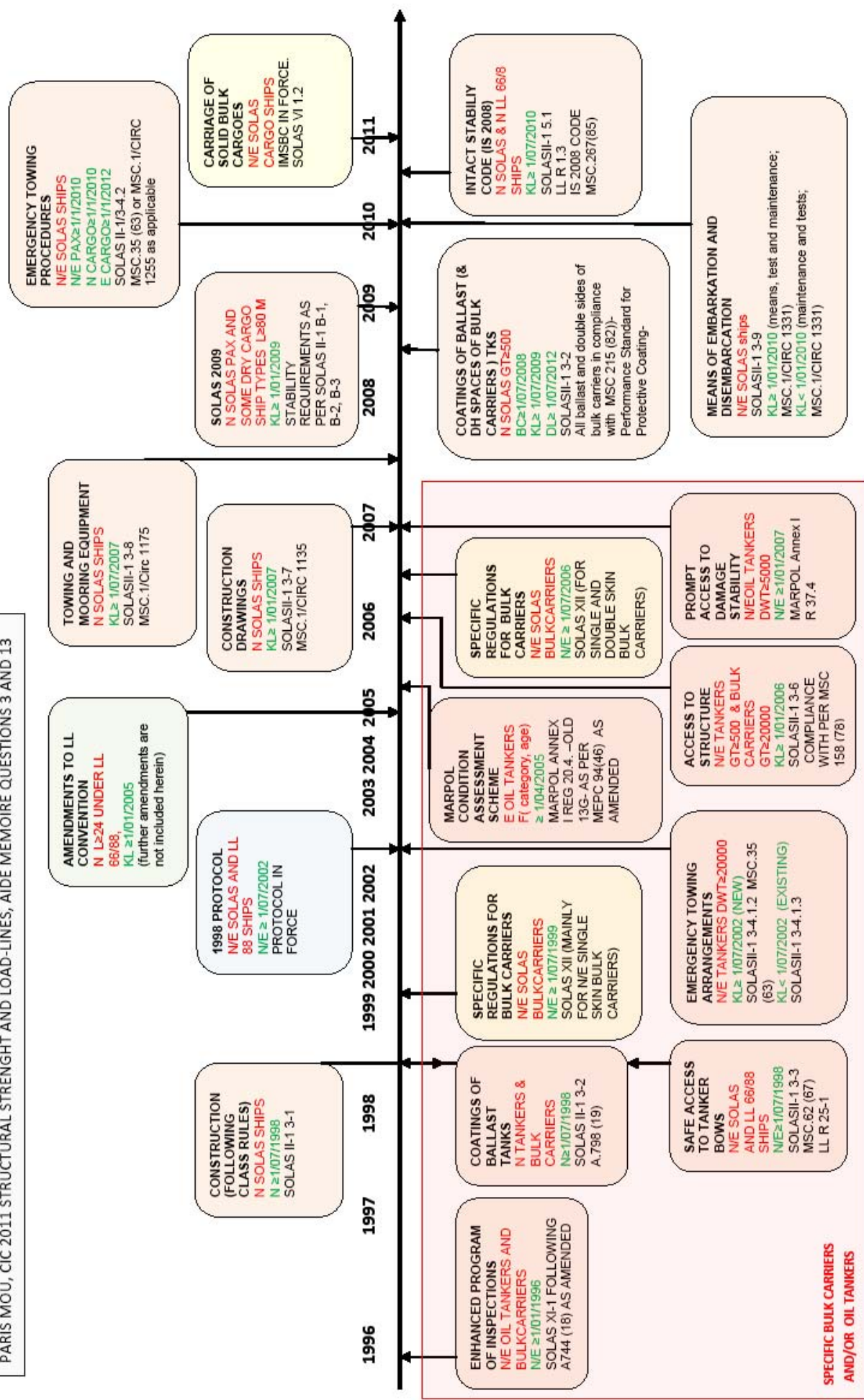
The following deficiencies are considered of such a serious nature that they may warrant the detention of the ship involved. This list is not considered exhaustive but is intended to give an exemplification of relevant items:

³¹ All passenger ships, not later than 1 January 2010; cargo ships constructed on or after 1 January 2010; and cargo ships constructed before 1 January 2010, not later than 1 January 2012.

- Lack of valid Certificates and documents as required by the relevant instruments (see Questions 1, 2, 3 and 4).
- Failure to carry out the enhanced survey programme in accordance with SOLAS 74, Chapter XI, Regulation 2 (see Question 3).
- Significant areas of damage or corrosion, or pitting of plating and associated stiffening in decks and hull affecting seaworthiness or strength to take local loads, unless proper temporary repairs for a voyage to a port for permanent repairs have been carried out (see Questions 6 and 8).
- Means of freeing water from the deck not in satisfactory/operational condition (see Question 10).
- Absence of sufficient and reliable information, in an approved form, which by rapid and simple means, enables the master to arrange for the loading and ballasting of his ship in such a way that a safe margin of stability is maintained at all stages and at varying conditions of the voyage, and that the creation of any unacceptable stresses in the ship's structure are avoided (see Questions 3, 4, 5, 12 and 13).
- Absence, substantial deterioration or defective closing devices, hatch closing arrangements and water tight doors (see Questions 6, 7, 9 and 13).
- Overloading (see Questions 4, 5 and 12).
- Absence of or impossibility to read draught and/or freeboard marks (see Questions 1 and 11).
- Survey Report File (in case of bulk carriers and oil tankers) missing or not in conformity with SOLAS XI-1 Reg. 2 and Res. A.744(18) as amended and documentation for those vessels subject to CAS missing or not in conformity with MARPOL Annex I Reg. 20.6 (see Questions 2 and 3).

In case of detention, the PSCO should refer to the applicable procedures under Section 3 of the Paris MOU text and the PSCC Instruction "Guidance on Action Taken including detention".

PARIS MOU, CIC 2011 STRUCTURAL STRENGTH AND LOAD-LINES, AIDE MEMOIRE QUESTIONS 3 AND 13



N: New ships, E: Existing ships, N/E: New and Existing ships, KL: Keel laid= built; BC: Built Contract, DL: Delivered, In case the resolution is mentioned in the main text of the applicable convention its implementation is compulsory.
 Diagram/ATyAT/mm/rev1

Annex 1.3 Inspections and Detentions per Flag State

TABLE 8 Flag	Number of individual ships	Inspections	Detentions	Detention as a % of inspections	Detentions CIC-topic related	Detentions CIC-topic related as % of inspections	BGW list *
Albania	7	8	1	13%	1	13%	Black
Algeria	4	4	0	0%	0	0%	Grey
Antigua and Barbuda	325	343	14	4%	2	1%	White
Azerbaijan	2	2	0	0%	0	0%	Black
Bahamas	189	196	6	3%	2	1%	White
Bahrain	1	1	0	0%	0	0%	Not listed
Bangladesh	2	2	0	0%	0	0%	Not listed
Barbados	18	20	0	0%	0	0%	White
Belgium	11	11	0	0%	0	0%	White
Belize	49	52	3	6%	1	2%	Grey
Bermuda, UK	17	17	0	0%	0	0%	White
Bolivia	2	2	0	0%	0	0%	Black
Bulgaria	10	10	0	0%	0	0%	Grey
Cambodia	54	54	3	6%	1	2%	Black
Cape Verde	1	1	0	0%	0	0%	
Cayman Islands, UK	24	24	0	0%	0	0%	White
China	15	16	0	0%	0	0%	White
Comoros	28	29	1	3%	1	3%	Black
Cook Islands	10	11	0	0%	0	0%	Grey
Croatia	8	8	0	0%	0	0%	White
Curacao	24	28	2	7%	2	7%	Grey
Cyprus	154	161	6	4%	0	0%	White
Denmark	80	81	1	1%	0	0%	White
Dominica	9	10	1	10%	1	10%	Grey
Egypt	5	5	0	0%	0	0%	Grey
Estonia	3	3	0	0%	0	0%	White
Falkland Islands, UK	1	1	0	0%	0	0%	Not listed
Faroe Islands	18	19	0	0%	0	0%	Grey
Finland	34	34	1	3%	1	3%	White
France	15	15	0	0%	0	0%	White
Georgia	29	31	5	16%	2	6%	Black
Germany	59	61	0	0%	0	0%	White
Gibraltar, UK	68	71	0	0%	0	0%	White
Greece	76	78	1	1%	1	1%	White
Honduras	3	3	1	33%	1	33%	Grey
Hong Kong, China	113	115	4	3%	0	0%	White
Iceland	2	2	0	0%	0	0%	Not listed
India	13	16	2	13%	0	0%	White
Iran Islamic Republic of	5	10	0	0%	0	0%	Grey
Ireland	16	16	0	0%	0	0%	White
Israel	1	1	0	0%	0	0%	Not listed
Italy	90	90	1	1%	0	0%	White
Jamaica	1	1	0	0%	0	0%	Grey
Japan	6	6	0	0%	0	0%	White
Kazakhstan	2	2	0	0%	0	0%	White

TABLE 8 (CONT.)	Number of individual ships	Inspections	Detentions	Detention as a % of inspections	Detentions CIC-topic related	Detentions CIC-topic related as % of inspections	BGW list*
Flag							
Kiribati	1	1	0	0%	0	0%	Not listed
Korea Republic of	6	6	0	0%	0	0%	White
Kuwait	4	4	0	0%	0	0%	Not listed
Latvia	5	5	0	0%	0	0%	Grey
Lebanon	8	9	0	0%	0	0%	Black
Liberia	297	306	7	2%	1	0%	White
Libyan Arab Jamahiriya	2	2	0	0%	0	0%	Black
Lithuania	11	12	0	0%	0	0%	White
Luxembourg	12	13	0	0%	0	0%	White
Malaysia	4	4	0	0%	0	0%	Grey
Malta	374	387	11	3%	1	0%	White
Man, Isle of, UK	42	42	1	2%	0	0%	White
Marshall Islands	194	199	9	5%	1	1%	White
Moldova Rep. of	47	49	4	8%	2	4%	Black
Morocco	4	4	0	0%	0	0%	Grey
Myanmar	1	1	0	0%	0	0%	Not listed
Netherlands	217	223	4	2%	2	1%	White
Norway	105	108	2	2%	0	0%	White
Panama	485	493	21	4%	7	1%	White
Philippines	21	21	1	5%	0	0%	White
Poland	16	16	0	0%	0	0%	White
Portugal	31	33	2	6%	0	0%	White
Qatar	4	4	0	0%	0	0%	White
Russian Federation	94	94	0	0%	0	0%	White
Saudi Arabia	2	2	0	0%	0	0%	Grey
Seychelles	1	1	0	0%	0	0%	Not listed
Sierra Leone	26	27	2	7%	0	0%	Black
Singapore	105	105	2	2%	1	1%	White
Slovakia	2	2	0	0%	0	0%	Grey
Slovenia	1	1	0	0%	0	0%	Not listed
Spain	17	17	0	0%	0	0%	White
Sri Lanka	2	2	0	0%	0	0%	Not listed
St Vincent and the Grenadines	91	99	13	13%	6	6%	Black
St. Kitts and Nevis	14	15	0	0%	0	0%	Black
Sweden	22	22	0	0%	0	0%	White
Switzerland	3	3	0	0%	0	0%	Grey
Syrian Arab Republic	6	6	0	0%	0	0%	Black
Taiwan, China	1	1	1	100%	0	0%	Not listed
Tanzania United Rep.	17	17	2	12%	0	0%	Black
Thailand	1	1	0	0%	0	0%	Grey
Togo	18	18	2	11%	1	6%	Black
Tunisia	4	4	0	0%	0	0%	Grey
Turkey	162	165	7	4%	3	2%	White

TABLE 8 (CONT.)	Number of individual ships	Inspections	Detentions	Detention as a % of inspections	Detentions CIC-topic related	Detentions CIC-topic related as % of inspections	BGW list*
Flag							
Turkmenistan	2	2	0	0%	0	0%	Not listed
Tuvalu	3	3	0	0%	0	0%	Grey
Ukraine	21	22	1	5%	0	0%	Black
United Arab Emirates	3	3	2	67%	0	0%	Not listed
United Kingdom	96	97	1	1%	0	0%	White
United States of America.	21	23	1	4%	0	0%	Grey
Vanuatu	19	20	1	5%	1	5%	Grey
Viet Nam	1	1	0	0%	0	0%	Grey
Total	4250	4386	150	3%	42	1%	

The official BGW-list of ParisMoU is published in the annual report. The scope of this table is only the CIC.

Annex 1.4 Inspections and Detentions per Flag List

Table 9 BGW	Number of individual ships	Inspections	Detentions	Detentions as % of inspections	Detentions CIC-topic related	Detentions cic-topic related as % of inspections
Black list (vhr)	46	47	4	9%	1	2%
Black list (hr)	122	126	8	6%	4	3%
Black list (mthr)	73	77	6	8%	3	4%
Black list (mr)	131	140	16	11%	6	4%
Grey list	207	225	9	4%	6	3%
White list	3,605	3,705	103	3%	22	1%
Not Classified	66	66	4	6%	0	0%
Total	4,250	4,386	150	3%	42	1%

Annex 1.5 Inspections and Detentions per Recognized Organization

Table 10 Issuing authority	Inspection				Detentions CIC-topic related with RO responsibility
	<i>Number of inspections where the certificate is recorded as issued by the RO</i>				
	Cargo ship safety construction	Passenger ship safety	Cargo ship safety	Load lines	
	1102	1103	1105	1108	
American Bureau of Shipping	283	1	6	297	
ASIA Classification Society				2	
Bulgarski Koraben Registrar	25		1	26	
Bureau VERITAS (France)	437	11	106	648	1
China Classification Society	45			44	
China Corporation Register of Shipping	2			2	
Croatian Register of Shipping	10	1		12	
Det Norske VERITAS	446	11	9	484	
Dromon Bureau of Shipping	23			23	
Germanischer Lloyd	746	7	45	816	
Global Marine Bureau Inc.	16			16	
Global Shipping Bureau Inc.	3			3	
Hellenic Register of Shipping	3		1	5	
Honduras Maritime Inspection Inc.			1	1	1
Indian Register of Shipping	6			11	
Inspeccion y Clasificacion Maritima (INCLAMAR)	2			2	
Intermaritime Certification Service S.A.	3			3	
International Naval Surveys Bureau	47			53	2
International Register of Shipping	17			19	
Isthmus Bureau of Shipping	6		1	8	
Korean Register of Shipping	40		3	40	
Lloyd's Register	410	4	56	474	
Macosnar Corporation	3			4	1
Maritime Bureau of Shipping	8			8	
Maritime Lloyd -Georgia	9			8	
National Shipping Adjuster Inc.	1			1	
New United International Marine Services LTD				1	
Nippon Kaiji Kyokai	404		6	413	
Panama Marine Survey and Certification Services Inc.	2			2	
Panama Maritime Doc. Services	1			1	1
Panama Register Corporation			1	1	

Table 10 (CONT.) Issuing authority	Inspection				Detentions CIC-topic related with RO responsibility
	<i>Number of inspections where the certificate is recorded as issued by the RO</i>				Number of inspections where the RO issued the certificate related to CIC-topic and a deficiency covered by that certificate was recorded as detainable and RO relate
	Cargo ship safety construction	Passenger ship safety	Cargo ship safety	Load lines	
	1102	1103	1105	1108	
Panama Shipping Registrar Inc.	3			3	
Phoenix Register of Shipping	6			6	
Polski Rejestr Statkow	25	1	4	40	
Register of Shipping (Albania)	6	2		8	
Registro Italiano Navale	134	9	3	165	1
Rinave Portuguesa			2	2	
Russian Maritime Register of Shipping	262	2	2	276	1
Russian River Register	1		1	6	
Shipping Register of Ukraine	58		1	57	
Turkish Lloyd	9		2	54	
Universal shipping Bureau	4		1	5	1
Viet Nam Register of Shipping	1			1	
Other	42	2	2	46	2