

**Report of the 2019 Concentrated Inspection Campaign (CIC) on
Emergency Systems and Procedures**



Executive Summary

The preparation of emergency equipment, such as emergency power sources and fire pumps of ships, and the ability of the crew in response to emergency situations, are critical factors in saving human lives and minimizing damage to ships. The emergency equipment of ships should be regularly maintained to ensure immediate use in emergency and hazardous situations, and their performance should always be guaranteed. Familiarization of seafarers with the emergency systems and procedures is also essential.

The justification for focusing on this topic was that the number of deficiencies of the category had been in the top five categories for many years and detainable deficiencies of this category had been in the most frequent detainable deficiencies during the past five years.

The purpose of the Concentrated Inspection Campaign (CIC) was to gain an overall impression whether the equipment provided onboard complied with the relevant convention, the master and officers are qualified and familiar with operations relating to shipboard emergency systems and that equipment is properly maintained and functioning. Ships were subject to one inspection under this CIC during the period of the campaign, carried out jointly between 1 September and 30 November 2019.

This report presents the results for the Paris MoU member states. Results for the Tokyo MoU member states are documented separately.

A total of 48 ships were detained as a direct result of the CIC. Whilst the detention rate appears low (1.2%) it has to be borne in mind that a detention was not always recorded, where it could have been considered in accordance with the guidance provided.

In 6.6% of cases (120) a fire drill and/or abandon ship drill, when witnessed, was not satisfactory and in 4.5% of cases (48) the accumulator batteries and switchboard, if the emergency source of power, were not in good condition.

In 4.4% of cases (172) for ships with water level detectors installed, the system and alarm arrangements were not operational.

A total of 833 inspections (20.8% of the total of CIC inspections) had one or more CIC related deficiencies recorded. The most common deficiency was related to "Muster List", which was recorded in 201 cases, followed by "Emergency lighting, batteries and switches" 169 cases and "Public address system" 109 cases.

By ship risk profile, the CIC-topic related detention rate is 4.5% for High Risk Ships, 1% for Standard Risk Ships and 0% for Low Risk Ships.

Livestock carriers had the highest CIC-topic related detention rate (4.0%), followed by refrigerated cargo ships (3.8%) and general cargo/multipurpose ships (2.3%).

By ship age the CIC-topic related detention rate increases from 0.2% for ships with an age of 5 years or less to an average of 0.4% for ships with an age between 5 and 15 years to an average of 5.1% for ships with an age between 31 and 35 years.

The highest percentage of ships detained however was Egypt (40%), Saint Kitts and Nevis (33.3%), Tuvalu (33.3%), the Republic of Moldova (21.1%), Palau (15.4%), and Togo (12.5%).

The results show that there is generally a satisfactory overall compliance with the provisions of the requirements covered by the scope of this CIC, considering the number of deficiencies recorded. It is however of concern to note that older ships have a higher detention percentage, since it indicates a lower level of compliance/preparedness and functioning of equipment in case of emergencies, where the crew will be subjected to a higher risk.

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Introduction

It is a well-known fact that ships operate in isolation and are engaged in long sea voyages where shore assistance for on-board emergencies may not be available.

Therefore, the preparedness of emergency equipment, such as emergency power sources and fire pumps of ships, and the ability of the crew in responding to emergency situations, are critical factors in saving human lives, protecting the marine environment and minimizing damage to ships.

The emergency equipment of ships should be regularly maintained to ensure immediate use in emergency and hazardous situations, and their performance should always be guaranteed. Familiarization of seafarers with the emergency systems and procedures is also essential.

However, according to the statistics of the Asia-Pacific (Tokyo MoU) and European-North Atlantic Basin (Paris MoU) on Port State Control in the last three years (2015~2017), among the 19 areas of deficiency types, the equipment of emergency systems had been identified for about 6 % of the total deficiencies. The number of deficiencies related to the emergency generators in 2017 has increased approximately 30% from the number in 2015 in the Tokyo MoU region. At the same period, the number of detentions related to the emergency generators also increased more than twice in the Paris MoU region.

In turn, a need to conduct the Concentrated Inspection Campaign on the emergency systems and procedures was identified at the 28th meeting of Port State Control Committee of the Tokyo MoU, which was held in Vladivostok, the Russian Federation in September 2017. Given that there has been no Concentrated Inspection Campaign on Emergency systems in the Tokyo and Paris MOU, it was unanimously agreed to select the Emergency Systems under the theme of the CIC, which would be jointly conducted with the Paris MOU in 2019.

The decision to carry out a Concentrated Inspection Campaign (CIC) on compliance with Emergency Systems and Procedures was taken at the Paris MoU Port State Control Committee 51 in Cascais, Portugal, 7-11 May 2018.

The justification for focusing on this topic was the number of deficiencies of the category had been in the top five categories for many years and detainable deficiencies of this category had been in the most frequent detainable deficiencies during the past five years.

The purpose of the CIC was to gain an overall impression whether the equipment provided onboard complied with the relevant convention, the master and officers are qualified and familiar with operations relating to shipboard emergency systems and that equipment is properly maintained and functioning. A CIC Questionnaire and guidance was developed by the Tokyo MoU in conjunction with the Paris MoU. The Questionnaire comprised 11 questions to be answered by the Port State Control Officer (PSCO). Ships were subject to one inspection under this CIC during the period of the campaign.

1.1 Purpose of this Report

The purpose of this report is to present the results of the CIC on Emergency Systems and Procedures to both member States of the Paris MoU and the general public.

1.2 Objective of the CIC

The Concentrated Inspection Campaign on Emergency Systems and Procedures ensured:

- .1 that ships are capable of responding appropriately and promptly to emergency situations so that it prevents casualties and damage to ships as a result of marine accidents in the oceans, and maintains a clean marine environment.
- .2 the necessary precautions are taken by responsible individuals such as shipping companies and ship managers who have a direct influence on the safety of ships and by reminding them of the

importance of ship emergency systems, a solid foundation on which the emergency management systems of ships are maintained would be laid.

- .3 that the emergency systems installed on board to be operated properly and managed efficiently in any emergency situations.
- .4 the masters and all seafarers of the ship understand their assigned roles and duties in case of emergency and raise their familiarity with the situations so that they can act immediately when circumstances arise.

1.3 Scope of the CIC

This inspection campaign was held for three months, commencing from 1 September 2019 and ending 30 November 2019. The campaign targeted compliance on all vessels within the Paris MoU Region, regardless of type, and examined specific areas related to the campaign in conjunction with the regular Port State Control inspection.

The CIC was designed to examine specific areas and not intended to detract from the normal coverage of PSC inspections. It was conducted in conjunction with the regular PSC targeting and inspection activities.

Paris MoU member States were provided with a standardized questionnaire format to record and report their results against the targeted compliance provisions that comprised the CIC, and PSCOs were required to indicate if the ship was detained as a result of the CIC. For each “No” answer, PSCOs were directed to document the deficiency using the appropriate deficiency code on Form B of the PSC inspection report. In some cases, a “No” answer could also be considered as grounds for a detention to be issued to the ship.

1.4 General Remarks

General remarks:

- For the purpose of this report, a detention is an inspection containing at least one deficiency that is considered a ground for detention.
- The tables do not take into account inspections where the CIC questionnaire was not recorded, with the exception of table 2.

Summary, Conclusions and Recommendations

2.1 Summary

The quantitative data in this report is based on the result of the CIC questionnaire answers. Further qualitative analysis and interpretation of these quantitative data is based on the inspection and detention data recorded in the related inspection reports.

The Questionnaire was completed on a total of 4009 ships.

A total of 48 ships were detained as a direct result of the CIC. Whilst the detention rate appears low (1.2%) it has to be borne in mind that a detention was not always considered to be appropriate. Depending on the situation and taking into account all the circumstances of the planned voyage, it is possible to agree on appropriate remedial action without detaining the ship.

In 6.6% of cases (120) a fire drill and/or abandon ship drill, when witnessed, was not satisfactory and in 4.5% of cases (48) the accumulator batteries and switchboard, if the emergency source of power, were not in good condition.

In 4.4% of cases (172) for ships with water level detectors installed, the system and alarm arrangements were not operational.

A total of 833 inspections (20.8% of the total of CIC inspections) had one or more CIC related deficiencies recorded. The most common deficiency was related to "Muster List", which was recorded in 201 cases, followed by "Emergency lighting, batteries and switches" 169 cases and "Public address system" 109 cases.

By ship risk profile, the CIC-topic related detention rate is 4.5% for High Risk Ships, 1% for Standard Risk Ships and 0% for Low Risk Ships. Ships with an Unknown Ship Risk Profile accounted for 1.1% of the CIC-topic related detentions. As would be expected from the risk profiling system of the Paris MoU, the High Risk Ships showed by far the highest detention rate and CIC-topic related detention rate during the CIC-campaign.

Livestock carriers had the highest CIC-topic related detention rate (4.0%, 1 detention), followed by refrigerated cargo ships (3.8%, 2 detentions) and general cargo/multipurpose ships (2.3%, 26 detentions).

By ship age the CIC-topic related detention rate increases from 0.2% for ships with an age of 5 years or less to an average of 0.4% for ships with an age between 5 and 15 years to an average of 5.1% for ships with an age between 31 and 35 years.

During the campaign ships flying the flag of 89 different countries have been inspected. 49 flag states (55%) did not have any CIC-topic related detentions. Of those that did, the highest number of ships detained were Panama (22), followed by Malta (8), Antigua & Barbuda (6), Liberia (6), Portugal (6), Marshall Islands (5) and Togo (5).

The highest percentage of ships detained however was Egypt (40%), Saint Kitts and Nevis (33.3%), Tuvalu (33.3%), the Republic of Moldova (21.1%), Palau (15.4%), and Togo (12.5%). Egypt and Tuvalu are on the Paris MoU Grey list, whereas the other countries are on the Paris MoU Black list.

In addition, 8 CIC-topic related detentions have been recorded with RO responsibility attributed.

2.2 Conclusions

The purpose of the CIC was to gain an overall impression whether the equipment provided on board complies with the relevant convention, the master and officers are qualified and familiar with operations relating to shipboard emergency systems and that equipment is properly maintained and functioning. It is concerning that during the CIC, which was publicised in advance, 526 deficiencies were recorded, related specifically to Emergency Systems and Procedures and that 48 ships were detained as a result of the CIC.

The results show that there is generally a satisfactory overall compliance with the provisions of the SOLAS requirements covered by the scope of this CIC, considering the number of deficiencies recorded.

It is however of concern to note that older ships have a higher detention percentage, since it indicates a lower level of compliance/preparedness and functioning of equipment in case of emergencies, where the crew will be subjected to a higher risk.

2.3 Recommendations

It is recommended that PSCOs continue to look at Emergency Systems and Procedures during PSC inspections and take appropriate action.

Although in general the CIC showed that there is a satisfactory level of compliance with the requirements related to Emergency Systems and Procedures, the CIC also showed that there are specific areas where a higher level of non-compliance exists; fire drill/abandon ship drill and in the area where the emergency source power is an accumulator battery. A continued focus on improvement, especially in these areas, is required by both ship owners and crews, as well as port State control.

CIC Questionnaire Results

3.1 Analysis

The table below is only based on the CIC questionnaire results.

If the answer to a question marked with an asterisk is 'NO', the ship may be considered for detention. The details of any detention should be appropriately entered on the PSC report B.

⁽¹⁾ The percentages are calculated using the total number of inspections where the answer was "YES" or "NO" only.

⁽²⁾ The percentages are calculated using the total number of inspections.

3.1.1 Response to CIC questionnaire

Table 1 – Response to CIC questionnaire

Nr.	CIC Emergency Systems and Procedures	'YES' ⁽¹⁾		'NO' ⁽¹⁾		N/A ⁽²⁾		Blank ⁽²⁾	
		#	%	#	%	#	%	#	%
01	Is the damage control plan readily available on board?	3219	98.0%	65	2.0%	711	17.7%	14	0.3%
02*	Is the public address system capable of broadcasting emergency announcements?	3687	97.7%	86	2.3%	225	5.6%	11	0.3%
03*	For ships with water level detectors installed, is the system and alarm arrangements operational?	3776	95.6%	172	4.4%	49	1.2%	12	0.3%
04*	Is the steering gear system and its related emergency alarms operational?	1974	98.5%	30	1.5%	1992	49.7%	13	0.3%
05	Does the muster list specify details in accordance with the requirements of SOLAS 1996-1998 Amendment, Chapter III, Regulation 37?	3844	98.8%	45	1.2%	105	2.6%	15	0.4%
06*	Does the emergency source of electrical power supply its power correctly to essential equipment for safety in an emergency?	3846	98.8%	48	1.2%	103	2.6%	12	0.3%
07a*	Where the emergency source of electrical power is a generator, is it in correct operational condition?	3564	98.3%	60	1.7%	371	9.3%	14	0.3%
07b*	Where the emergency source of electrical power is an accumulator battery, are the batteries and its switchboard in good condition?	1011	95.5%	48	4.5%	2936	73.2%	14	0.3%
08*	Is the emergency fire pump in full operational condition?	3875	99.2%	33	0.8%	89	2.2%	12	0.3%
09*	Where a fire drill and/or abandon ship drill was witnessed, was it found to be satisfactory?	1700	93.4%	120	6.6%	2178	54.3%	11	0.3%
10*	For the above checked emergency equipment, are the relevant crews familiar with the operation?	3928	98.3%	68	1.7%			13	0.3%

Nr.	CIC Emergency Systems and Procedures	'YES' ⁽¹⁾		'NO' ⁽¹⁾		N/A ⁽²⁾		Blank ⁽²⁾	
		#	%	#	%	#	%	#	%
11	Q11. Has the ship been detained as a result of the Inspection Campaign?	71	1.8%	3925	98.2%			13	0.3%

3.1.2. Analysis of answers to questionnaire in relation to detention

A total of 48 ships were reported in Thetis as detained as a direct result of the CIC being undertaken. It should be noted, however, that according to the answer to Question 11, regarding detention, it appears 71 ships should have been detained. This could have been an input error and is most likely related to the fact a ship in full compliance would have all “YES” answers to the questionnaire, apart from a “NO” answer for detention and thus by error could accidentally be recorded as “YES”.

The detention figure may seem low (1.2%) considering the number of deficiencies recorded (833). However, depending on the situation and the details of the next voyage, detention was not always considered an appropriate action to be taken, where it could have been considered in accordance with the guidance provided.

3.1.3. Analysis of CIC-topic related deficiencies, including ISM related deficiencies

A total of 833 inspections (20.8% of total CIC inspections) had one or more CIC related deficiencies recorded. (see Table 3).

The most common deficiency was related to “Muster List”, which was recorded in 201 cases, followed by “Emergency lighting, batteries and switches” in 169 cases and “Public address system” in 109 cases.

3.1.4. Number of inspections and number of ships in CIC

Table 2 Number of inspections and number of ships in CIC

	# of inspections performed with a CIC questionnaire	# of inspections without a CIC questionnaire
Total # of inspections	4009	322
# of inspections with detentions	121	11
# of detentions with <i>CIC</i>-topic related deficiencies	48	

The 322 inspections without a CIC questionnaire completed are mainly due to the fact that some ships were inspected more than once during the CIC period and the fact that RoRO Passenger ferries falling under the EU RoPax Directive are not subject to the CIC.

3.1.5 Specification of CIC-topic related deficiencies

Table 3 Specification of CIC-topic related deficiencies

CIC-topic related deficiencies		Inspections	%	Detentions CIC-topic related	%	Detentions CIC-topic related with RO responsibility	%
Deficiency		(# of inspections with this deficiency) One inspection can have multiple deficiencies		(# of inspections with this deficiency recorded as ground for detention)		(# of inspections with this deficiency recorded as ground for detention and RO related)	
2102	Damage control plan	61	1.5%	1	0.0%		
2105	Steering gear	89	2.2%	10	0.3%	3	0.1%
2132	Water level detectors on single hold cargo ships	6	0.2%	1	0.0%		
4101	Public address system	109	2.7%	4	0.1%		
4102	Emergency fire pump and its pipes	67	1.7%	12	0.3%	3	0.1%
4103	Emergency, lighting, batteries and switches	169	4.2%	10	0.3%	2	0.1%
4108	Muster list	201	5.0%	2	0.1%		
4109	Fire drills	91	2.3%	22	0.6%		
4121	Crew familiarization with Emergency Systems	40	1.0%	10	0.3%		
Grand Total		833	20.8%	72	1.8%	8	0.2%

Note: Because all CIC deficiencies are accounted for, this table presents also deficiencies which are not related to the CIC questionnaire.

3.1.6 Number of inspected ships per Ship Risk Profile

Table 4 - Number of inspected ships per Ship Risk Profile

Ship Risk Profile	Inspections	Detentions	detention as % of inspections	detentions CIC-topic related	detentions CIC-topic related as % of inspections
High Risk Ship (HRS)	314	28	8.9%	14	4.5%
Standard Risk Ship (SRS)	3330	86	2.6%	32	1.0%
Low Risk Ship (LRS)	177	1	0.6%		
Unknown	188	6	3.2%	2	1.1%
Total	4009	121	3.0%	48	1.2%

Ships inspected with an unknown Ship Risk Profile accounted for 1,1% of the CIC-topic related detentions, which is almost equal to the Standard Risk ships.

The Ship Risk Profile is unknown for new ships or ships that have not been inspected in the Paris MoU region previously.

3.1.7 Number of inspected ships and detentions per ship type

Table 5 – Number of inspected ships and detentions per ship type

Ship type	Inspections	Detentions	detention as % of inspections	detentions CIC-topic related	detentions CIC-topic related as % of inspections
Bulk carrier	891	23	2.6%	4	0.4%
Chemical tanker	356	10	2.8%	3	0.8%
Commercial yacht	39	1	2.6%		
Container	391	7	1.8%	3	0.8%
Dredger	30				
Fish factory	1				
Gas carrier	119				
General cargo/multipurpose	1126	60	5.3%	26	2.3%
Heavy load	10	1	10.0%		
High speed cargo	7				
High speed passenger craft	4				
Livestock carrier	25	1	4.0%	1	4.0%
MODU & FPSO	4				
NLS tanker	2				
Offshore supply	94	1	1.1%		
Oil tanker	328	3	0.9%	2	0.6%
Oil tanker/Chemical tanker	79	2	2.5%	1	1.3%
Oil tanker/Gas carrier	1				
Oil tanker/NLS tanker	1	1	100.0%	1	100.0%
Other special activities	114	3	2.6%	1	0.9%
Passenger ship	42				
Refrigerated cargo	53	2	3.8%	2	3.8%
Ro-Ro cargo	174	3	1.7%	2	1.1%

With regards to the 100% detention rate for Oil Tanker/NLS tanker it should be noted that only one ship of this type has been inspected during the CIC-campaign and this vessel was detained. As this is not statistically viable, this result has been excluded from the evaluation.

3.1.8 Inspections and detentions per Flag State

(see Annex 1.4)

During the campaign ships flying the flag of 89 different countries have been inspected. 49 flag states (55%) did not have any CIC-topic related detentions. Of those that had CIC topic related detentions, the highest number of ships detained, including other causes for detention were Panama (22), followed by Malta (8), Antigua & Barbuda (6), Liberia (6), Portugal (6), Marshall Islands (5) and Togo (5).

The highest percentage of ships detained however was Egypt (40%), Saint Kitts and Nevis (33,3%), Tuvalu (33,3%), the Republic of Moldova (21,1%), Palau (15,4%), and Togo (12,5%). Egypt and Tuvalu are on the Paris MoU Grey list, where the other countries are on the Paris MoU Black list.

3.1.9 Ship age overview

Table 6 – Ship age overview

Ship age*	Inspections	Detentions	Detention as a % of inspections	Detentions CIC-topic related	Detentions CIC-topic related as a % of inspections
≤ 5 years	590	5	0.8%	1	0.2%
6-10 years	828	12	1.4%	3	0.4%
11-15 years	1109	22	2.0%	4	0.4%
16-20 years	450	17	3.8%	8	1.8%
21-25 years	418	19	4.5%	7	1.7%
26-30 years	228	12	5.3%	7	3.1%
31-35 years	137	11	8.0%	7	5.1%
> 35 years	249	23	9.2%	11	4.4%
Total	4009	121	3.0%	48	1.2%

There is a spread of detentions over the age range, as could be expected as emergency procedures are a human element issue, where emergency systems are a hardware issue.

Annex 1.1 Inspection form of the CIC

CIC on Emergency Systems and Procedures				
Inspection Authority				
Ship Name		IMO Number		
Date of Inspection		Inspection Port		
QUESTIONS 1 TO 10 ANSWERED WITH A "NO" MUST BE ACCOMPANIED BY A RELEVANT DEFICIENCY ON THE REPORT OF INSPECTION.				
No.	Question	Yes	No	N/A
Documentation				
1	Is the damage control plan readily available on board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Operating of Emergency system				
2*	Is the public address system capable of broadcasting emergency announcements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3*	For ships with water level detectors installed, is the system and alarm arrangements operational?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4*	Is the steering gear system and its related emergency alarms operational?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	Does the muster list specify details in accordance with the requirements of SOLAS 1996-1998 Amendment, Chapter III, Regulation 37?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6*	Does the emergency source of electrical power supply its power correctly to essential equipment for safety in an emergency?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7a*	Where the emergency source of electrical power is a generator, is it in correct operational condition?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7b*	Where the emergency source of electrical power is an accumulator battery, are the batteries and its switchboard in good condition?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8*	Is the emergency fire pump in full operational condition?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Crew familiarization with emergency systems				
9*	Where a fire drill and/or abandon ship drill was witnessed, was it found to be satisfactory?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10*	For the above checked emergency equipment, are the relevant crews familiar with the operation?	<input type="checkbox"/>	<input type="checkbox"/>	
11	Has the ship been detained, as a result of the Inspection Campaign?	<input type="checkbox"/>	<input type="checkbox"/>	

NOTE

1. If "NO" is selected, for question marked an "*", the ship may be considered for detention.
2. Where there is no box in the N/A column, then either box "Yes" or "No" should be selected as appropriate.

Annex 1.2 Additional Instructions for the CIC

Before boarding	Refer to Rulecheck for the exact and detailed requirements for the different ship types in view of GT and length, making use of My Ship Tree.
What to do when additional equipment is found onboard?	In case of equipment not required by, or additional to, the Convention requirements, please consult the PSCC Instruction on Type of Inspections, par. 2.3.9 regarding equipment in excess of Convention requirements.
Could the operational controls and drills to be performed be combined?	Before discussing the operational controls and drills to be performed with the Master, consider that CIC questions can be combined. Functional tests do not need to be discussed in advance, with the exception of the blackout test!
Is additional Paris MoU guidance available?	Additional guidance for the operational part of this CIC can be found in the PSCC Instruction on Operational Control, as well as requirements and limitations to carry out a blackout test.
Q 3, MSC Resolution number	The correct reference should read: Res.MSC.188/79

Annex 1.3 Explanatory notes to the questions

Guidelines for Port State Control Officers

(Concentrated Inspection Campaign on Emergency Systems and Procedures)

Introduction

1. Unlike other means of transportation such as aircraft or automobiles, ships operate in isolation, engaged in long sea voyages where there is often no outside help available for on-board emergencies.
2. The preparation of emergency equipment, such as emergency power sources and fire pumps of ships, and the ability of the crew in response to emergency situations, are critical factors in saving human lives and minimizing damage to ships.
3. The emergency equipment of ships should be regularly maintained to ensure immediate use in emergency and hazardous situations, and their performance should always be guaranteed. Familiarization of seafarers with the emergency systems and procedures is also essential.
4. However, according to the statistics of the Asia-Pacific (Tokyo MoU) and European-North Atlantic Basin (Paris MoU) on Port State Control in the last three years (2015~2017), among the 19 areas of deficiency types, the equipment of emergency systems had been identified for about 6 % of the total deficiencies. The number of deficiencies related to the emergency generators in 2017 has increased approximately 30% from the number in 2015 in the Tokyo MoU. At the same period, the number of detentions related to the emergency generators also increased more than twice in the Paris MoU.
5. In turn, a need to conduct the Concentrated Inspection Campaign on the emergency systems and procedures had been identified at the 28th meeting of Port State Control Committee of the Tokyo MoU, which was held in Vladivostok, the Russian Federation in September 2017. Given that there has been no Concentrated Inspection Campaign on Emergency systems in the Tokyo and Paris MOU, it was unanimously agreed to select the Emergency Systems under the theme of the CIC, which would be jointly conducted with the Paris MOU in 2019.

Purpose

The Concentrated Inspection Campaign in on emergency systems ensures:

- 1) that ships are capable of responding appropriately and promptly to emergency situations so that it prevents casualties and ship damage that are caused by marine accidents in the oceans, and maintains a clean marine environment.
- 2) the necessary precautions are taken by responsible individuals such as shipping companies and ship managers who have a direct influence on the safety of ships and by reminding them of the importance of ship emergency systems, a solid foundation on which the emergency management systems of ships are maintained would be laid.
- 3) that the emergency systems installed on board to be operated properly and managed efficiently in any emergency situations.
- 4) the masters and all seafarers of the ship understand their assigned roles and duties in case of emergency and raise their familiarity with the situations so that they can act immediately when circumstances arise.

References

The guideline provides aid to CIC for SOLAS Chapter II-1, besides, PSCOs shall refer to the following files:
- SOLAS 74 (as amended) Chapter II-2, III and IX (Management for the Safe operation of Ships, ISM Code)
- Res.A.1119 (30) - Procedures for Port State Control, Adopted on 6 December 2017
* Refer to the appendix (LIST OF INSTRUMENTS RELEVANT TO CIC QUESTIONNAIRE ON EMERGENCY SYSTEM) for Resolutions and Circular.

Inspection

1. The questions in the Concentrated Inspection table were selected in order of the number of deficiencies (%) and the number of detainable deficiencies (Code 30) in the last three years by analyzing the number of deficiencies related to the emergency system areas (ratios) during the Asia- Pacific and European-North Atlantic ports.
2. During the Concentrated Inspection, it is required to verify normal operation of the main emergency equipment, such as emergency fire pumps, emergency generators, and steering gear and whether these systems are maintained and operated at proper intervals. Furthermore, the familiarity of the ship's officer and crew with the equipment operation and emergency systems must be evaluated.
3. The questions selected for the efficiency of the inspection were classified into three parts: Documentation, Operation of Emergency System, and Familiarization, and starting from document inspection, the inspection of items was organized from the Bridge, Deck, Engine Room and so on, taking into account the ordinary inspection movement of the Port State Control Officer (PSCO).
4. The Concentrated Inspection Campaign should be carried out in addition to the Port State Control Inspection, and Port State Control Officers (PSCOs) are encouraged to fully understand the information and materials on the guidelines in advance and engage in the inspection.
5. The Guidelines are not mandatory checklists, and they should be provided as an aid to the acquisition and familiarization of convention information, which is pertinent to the Concentrated Inspection Campaign, so that Port State Control Officer (PSCO) can identify the results of the questionnaire with their expert knowledge.
6. When either "Yes" or "No" is selected in each question, the following should be considered:
 - 6.1 If "No" is selected, the deficiency code and content in the relevant Questionnaire Guidance should be completed using the form 'B' of the inspection report.
 - 6.2 Although "No" is selected as a response to a question, it should not lead to unconditional detention of the ship, and the detention of the ship should be determined by the professional judgement of the Port State Control Officer (PSCO).
 - 6.3 'N/A' applies only if the content of a question is not applicable to the inspected ship, or a functional test is not conducted for operational or safety reasons and thus the PSCO cannot answer the question. Questions No.10 and 11 only admit "Yes" or "No" as a valid answer.

Questionnaire Guidance

Q1. Is the damage control plan readily available on board?

1. The PSCO should check:

- That damage control plans and booklets are available onboard.

2. Requirements:

- The PSCO should check the general availability of updated plans & procedures.

< Requirements for Damage control plans and booklets (TABLE 1) >

Application	Reference
<ul style="list-style-type: none"> · Passenger ship, which constructed before 25/05/1980, and on or after 25/5/1980 before 1/1/2009, the plan permanently exhibited and Booklet shall be made available to the officers of the ship. 	<p>SOLAS 1960/Chapter II/Reg. 20,</p> <p>SOLAS 1974 Convention/ Chapter II-1/Reg. 20,</p> <p>SOLAS 1981 Amend/ Chapter II-1/Reg. 23^A</p>
<ul style="list-style-type: none"> · Dry cargo ship, which constructed on or after 01/02/1992 Before 01/01/2009, the plan permanently exhibited and Booklet shall be made available to the officers of the ship. 	<p>SOLAS 1989/1990 Amend/ Chapter II-1/Reg. 23-1^A</p>
<ul style="list-style-type: none"> · Every ship^B, which constructed on after 01/01/2009, the plan shall be permanently exhibited or readily available on the navigation bridge and Booklet shall be made available to the officers of the ship. 	<p>SOLAS 2006 Amend/ Chapter II-1/Reg. 19^A</p>

^A According to MSC/Circ.919 & MSC.1/Circ.1245, if the languages used in the preparation of the plan and booklet are not one of the official languages of the SOLAS Convention, a translation into one of the official languages should be included.

^B According to SOLAS 2006 Amend / Chapter II-1 / Reg. 4.1, the damage stability requirements in parts B-1 through B-4 shall apply to cargo ships of 80 m in length (L) and upwards and to all passenger ships regardless of length but shall exclude those cargo ships which are shown to comply with subdivision and damage stability regulations in other instruments. Cargo ships shown to comply with e.g. MARPOL Annex I, IBC, IGC, SPSC regulations may be excluded from the application of part B-1.

- If the above requirements is not applicable to the ship, the answer to this question is “N/A”.

3. Convention reference:

- Refer to < TABLE 1 >

4. Deficiency Code:

- 02102 - Damage Control Plan

5. Nature of Defect:

- Missing, Incomplete, Not updated, Not readable, Wrong information

6. Suggested Action Taken:

- Code 17, 16

For PSCOs of Paris MOU, code 16 should not be used if the ship is detained.

Q2*. Is the public address system capable of broadcasting emergency announcements?

1. The PSCO should spot check:

- That the public address system provides a loudspeaker installation enabling the broadcast of messages into accommodation spaces and muster stations.

2. Requirements:

- The public address system, which is not required for cargo ships constructed before 01/07/1986, shall allow for the broadcast of messages from the navigation bridge and such other places on board the ship as the Administration deems necessary.
- It shall be installed in accordance with acoustically marginal condition and not require any action from the addressee.
- It shall be protected against unauthorized use.
- For a passenger ship, the PSCO could check that the public address system is connected to the emergency source of electrical power required by SOLAS (as amended) Chapter II-1 Regulation 42.2.3 and operated properly.
- The point and purpose of this question is not assessing the General Alarm System, but to make sure that emergency messages are heard in the residence area and assembly stations.
- If the cargo ship constructed before 01/07/1986, and the ship does not have a public address system, the answer to this question is "N/A".

3. Convention reference:

- SOLAS (as amended)/Chapter III/Reg. 6.4.2 (cargo ships and passenger ships constructed on or after 01/07/1986)
- SOLAS 1996-1998 Amend/Chapter III/Reg. 6.5 (all passenger ships)
- LSA 1996(as amended)/CHAPTER VII/7.2.2 (ships constructed on or after 01/07/1998)

4. Deficiency code:

- 04101 - Public address system

5. Nature of defect:

- Missing, Not as required, Inoperative, Damaged

6. Suggested action taken:

- Code 17
- Code 30 (Detention) may be considered if the public address system is not properly functioning for passenger ships.

Q3*. For ships with water level detectors installed, is the system and alarm arrangements operational?

1. The PSCO should spot check:

- That the sensors and the alarm system for the water level detector are installed and activated properly.

2. Requirements:

- A water level detector means a system comprising sensors and indication devices that detect and warn a water ingress in cargo holds and other spaces. In addition, the name of 'water level detector' could be used as 'water ingress system' in several vessels.
- The visual and audible alarms on the navigation bridge are activated when the level of water at the sensor reaches the pre- or main alarm level, indicating an increasing water level in cargo hold.
- The system may be provided with a capability of overriding indication and alarms for the detection systems, which are installed only in tanks, and holds that have been designed for carriage of water ballast.
- Water level detectors are installed on single hold cargo ships other than bulk carriers subject to 'SOLAS 2006 Amendments Chapter II-1 Regulation 25' or bulk carriers subject to 'SOLAS 2006 Amendments / Chapter XII / Regulation 12'. Prior to requesting a physical alarm test, it may be considered that it is difficult while cargo is being loaded.
- If water level detectors are not required to be installed on the ship or a functional test is not conducted for operational reasons, the answer to this question is "N/A".

3. Convention reference:

- SOLAS 2006 Amend/Chapter II-1/Reg. 25
- SOLAS 2006 Amend/Chapter XII/Reg. 12

4. Deficiency code:

- 02132 - Water level detectors on single hold cargo ships
- 04113 - Water level indicator

5. Nature of defect:

- Not as required, Damaged, Inoperative, Missing, Broken

6. Suggested action taken:

- Code 17
- Code 30 (Detention)

Q4*. Is the steering gear system and its related emergency alarms operational?

1. The PSCO should check:

- That power units of main and auxiliary steering gears are arranged to restart automatically when the power is restored after a power failure.
- In the event of a failure of main and auxiliary steering gears or a low level of each hydraulic fluid reservoir, as applicable, an audible and visual alarm is given.

2. Requirements:

- When determining if the ship, constructed on or after 01/09/1984^c, complies with SOLAS 1981 Amend / Chapter II-1/ Regulation 29, the PSCO may verify whether:

a) If applicable, an alternative power supply for steering gear is provided as the requirement of SOLAS (as amended) Chapter II-1 Regulation 29.14. The PSCO should check whether any one of the steering gear powers are connected to emergency source of electrical power (Emergency Switch Board) or an independent source of power located in the steering gear compartment during the inspection,

b) The main and auxiliary steering gear power units, as defined by SOLAS (as amended) Chapter II-1 Regulation 3.3, restart automatically when power is restored after the power supply is cut off. In event of a power failure to any one of the steering power units, an audible and visual alarm is given on the navigation bridge,

c) Hydraulic power-operated steering gear is provided with audible and visual alarms on the navigation bridge and in the machinery space in case of a low level of each hydraulic fluid reservoir. PSCO could require the crew to verify proper operation of sensors (e.g. a float switch) for a low-level alarm.

^c Every tanker, chemical tanker or gas carrier constructed before 01/09/1984 refer to the retroactive requirements of paragraphs 4.2, 19 and 20 in SOLAS 2014 Amendment Chapter II-1, Regulation 29.

- If the above requirements is not applicable to the ship and the ship does not provide with alarm system, the answer to this question is "N/A".

3. Convention reference:

- SOLAS 1981 Amend/Chapter II-1/Reg. 29(ships constructed on or after 01/09/1984 before 01/01/2016)
- SOLAS 2014 Amend/Chapter II-1/Reg. 29(ships constructed on or after 01/01/2016)

4. Deficiency code:

- 02105 - Steering gear

5. Nature of defect:

- Not as required, Not properly maintained, Damaged, Inoperative

6. Suggested action taken:

- Code 17
- Code 30 (Detention)

Q5. Does the muster list specify details in accordance with the requirements of SOLAS 1996-1998 Amendment, Chapter III, Regulation 37?

1. The PSCO should check:

- That the muster lists are kept up to date by the ship's Master in accordance with the requirements of SOLAS 1996-1998 Amend / Chapter III / Regulation 37.
- That muster lists complying with the requirements of regulation 37 are exhibited in conspicuous places throughout the ship including the navigation bridge, engine-room and crew accommodation areas.

2. Requirements:

- When determining if the muster list is in accordance with SOLAS 1996-1998 Amendments, Chapter III, Regulation 37, the PSCO may verify whether:
 - a) the muster list specifies including:
 - details of the general emergency alarm and public address system and action to be taken by crew and passengers when alarm is sounded,
 - how the order to an abandon ship will be given,
 - which officers are assigned to ensure that life-saving and fire appliances are maintained in good condition and are ready for immediate use,
 - substitutes for key persons who may become disabled, taking into account that different emergencies may call for different action.
 - b) the muster list shows the duties assigned to the different members of crew prescribed by SOLAS 1996-1998 Amendments Chapter III Reg. 37.3,
 - c) the muster list is prepared before the ship proceeds to sea and updated if any change takes place in the crew which necessitates an alteration in the muster list,
 - d) the format of the muster list on passenger ships is approved and the muster list shows the duties assigned to members of crew in relation to passengers in case of emergency prescribed by SOLAS 1996-1998 Amendments Chapter III Reg. 37.6,
 - e) each passenger ship shall have procedures in place for locating and rescuing passenger trapped in their staterooms.
- If the above requirements is not applicable to the ship, such as a ship below convention size, and the ship does not have muster list, the answer to this question is "N/A".

3. Convention reference:

- SOLAS 1996-1998 Amend/Chapter III/Reg. 37

4. Deficiency code:

- 04108 - Muster list

5. Nature of defect:

- Missing, Incomplete, Not updated, Not readable, Not approved, Not posted

6. Suggested action taken:

- Code 17

Q6*. Does the emergency source of electrical power supply its power correctly to essential equipment for safety in an emergency?

1. The PSCO should spot check:

- That the emergency lighting is properly installed and in working order.
- That the emergency source of electrical power supplies its power properly to essential equipment, as required by the convention.

2. Requirements:

- The emergency source of electrical power supplies its power properly to essential equipment as below (TABLE 2).
- PSCO could check the emergency source of electric power available to supply for public address system of passenger ship, Steering gear and Emergency fire pump as stated in other questionnaire (Q2, Q4, and Q8).

However, the PSCO should not request black out test, which in the judgment of the master could jeopardize the safety of the ship, crew, passengers or cargo.

- If black out test is conducted, PSCO should proceed with sufficient time and consultation considering various matters, including cargo operations, prevention of damage to electric equipment and recovery to normal conditions.

For PSCOs of Paris MOU, refer to PSCCInstruction 49-2016-11 requirements and limitations in accordance with the Paris MOU procedures to carry out black out test on board.

< Essential equipment for safety in an emergency (TABLE 2) >

Type of Ship	Application	Reference
Cargo ships	<p>For constructed before 01/09/1984, 5,000 GT and upwards :</p> <ul style="list-style-type: none"> · The general alarm · Navigation lights if solely electric, and the daylight signaling lamp if operated the main source of electrical power 	<p>SOLAS 1960/ Chapter II/Reg.26, SOLAS 1974 Convention/ Chapter II-1/Reg.26</p>
	<p>For constructed on or after 01/09/1984</p> <ul style="list-style-type: none"> · Navigation lights and other lights · <u>All internal communication equipment</u> · Shipborne navigational equipment as required by regulation V/19 · Fire detection and fire alarm system · Daylight signaling lamp, ship's whistle, manually operated call points, and all internal signals · <u>One of the fire pumps required by regulation II-2/4.3.1 and 4.3.3 if dependent upon the emergency generator for its source of power</u> · <u>Steering gear where it is required to be so supplied by regulation II-1/29.14</u> 	<p>SOLAS(as amended)/ Chapter II-1/ R43.2</p>

	<p>For constructed on or after 01/02/1995</p> <ul style="list-style-type: none"> · The VHF radio installation; and, if applicable · MF/HF radio installation, ship earth station (Additional requirement) 	<p>SOLAS 1988 Amend/ Chapter II-1/ R43.2.3</p>
Type of Ship	Application	Reference
Passenger ship	<p>For constructed before 01/09/1984</p> <ul style="list-style-type: none"> · Sprinkler pump · Navigation lights and the daylight signaling lamp if operated the main source of electrical power 	<p>SOLAS 1960/ Chapter II/Reg.25, SOLAS 1974 Convention/ Chapter II-1/Reg.25</p>
	<p>For constructed on or after 01/09/1984</p> <ul style="list-style-type: none"> · Navigation lights and other lights · <u>All internal communication equipment</u> · The navigational aids as required by Regulation V/12 · Fire detection and fire alarm system · Daylight signaling lamp, ship's whistle, manually operated call points, and all internal signals · <u>One of the fire pumps required by regulation II-2/4.3.1 and 4.3.3</u> · The automatic sprinkler pump, if any · The emergency bilge pump and all the equipment essential for the operation of electrically powered remote controlled bilge valves · <u>The steering gear of required to be so supplied by Regulation 29.14</u> · Any watertight doors to be power-operated together with their indicator and warning signal · Emergency arrangements to bring the lift cars to deck level for the escape of person 	<p>SOLAS(as amended)/ Chapter II-1/ R42.2</p>

< Installation locations of Emergency lighting (TABLE 3) >

Type of Ship	Application	Reference
Cargo ships	<p>For constructed before 01/09/1984,</p> <p>5,000 GT and upwards :</p> <ul style="list-style-type: none"> · <u>At every boat station on deck and oversides</u> · In all alleyways, stairways and exits · In the main machinery space and main generating set space · On the navigation bridge and in the chartroom <p>Less than 5,000 GT :</p> <ul style="list-style-type: none"> · <u>At launching stations and stowage positions of survival craft</u> 	<p>SOLAS 1960/ Chapter II/Reg.26,</p> <p>SOLAS 1974 Convention/ Chapter II-1/Reg.26</p>
Cargo ships	<p>For constructed on or after 01/09/1984</p> <ul style="list-style-type: none"> · <u>At every embarkation station and over the sides</u> · In all service and accommodation alleyways, stair ways and exits, personnel lift cars and trunks · In the machinery spaces and main generating stations including their control position · In all control stations, machinery control rooms, and at each main and emergency switchboard · At all stowage positions for firemen's outfits · At the steering gear · At the fire pump, at the sprinkler pump, at the emergency bilge pump, at the starting positions of their motors 	<p>SOLAS(as amended)/ Chapter II-1/ R43.2.1 - 2.2</p>
Cargo ships	<p>For constructed on or after 01/07/1986</p> <ul style="list-style-type: none"> · At every muster station (Additional requirement) 	<p>SOLAS 1983 Amend/ Chapter II-1/ R43.2.1 - 2.2</p>
	<p>For constructed on or after 01/07/2002</p> <ul style="list-style-type: none"> · In all cargo pump-rooms of tankers (Additional requirement) 	<p>SOLAS 1999/2000 Amend/Chapter II-1/ R43.2.1 - 2.2</p>

Passenger ship	<p>For constructed before 01/09/1984,</p> <ul style="list-style-type: none"> · <u>At every boat station on deck and oversides</u> · In all alleyways, stairways and exits · In the main machinery space and in the control stations as defined in paragraph (f) of Regulation 35 	<p>SOLAS 1960/ Chapter II/Reg.25,</p> <p>SOLAS 1974 Convention/ Chapter II-1/Reg.25</p>
	<p>For constructed on or after 01/09/1984</p> <ul style="list-style-type: none"> · <u>At every embarkation station and over the sides</u> · In all service and accommodation alleyways, stair ways and exits, personnel lift cars and trunks · In the machinery spaces and main generating stations including their control position · In all control stations, machinery control rooms, and at each main and emergency switchboard · At all stowage positions for firemen's outfits · At the steering gear · At the fire pump, at the sprinkler pump, at the emergency bilge pump, at the starting positions of their motors 	<p>SOLAS(as amended)/ Chapter II-1/ R42.2.1</p>
	<p>For constructed on or after 01/07/1986</p> <ul style="list-style-type: none"> · At every muster station (Additional requirement) · In alleyways, stairways, and exits giving access to the muster and embarkation stations (Additional requirement) 	<p>SOLAS 1983 Amend/ Chapter II-1/R42.2.1</p>
	<p>For constructed on or after 22/10/1989</p> <ul style="list-style-type: none"> · Supplementary emergency lighting for ro-ro passenger ships required by regulation 42-1 (Additional requirement) 	<p>SOLAS 1988 Amend/ Chapter II-1/R42-1</p>

· PSCO should check emergency lighting at every embarkation station and over the sides are in good order among the emergency lighting (TABLE 3).

· If the above requirements are not applicable to the ship, such as a ship below convention size, and the ship does not have above equipment, or when for operational reasons it is unsafe, the answer to this question is "N/A".

3. Convention reference:

- Refer to < TABLE 2, 3 >

4. Deficiency code:

- 04103 - Emergency, lighting, batteries and switches

5. Nature of defect:

- Missing, dirty, inoperative, inadequate, insufficient, not properly maintained, damaged, not as required

6. Suggested action taken:

- Code 17
- Code 30 (Detention)

Q7a*. Where the emergency source of electrical power is a generator, is it in correct operational condition?

1. The PSCO should check:

- All means of starting for the emergency generator are operated properly.
- The emergency generating system is in good condition of operation.
- If a separate device is installed to test the automatic starting, it is working normally.

2. Requirements:

- The emergency generator, where applicable, should be able to supply power to the emergency switchboard within 45 seconds, and a battery capable of starting at least three consecutive times should be installed. To this end, electric, hydraulic, spring start and compressed air starters can be installed, and PSCO can test the operation.
- If the automatic startup is not required or the operation is poor, the operation should be confirmed by manual starting. If the transitional source of emergency electrical power is installed, it is not required to supply power to the emergency switchboard within 45 seconds. PSCO can check if enough fuel is stored to satisfy the emergency equipment operation time (36 hours for passenger ships, 18 hours for cargo ships).
- When an emergency generator in operation, PSCO check the indicated normal operation status of the device such as lubricant oil pressure, cooling water temperature, and RPM. In addition, the state of frequency, voltage and insulation resistance on the emergency switchboard need to be confirmed. It may also require a demonstration of safety devices for the protection of the prime mover during operation.
- The crew can use the test equipment when a separate device is installed to test the automatic starting system for a regular inspection. The test equipment will trigger an artificial blackout signal that will trigger the automatic operation of the emergency generator. If the automatic starting system test fails, the actual blackout test can confirm whether the emergency power supply is available or not within 45 seconds.

For PSCOs of Paris MOU, refer to PSCCInstruction 49-2016-11 requirements and limitations in accordance with the Paris MOU procedures to carry out black out test on board.

< Emergency source of electrical power for emergency generator (TABLE 4) >

Type of Ship	Application	Reference
Cargo ships	<p>For constructed before 1/9/1984,</p> <p>5,000 GT and upwards :</p> <ul style="list-style-type: none"> · Driven by a suitable prime-mover with an independent fuel supply and with approved starting arrangements 	<p>SOLAS 1960/ Chapter II/Reg.26,</p> <p>SOLAS 1974 Convention/ Chapter II-1/Reg.26</p>
	<p>For constructed on or after 1/9/1984</p> <p>Where the emergency source of electrical power is a generator, it shall be:</p> <ul style="list-style-type: none"> · Started and put on load automatically, as quickly as is safe and practically subject to a maximum of 45s, upon failure of the main source of electrical power supply unless a transitional source of power is provided. (Additional requirement) · In auto start mode a single source of stored energy use to start must be protected to preclude its complete depletion, otherwise a second independent means of starting is to be provided. (Additional requirement) 	<p>SOLAS(as amended) /Chapter II-1/ R43.3.1</p>
Passenger ship	<p>For constructed before 1/9/1984</p> <ul style="list-style-type: none"> · Driven by a suitable prime-mover with an independent fuel supply and with approved starting arrangements 	<p>SOLAS 1960/ Chapter II/Reg.25,</p> <p>SOLAS 1974 Convention/ Chapter II-1/Reg.25</p>

	<p>For constructed on or after 1/9/1984</p> <ul style="list-style-type: none">· Started and put on load automatically, as quickly as is safe and practically subject to a maximum of 45s, upon failure of the main source of electrical power supply. (Additional requirement)· Transitional source of emergency electrical power shall be provided. (Additional requirement)	<p>SOLAS(as amended) /Chapter II-1/ R42.3.1</p>
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< Starting arrangements for emergency generating sets (TABLE 5) >

Type of Ship	Application	Reference
<p>Cargo ships & Passenger ships</p>	<p>For constructed on or after 1/9/1984,</p> <ul style="list-style-type: none"> · Emergency generator must be capable to start at 0°C. If lower Temp° is to be encountered, heating arrangements to be fitted to ensure ready starting. · In Auto start mode the emergency generator must be fitted with starting devices with a stored energy capability of at least three consecutive starts. A second source of energy shall be provided for an additional three starts within 30 minutes unless manual starting can be demonstrated. · The stored energy shall be maintained at all times, as follows: <ul style="list-style-type: none"> - Electrical and hydraulic starting systems shall be maintained from the emergency switchboard. - Compressed air maintained by main or auxiliary compressed air receivers or by emergency air compressor. - If the emergency air compressor is electrically driven it must be supplied from the emergency switchboard. - All starting, charging and storing devices are to be located in emergency generator space. · If the auto start is not required then manual start is permissible, such as manual cranking, inertia starters, manually charged hydraulic accumulators, or powder charge cartridges. <p>When manual starting is not practicable, the requirements of regulation 44.2 and 44.3 shall be complied with except that starting may be manually initiated.</p>	<p>SOLAS 1981 Amend/ Chapter II-1/Reg. 44</p>

<p>Cargo ships & Passenger ships (Additional requirement)</p>	<p>For constructed on or after 1/10/1994</p> <ul style="list-style-type: none"> · In auto start mode the source of stored energy must be protected to preclude critical depletion by the automatic starting system, unless a second independent means of starting is provided. · In addition, a second source of energy shall be provided for an additional three starts within 30 minutes unless manual starting can be demonstrated. 	<p>SOLAS 1991/1992 Amend/Chapter II-1/ R44</p>
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3. Convention reference:

- Refer to < TABLE 4, 5 >

4. Deficiency code:

- 04103 - Emergency, lighting, batteries and switches
- 04114 - Emergency source of power - Emergency generator

5. Nature of defect:

- Not properly maintained, Damaged, Inoperative, Missing, Dirty, Inadequate, Insufficient, Not as required

6. Suggested action taken:

- Code 17, 16

For PSCOs of Paris MOU, code 16 should not be used if the ship is detained.

- Code 30(Detention)

Q7b*. Where the emergency source of electrical power is an accumulator battery, are the batteries and its switchboard in good condition?

1. The PSCO should check:

- That emergency batteries and charge switches are properly installed.
- That the charging for accumulator batteries and the indicators are installed on the emergency switchboard in good order.

2. Requirements:

- Accumulator batteries and charge panels shall be installed on the uppermost continuous deck and the emergency switchboard shall be installed as near as the emergency source of power. Accumulator batteries shall be suitably housed, and compartments used primarily for their accommodation shall be properly constructed and efficiently ventilated.

- Accumulator batteries should be managed regularly according to the ship maintenance system.
- PSCO should check the cable connection status of the battery connection part and any leakage of electrolyte, and check the charging status of the battery if the battery is equipped with a charging status indicator.
- It is possible to confirm the normal operation of the emergency battery by checking the occurrence of an alarm such as power source failure, voltage defect, over-current and insulation failure on the emergency charge panel.
- If the operation of emergency power source equipment is suspicious through inspection, PSCO may conduct black-out test considering the safety of vessels, crew or cargo.

3. Convention reference:

- SOLAS 1960/Chapter III/Reg. 25, 26 (ships constructed before 25/05/1980)
- SOLAS 1974 Convention/Chapter II-1/Reg. 25, 26 (ships constructed on or after 25/05/1980 before 01/09/1984)
- SOLAS (as amended)/Chapter II-1/Reg. 42.3.2, 43.3.2 (ships constructed on or after 01/09/1984)

4. Deficiency code:

- 04103 - Emergency, lighting, batteries and switches

5. Nature of defect:

- Missing, dirty, inoperative, inadequate, insufficient, not properly maintained, damaged, not as required

6. Suggested action taken:

- Code 17, 16

For PSCOs of Paris MOU, code 16 should not be used if the ship is detained.

- Code 30(Detention)

Q8*. Is the emergency fire pump in full operational condition?

1. The PSCO should check:

- That the fixed emergency fire pump is capable of producing at least two jets of water at or above the required pressure.
- That power source of an emergency fire pump is supplied from outside the machinery space.

2. Requirements:

- If a fire in any one compartment could put all the pumps out of action, the fixed emergency fire pump shall be fitted on below ships.

< Installation requirements of fixed emergency fire pump (Table 6) >

Date of constructed	Cargo ship	Passenger ship
~25/05/1980, 25/05/1980~31/06/2002	GT 2,000 and upwards ^F	-
01/07/2002~	All cargo ship	Less than GT 1,000

· The fixed emergency fire pump is independently driven power-operated pump by diesel engine^D or electric motor^E by electric power and shall produce two jets of water at any hydrants.

^D If diesel engine driven, (a) easily started in cold condition of zero degree by hand or by other means at least 6 times within a period of 30 minutes and at least twice within 1st 10 minutes (b) tank to have sufficient fuel for at least 3h, reserve fuel outside machinery space for an additional 15h.

^E If electric motor driven, power source of emergency fire pump shall be supplied from emergency generator.

· Under light ship condition, if fitted, the priming units (motor, V-belt, clutch, lever and etc.) shall be operated until the primed condition for emergency fire pump.

^F Cargo ship less than 2,000 tons gross tonnage, if a fire in any one compartment could put all the pumps out of action the alternative means of providing water for fire-fighting purposes are to the satisfaction of the Administration. Usually, the alternative mean is a portable emergency fire pump.

· If the above requirements is not applicable to the ship and emergency fire pump is not fitted, the answer to this question is "N/A" (If a fire in any one compartment not put all the pumps out of action, the emergency fire pump will not be required).

3. Convention reference:

- SOLAS 1960/Chapter II/Reg. 64, 65 (ships constructed before 25/5/1980)
- SOLAS 1974 Convention/Chapter II-2/Reg. 52 (ships constructed on or after 25/5/1980 before 1/9/1984)
 - SOLAS 1981 Amend/Chapter II-2/Reg. 4 (ships constructed on or after 1/9/1984 before 1/7/1986)
- SOLAS 1991/1992 Amend/Chapter II-2/Reg. 4 (ships constructed on or after 1/7/1986 before 1/7/2002)
- SOLAS 1999/2000 Amend/Chapter II-2/Reg. 10.2.2.3 (ships constructed on or after 1/7/2002)
- POLAR Code 2015/PART I-A/7.3 (ships constructed on or after 1/1/2017)
- FSS Code 2002/CHAPTER 12/2 (ships constructed on or after 1/7/2002 before 1/7/2014)
- FSS 12Amend/CHAPTER 12/2 (ships constructed on or after 1/7/2014)

4. Deficiency code:

- 04102 - Emergency fire pump and its pipes

5. Nature of defect:

- Not as required, Not properly maintained, Damaged, Inoperative, Insufficient pressure

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6. Suggested action taken:

- Code 17
- Code 30 (Detention)

Q9*. Where a fire drill and/or abandon ship drill was witnessed, was it found to be satisfactory?

1. The PSCO should check:

- That the fire drill and abandon ship drill have been carried out as scheduled and recorded.
- That it was found to be satisfactory in case the fire drill or abandon ship drill was witnessed.

2. Requirements:

- The purpose of this question is to ensure that in the course of the CIC. The PSCO should check the detailed records of abandon ship drills and fire drills in such logbook as may be prescribed by the Administration. If a drill is not held at the appointed time, an entry shall be made in the logbook stating the circumstances and the extent of the drill held.
- Where inspection of logbook/records reveals that drills have not been carried out as required by SOLAS 1996/1998 Amendments Chapter III Regulation 30, SOLAS 2013 Amendments Chapter III Regulation 19, the PSCO should conduct a fire drill and abandon ship drill. However, the PSCO must not request drills, which in the judgment of the master could jeopardize the safety of the ship, crew, passengers or cargo.
- When carrying out abandon ship drills and fire drills, the PSCO should ensure, as far as possible, no interference with normal shipboard operations, such as loading and unloading of cargo and ballasting, which is carried out under the responsibility of the master.
- Drills should be carried out at a safe speed. The PSCO witnessing a fire and abandon ship drill should ensure that the crewmembers are familiar with their duties and the proper use of the ships' installations and equipment.
- If the PSCO determines that the crew are unfamiliar with their duties or incapable of safely operating the lifesaving and firefighting equipment, the PSCO should halt the drill and notify the master that the drill was unsuccessful.
- If no drill is witnessed, the question should be answered with "N/A". Where a drill is witnessed and the question is answered as "No" then the PSCO should consider whether or not there is a serious risk to the safety of the crew, the ship and the marine environment and whether or not the deficiencies can or will be rectified before departure.

For PSCOs of Paris MOU, refer to PSCCInstruction 51-2018-07 Guidance on Procedures for Operational Controls.

3. Convention reference:

- SOLAS 1996/1998 Amend/Chapter III/Reg. 30
- SOLAS 2013 Amend/Chapter III/Reg. 19

4. Deficiency code:

- 04109 - Fire drills
- 04110 - Abandon ship drills

5. Nature of defect:

- Not as required, No recorded drills, Lack of training, Not conducted

6. Suggested action taken:

- Code 17
- Code 30 (Detention)

Q10*. For the above checked emergency equipment, are the relevant crews familiar with the operation?

1. The PSCO should check:

- If the crew responsible for the handling of the emergency equipment is familiar with the proper operation.

2. Requirements:

- Exercises and drills for emergency situations, required by SMS, shall ensure the adequate handling of emergency equipment.
- The PSCO should inquire the identified responsible crew about the process of operating the equipment. Practical demonstrations by the responsible crew can be substituted by using the questionnaire above (Q2, Q3, Q4, Q6, Q7a, Q7b, and Q8).
- The PSCO should use his professional judgment when assessing the results of interviews with responsible crew and practical demonstrations to determine whether the crew is familiar with and capable of responding to emergency shipboard situations.
- If responsible crew is not good at operation of emergency equipment and indicates a lack of effectiveness of the SMS as implemented, the answer to question 10 should be NO.

3. Convention reference:

- STCW 2010 Manila Amendments / Regulation I/14.1.5

4. Deficiency code:

- New code 04121 - Crew familiarization with emergency systems

5. Nature of defect:

- Not familiar

6. Suggested action taken:

- Code 30 (Detention)

Q11. Has the ship been detained as a result of the Inspection Campaign?

Regarding the questionnaire, if the box "NO" is ticked off for questions marked with an " * ", the ship may be considered for detention. PSCOs should take into consideration the seriousness of the deficiency when

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evaluating whether a detention is warranted, keeping in mind the purpose of a detention is to keep an unsafe ship from proceeding to sea.

The detail of any deficiencies and deficiency code in the CIC questionnaire, if any, should be appropriately entered on the PSC Report Form B.

Appendix

List of Instruments Relevant to CIC Questionnaire on Emergency System

List	Item	Name
Q1	Documentation	<p>MSC/Circ.919 : GUIDELINES FOR DAMAGE CONTROL PLANS</p> <p>MSC.1/Circ.1245 : GUIDELINES FOR DAMAGE CONTROL PLANS AND INFORMATION TO THE MASTER</p> <p>MSC.1/Circ.1255 : GUIDELINES FOR OWNERS/OPERATORS ON PREPARING EMERGENCY TOWING PROCEDURES</p> <p>Res.MSC.35(63) : ADOPTION OF GUIDELINES FOR EMERGENCY TOWING ARRANGEMENTS ON TANKERS</p>
Q2	Public Address System	<p>MSC/Circ.808 : RECOMMENDATION ON PERFORMANCE STANDARDS FOR PUBLIC ADDRESS SYSTEMS ON PASSENGER SHIPS, INCLUDING CABLING</p>
Q3	Water Level Indicator	<p>Res.MSC.145(77) : PERFORMANCE STANDARDS FOR WATER LEVEL DETECTORS ON BULK CARRIER</p> <p>Res.A.1021(26) : CODE ON ALERTS AND INDICATORS, 2009</p>
Q4	Steering Gear	<p>MSC.1/Circ.1398 : UNIFIED INTERPRETATION OF SOLAS REGULATIONS II-1/29, ANNEX(MECHANICAL, HYDRAULIC AND ELECTRICAL INDEPENDENCY AND FAILURE DETECTION AND RESPONSE OF STEERING CONTROL SYSTEMS)</p> <p>MSC.1/Circ.1416 : UNIFIED INTERPRETATION OF SOLAS REGULATIONS II-1/29, ANNEX(UNIFIED INTERPRETATIONS CONCERNING THE ARRANGEMENTS FOR STEERING CAPABILITY AND FUNCTION ON SHIPS FITTED WITH PROPULSION AND STEERING SYSTEMS OTHER THAN TRADITIONAL ARRANGEMENTS FOR A SHIP'S DIRECTIONAL CONTROL)</p> <p>MSC.1/Circ.1425 : UNIFIED INTERPRETATION OF SOLAS REGULATIONS II-1/29.3 AND 29.4, ANNEX(UNIFIED INTERPRETATION CONCERNING THE STEERING GEAR TEST WITH THE SHIP NOT AT THE DEEPEST SEAGOING DRAUGHT)</p>

Q6	Emergency, lighting, Batteries and switches	MSC/Circ.736 : INTERPRETATION OF VAGUE EXPRESSIONS IN SOLAS CHAPTER II-1 MSC.1/Circ.1464/REV.1 : UNIFIED INTERPRETATIONS OF SOLAS CHAPTER II-1 MSC.1/Circ.1572 : UNIFIED INTERPRETATIONS OF SOLAS CHAPTER II-1
Q7	Emergency Source of power	MSC.1/Circ.1572 : UNIFIED INTERPRETATIONS OF SOLAS CHAPTER II-1
Q8	Emergency fire pump and its pipes	MSC.1/Circ.1314 : APPLICATION OF SOLAS REGULATION II-2 AND CHAPTER 12 OF THE FSS CODE RELATED TO EMERGENCY FIRE PUMP CAPACITY MSC.1/Circ.1388 : UNIFIED INTERPRETATION OF CHAPTER 12 OF THE INTERNATIONAL CODE FOR FIRE SAFETY SYSTEMS

⁶ The above Resolutions and Circulars are provided for reference purposes only and should not be construed as regulations to be applied by PSC.

Annex 1.4 Inspections and Detentions per Flag State

Table Annex 1.4 Inspections and detentions per Flag State

Flag	Inspections	Detentions	Detention as a % of inspections	Detentions CIC-topic related	Detentions CIC-topic related as a % of inspections	WGB- list* 2018
Albania	8	1	12.5%			Black
Algeria	7					Grey
Antigua and Barbuda	168	6	3.6%	1	0.6%	White
Azerbaijan	6					Grey
Bahamas	142	3	2.1%			White
Bangladesh	1					Not listed
Barbados	34					White
Belgium	18					White
Belize	21	1	4.8%			Black
Bermuda (UK)	17					White
Bolivia	1					Not listed
Brazil	3					Not listed
Bulgaria	3	1	33.3%			Not listed
Cameroon	6	2	33.3%			Not listed
Canada	2					Not listed
Cayman Islands (UK)	26					White
China	9					White
Comoros	28	2	7.1%			Black
Cook Islands	25	1	4.0%	1	4.0%	Black
Croatia	6					White
Curacao	3					Grey
Cyprus	146	2	1.4%			White
Denmark	95	1	1.1%			White
Dominica	2					Not listed
Egypt	5	2	40.0%	2	40.0%	Grey
Falkland Islands (UK) (Malvinas)	1					Not listed
Faroe Islands	17					White
Finland	29					White
France	26					White
Georgia	1					Not listed
Germany	48	2	4.2%			White
Gibraltar (UK)	64	4	6.3%	2	3.1%	White
Greece	70	2	2.9%	2	2.9%	White
Honduras	1					Not listed
Hong Kong, China	130	2	1.5%			White

Flag	Inspections	Detentions	Detention as a % of inspections	Detentions CIC-topic related	Detentions CIC-topic related as a % of inspections	WGB- list* 2018
India	1					Grey
Iran, Islamic Republic of	10					Grey
Ireland	16	1	6.3%			White
Isle of Man (UK)	45	1	2.2%			White
Italy	54	1	1.9%			White
Japan	19					White
Jersey (UK)	1					Not listed
Kazakhstan	3					Grey
Korea, Republic of	5					White
Kuwait	1					Not listed
Latvia	7					White
Lebanon	7					Grey
Liberia	351	6	1.7%	1	0.3%	White
Libya	2					Grey
Lithuania	3					White
Luxembourg	23	2	8.7%	1	4.3%	White
Malaysia	2					Not listed
Malta	366	8	2.2%	4	1.1%	White
Marshall Islands	377	5	1.3%			White
Moldova, Republic of	19	4	21.1%	4	21.1%	Black
Mongolia	4					Black
Morocco	1					Grey
Nauru	1					Not listed
Netherlands	218	3	1.4%	1	0.5%	White
Norway	137					White
Palau	13	2	15.4%	2	15.4%	Black
Panama	467	22	4.7%	10	2.1%	White
Philippines	11					White
Poland	2					White
Portugal	101	6	5.9%	1	1.0%	White
Qatar	3					Not listed
Russian Federation	73	3	4.1%	2	2.7%	White
Saint Kitts and Nevis	6	2	33.3%	2	33.3%	Black
Saint Vincent and the Grenadines	31	3	9.7%	3	9.7%	Grey
Saudi Arabia	7					Grey
Sierra Leone	24	3	12.5%	1	4.2%	Black

Flag	Inspections	Detentions	Detention as a % of inspections	Detentions CIC-topic related	Detentions CIC-topic related as a % of inspections	WGB- list* 2018
Singapore	161	2	1.2%			White
Slovenia	2					Not listed
Spain	13					White
Sweden	17	1	5.9%			White
Switzerland	7	1	14.3%			Grey
Taiwan, Province of China	1					Not listed
Tanzania, United Republic of	19	2	10.5%	1	5.3%	Black
Thailand	3					Grey
Togo	32	5	15.6%	4	12.5%	Black
Turkey	59	2	3.4%	2	3.4%	White
Turkmenistan	2					Not listed
Tuvalu	3	1	33.3%	1	33.3%	Grey
Ukraine	11					Black
United Kingdom	60	2	3.3%			White
United States	17					Grey
Vanuatu	19	1	5.3%			Grey
Viet Nam	2					Not listed
Virgin Islands British (UK)	1					Not listed

* The official WGB-list of the Paris MoU is published in the Annual Report. The scope of this table is only the CIC.