

**Report of the 2017 Concentrated Inspection Campaign  
(CIC) on Safety of Navigation, including ECDIS**



November, 2018

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## Executive Summary

The Member Authorities of the Tokyo MOU carried-out a concentrated inspection campaign on Safety of Navigation jointly with the Paris MoU between 1<sup>st</sup> September 2017 and 30<sup>th</sup> November 2017. During the CIC, Member Authorities focussed on compliance with areas specified by the CIC including ECDIS requirements during PSC inspections. This report documents the results of the campaign for the Maritime Authorities of the Tokyo MOU. Results for the Paris MoU Authorities are reported separately.

The objective of the CIC was to check the conformity of safety regulations for ships and the competency of crew involved in navigation operations. Navigation equipment has always been considered an inspection item for PSC inspections. Regulations on navigation equipment have undergone frequent changes, and deficiencies concerning navigation equipment have been in high number for many years.

During the CIC, a total of 8,150 inspections were carried out involving 7,548 individual vessels, with a total of 6,720 inspections performed with a CIC questionnaire. In total 157 (2.34%) ships were detained during the campaign. The CIC-topic detention rate was 0.54% (36 ships were detained). 22.9% of the detentions were related to the CIC topic.

Ships from 81 flag States were inspected during the CIC. The flag State with the highest number of inspection was Panama (1,876), followed by Hong Kong (China) (650), and Marshall Islands (610), comprising respectively 27.92%, 9.67% and 9.08% of the total inspections. With respect to the CIC-topic related detentions, the flag State with the highest percentage was the United Republic of Tanzania (33.3%), followed by Pakistan (25%) and Cook Islands (14.3%), while 64 flag States did not record any detentions.

The highest number of CIC inspections relating to ship type conducted on bulk carriers was 2,360 (35.12%), followed by 1,333 (19.84%) on general cargo/multipurpose vessels and 1,186 (17.65%) on container vessels. Livestock carrier ships had highest CIC-topic related detention rate (25%), followed by Ro-Ro cargo (10%) and refrigerated cargo (6.52%).

The overall number of CIC-topic related deficiencies reported per inspection was 0.31.

The Report concludes that the CIC has provided sound evidence that the implementation of the specific provisions of SOLAS chapter V is satisfactory across the industry.

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# Introduction

## 1.1 Purpose of this Report

The purpose of this report is to present the results of the CIC on Safety of Navigation that was conducted by member States of the Tokyo MoU between 1<sup>st</sup> September 2017 and 30<sup>th</sup> November 2017.

## 1.2 Objective of the CIC

The specific objectives of the CIC were:

- For ships of all types, equipment shall conform with valid legal certificates, and shall be accompanied with proper records;
- Related equipment shall receive proper maintenance and shall function properly;
- The captain and officers in duty shall be familiar with operation of bridge equipment, especially ECDIS.

## 1.3 Scope of the CIC

The scope of the CIC included all ships targeted for PSC inspection within the Tokyo MOU Region between 1st September 2017 and 30th November 2017.

## 1.4 General Remarks

For the purpose of this report, a detention is a PSC inspection containing at least one deficiency that is considered a ground for detention.

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# Summary, Conclusions and Recommendations

## 2.1 Summary

During the CIC, a total of 8,150 inspections were carried out involving 7,548 individual vessels, with a total of 6,720 inspections performed with a CIC questionnaire. In total 157 (2.34%) ships were detained during the campaign. The CIC-topic detention rate was 0.54% (36 ships were detained). 22.9% of the detentions were related to the CIC topic. The overall number of CIC-topic related deficiencies reported per inspection was 0.31.

In analysing the CIC Questionnaire data, the most satisfactory results were for Q3, which queried whether there was evidence that all watchkeeping officers complied with STCW requirements for ECDIS-only 0.5% responded "No". The least favourable results were reported for Q8, which asked if the passage plan covered the whole voyage. 338 "NO"s were recorded.

High Risk Ships comprised the largest percentage of ships detained per CIC inspection (4.07%) and the largest CIC-topic related detention percentage per CIC inspection (1.34%), both higher than the average value (2.34% and 0.54%). The overall number of CIC-topic related detentions remained consistent with TMOU risk profiling methodology.

The highest number of CIC inspections relating to ship type conducted on bulk carriers was 2,360 (35.12%), followed by 1,333 (19.84%) on general cargo/multipurpose vessels and 1,186 (17.65%) on container vessels. Livestock carrier ships had highest CIC-topic related detention rate (25%), followed by Ro-Ro cargo (10%) and refrigerated cargo (6.52%).

Ships from 81 flag States were inspected during the CIC. The flag State with the highest number of inspection was Panama (1,876), followed by Hong Kong (China) (650), and Marshall Islands (610), comprising respectively 27.92%, 9.67% and 9.08% of the total inspections. With respect to the CIC-topic related detentions, the flag State with the highest percentage was the United Republic of Tanzania (33.3%), followed by Pakistan (25%) and Cook Islands (14.3%), while 64 flag States did not record any detentions.

The RO with the highest number of ships inspected was Nippon Kaiji Kyokai (2,187), accounting for 32.54% of the total inspections. Nippon Kaiji Kyokai (9) was also the RO with the highest number of ships for CIC-topic related detention, accounting for 25% of all CIC-topic related detentions. The RO with the highest detention rate was Panama Shipping Registrar Inc. (33.3%). Of all the ships inspected, ships from IACS members constituting 90.85% of total inspections and 58.3% of total detentions.

Of Tokyo MOU Member Authorities, Japan and China conducted the most CIC inspections, i.e. 1,560 and 1,499 respectively, constituting 45.5% of total CIC inspections. China had the highest number of CIC-topic related detentions (18). Singapore had the highest detention rate (1.76%). The highest average number of CIC-topic related deficiencies per CIC inspection was 0.59.

The statistics of CIC Questionnaire show that the implementation of the specific provisions of SOLAS chapter V is satisfactory across the industry. The overall number of CIC-topic related deficiencies reported per inspection was 0.31.

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## **2.2 Conclusions**

The statistics of CIC Questionnaire show that the implementation of the specific provisions of SOLAS chapter V is satisfactory across the industry.

This was the second CIC for SOLAS Chapter V concerning safety of navigation after 2008. This CIC was aiming at assuring the conformity of regulations on safety of navigation for SOLAS Chapter V (applicable to all ship types), thus meeting navigation safety requirements. The overall number of CIC-topic related deficiencies reported per inspection was 0.31 and CIC-related detention rate was 0.54%. Compared with the 2008 CIC on safety of navigation (number of CIC-topic related deficiencies reported per inspection was 0.45 and detention rate was 0.64%), this CIC had both lower number of deficiencies and detention rate.

To highlight the features of this CIC, the Questionnaire tried to cover the inspection of new navigation equipment referred to in all amendments after 2008 to SOLAS Chapter V, and inspection of other important navigation equipment or their operability, such as ECIDS and BNWAS. This CIC focused on ECDIS. Three questions were related to ECIDS in the questionnaire, i.e. Q2, Q3 and Q4 respectively, with the numbers of unsatisfactory results as, i.e. 98, 19 and 81. As indicated in the inspection results, majority of ships comply with the requirements of convention.

## **2.3 Recommendations**

The following recommendations are offered for consideration:

- 1) Member Authorities should continue to inspect for compliance with safety of navigation during normal PSC inspections.
- 2) Member Authorities should pay attention to improving skills and training of PSCOs concerning the important areas to inspect ECDIS.

# CIC Questionnaire Results

## 3.1 Analysis

### 3.1.1 Responses to CIC Questionnaire

QUESTION NUMBER	CIC ON SAFETY OF NAVIGATION, INCLUDING ECDIS	MEASURED OVER ONLY "YES" AND "NO" ANSWERS				MEASURED OVER TOTAL CIC INSPECTIONS ANSWERS			
		"YES" <sup>(1)</sup>		"NO" <sup>(1)</sup>		"N/A" <sup>(2)</sup>		BLANK <sup>(2)</sup>	
		#	%	#	%	#	%	#	%
Q.1*	Is ship's navigation equipment in accordance with its applicable safety certificate (SEC, PSSC, CSSC)?	6,549	98.2%	123	1.8%	48	0.7%	0	0.0%
Q.2*	Does the ECDIS have the appropriate up-to-date electronic charts for the intended voyage and is there a suitable back-up arrangement?	3,853	97.5%	98	2.5%	2,769	41.2%	0	0.0%
Q.3	Is there evidence that all watchkeeping officers comply with STCW requirements for ECDIS?	4,080	99.5%	19	0.5%	2,621	39.0%	0	0.0%
Q.4*	Can watchkeeping officers demonstrate familiarization with ECDIS?	3,955	98.0%	81	2.0%	2,684	39.9%	0	0.0%
Q.5*	Can ship's VDR/SVDR record data fully?	5,939	98.8%	74	1.2%	707	10.5%	0	0.0%
Q.6*	Is second and/or third stage remote audible alarm of BNWAS recognized?	6,422	97.5%	168	2.5%	130	1.9%	0	0.0%
Q.7	Is the ship's Automatic Identification System transmitting correct particulars?	6,598	98.4%	107	1.6%	15	0.2%	0	0.0%
Q.8	Does the passage plan cover the whole voyage?	6,382	95.0%	338	5.0%			0	0.0%
Q.9*	Does all crew know and respect the official working language as established and recorded in the ship's logbook?	6,616	98.5%	104	1.5%			0	0.0%
Q.10*	Is the crew familiar with the procedure of emergency operation of steering gear?	6,623	98.6%	97	1.4%			0	0.0%
Q.11*	Are the exhibition of navigation/signal lights in accordance with the requirements of COLREG72?	6,416	95.5%	304	4.5%			0	0.0%
Q.12	Is the ship detained as a result of this CIC?	36	0.5%	6,684	99.5%			0	0.0%

**Table 1** CIC Questionnaire results

<sup>(1)</sup> The percentages were calculated using the total number of inspections where the answer was "YES" or "NO" only.

<sup>(2)</sup> The percentages were calculated using the total number of inspections.

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The questionnaire for this CIC contains 12 questions covering 9 aspects including certificate of navigation safety and navigation equipment etc. The number of “No” responses per question ranges from 19 to 338, accounting for 0.5% to 5.0% of total inspections respectively.

The most satisfactory results were for Q3, which queried whether there was evidence that all watchkeeping officers comply with STCW requirements for ECDIS-only 19 responded “No”.

The least favourable results were reported for Q8, which asked if the passage plan covered the whole voyage, with 338 (5%) of 6,720 inspections presenting unsatisfactory.

The results for Question 11, which questioned whether the exhibition of navigation/signal lights were in accordance with the requirements of COLREG72, comprising the second highest number of unsatisfactory responses, also arouse concern. 304 inspections were recorded an unfavourable result in this area, which represents 4.5% of CIC inspections.

This CIC focused on specific area of ECDIS, for which 3 out of 11 questions, i.e. Q2, Q3 and Q4, involved equipment of ECDIS, operators’ competence and familiarization with ECDIS respectively, with unsatisfactory results amounting to 198.

Among 8 questions that could cause detention, the unsatisfactory results for Q11, which questioned whether the exhibition of navigation/signal lights were in accordance with the requirements of COLREG72, lead to 11 ships detained, taking up 30.5% of all ships detained.

The resulting raw data on the questionnaire is outlined in Table 1.

### **3.1.2 Analysis of answers to CIC Questionnaire in relation to detention**

A total of 8,150 inspections were carried out involving 7,548 individual ships between 1<sup>st</sup> September 2017 and 30<sup>th</sup> November 2017. Of these 8,150 inspections, 6,720 inspections were conducted using the CIC Questionnaire, with an additional 1,430 inspections performed without a questionnaire. During this period, a total of 224 ships were detained, with 157 ships detained with the CIC Questionnaire, of which 36 ships were detained based on CIC-topic related deficiencies.

Deficiency code 10109 (Lights, shapes, sound-signals) also comprised the most number of CIC-topic related detentions, amounting to 12 (29.27%), followed by deficiency code 10138 (BNWAS) with the number of 7 (17.07%).

During the CIC, general cargo/multipurpose vessels had the highest number of CIC-topic related detentions (12), amounting to 33.33% of the total, followed by bulk carriers (11) accounting for 30.56%.

Ro-Ro cargo (5%), tugboat (2.5%) and refrigerated cargo (2.2%) had the highest percentage of CIC-topic related detentions. Individual ships of these three types inspected totalled 198, constituting 3% of all inspections. It is important to note that the sample size (the number of CIC inspections) of the three ship types with the highest CIC-topic related detention rate (Ro-Ro cargo, tugboat and refrigerated cargo) is quite small. Relatively small sample sizes do not invalidate the findings though, they do provide less statistical validity concerning how widespread a finding may be with regards to ship types.

There were 14 ship types with no CIC-topic related detentions, on 3 ship types of which more than 100 inspections were conducted, i.e. chemical tanker, vehicle carrier and gas carrier.

The Flag States with the highest number of CIC-topic related detentions were Panama (9 out of 1876 inspections), Liberia (4 out of 543 inspections), and Belize (4 out of 173 inspections). The Flag States with the highest detention rate during the CIC were the United Republic of Tanzania (33.33%, 1 detention out of 3 inspections), Pakistan (25.00%, 1 detention out of 4 inspections) and Cook Islands (14.29%, 1 detention out of 7 inspections). 64 Flag States did not record any detentions. Among Flag States with more than 100 inspections, 6 recorded no detentions, i.e. Hong Kong, China; Marshall Islands; Singapore; Korea, Republic of; Bahamas and China.

### 3.1.3 Analysis of CIC-related related deficiencies

As indicated in Table 3, deficiency code 10109 which pertained to lights, shapes, sound-signal comprised the most number of reported deficiencies (471) at 22.36% of the total. Deficiency code 10127 which pertained to voyage or passage plan accounted for the second highest number of reported deficiencies (348), i.e. 16.52% of the total.

### 3.1.4 Number of inspections and number of ships in CIC

Table 2

	NUMBER OF INDIVIDUAL SHIPS INSPECTED DURING CIC	NUMBER OF PSC INSPECTIONS PERFORMED WITH A CIC QUESTIONNAIRE	NUMBER OF PSC INSPECTIONS WITHOUT A CIC QUESTIONNAIRE
Total	7,548	6,720	1,430
Detentions	222	157	67
Detentions with CIC-topic related deficiencies	36	36	0

### 3.1.5 Specification of CIC-related deficiencies

Table 3

	CIC INSPECTIONS	DETENTIONS CIC-TOPIC RELATED	DETENTIONS CIC-TOPIC RELATED WITH RO RESPONSIBLE
	(# of inspections with this deficiency) One inspection can have multiple deficiencies	(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)
01101 (Cargo Ship Safety Equipment) 0110 (Passenger Ship Safety Cert.) 01105 (Cargo Ship Safety)	51	3	0
10112 (ECDIS)	141	1	0
01201 (Cert. for master and officers)	37	1	0

	CIC INSPECTIONS	DETENTIONS CIC-TOPIC RELATED	DETENTIONS CIC-TOPIC RELATED WITH RO RESPONSIBLE
	(# of inspections with this deficiency) One inspection can have multiple deficiencies	(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)
10133 (Bridge Operation) 15106 (Shipboard operations)	208	4	0
10114 (VDR/SVDR)	112	4	0
10138 (BNWAS)	312	7	1
10113 (AIS)	142	0	0
10127 (Voyage or Passage plan)	348	4	1
10136 (Establishment of working language on board) 10132 (Communication – SOLAS Ch.V)	98	1	0
02105 (Steering gear) 10126 (Record of drills and steering gear tests)	186	4	0
10109 (Lights, shapes, sound-signals)	471	12	1
Total	2,106	41	3

### 3.1.6 Number of ships to number of inspections in CIC

During the period of CIC, only one CIC inspection was conducted on each individual ship.

### 3.1.7 Number of inspected ships per Ship Risk Profile

Table 4 shows the results of the CIC in relation to Ship Risk Profile.

Table 4

SHIP RISK PROFILE	INDIVIDUAL SHIPS	INSPECTIONS	DETENTIONS	DETENTION AS % OF INSPECTIONS	DETENTIONS CIC-TOPIC RELATED	DETENTIONS CIC-TOPIC RELATED AS % OF INSPECTIONS
HIGH RISK SHIP (HRS)	1,866	1,866	76	4.07%	25	1.34%
STANDARD RISK SHIP (SRS)	2,918	2,918	59	2.02%	7	0.24%
LOW RISK SHIP (LRS)	1,936	1,936	22	1.14%	4	0.21%
TOTAL	6,720	6,720	157	2.34%	36	0.54%

### 3.1.8 Number of inspected ships and detentions per ship type

Table 5 shows the results of the CIC in terms of Type of ship.

Table 5

SHIP TYPE	INSPECTIONS	DETENTIONS	DETENTION AS A % OF INSPECTIONS	DETENTIONS CIC-TOPIC RELATED	DETENTIONS CIC-TOPIC RELATED AS A % OF INSPECTIONS
Bulk carrier	2,360	59	2.50%	11	0.47%
Chemical tanker	533	5	0.94%	0	0.00%
Combination carrier	3	0	0.00%	0	0.00%
Container ship	1,186	20	1.69%	5	0.42%
Fish factory	3	0	0.00%	0	0.00%
Gas carrier	181	1	0.55%	0	0.00%
General cargo/multipurpose	1,333	45	3.38%	12	0.90%
Heavy load	16	0	0.00%	0	0.00%
High speed passenger craft	1	0	0.00%	0	0.00%
Livestock carrier	16	4	25.00%	0	0.00%
NLS tanker	9	0	0.00%	0	0.00%
Offshore supply	27	0	0.00%	0	0.00%
Oil tanker	446	8	1.79%	2	0.45%
Other special activities	53	2	3.77%	1	1.89%
Passenger ship	51	0	0.00%	0	0.00%
Refrigerated cargo	138	9	6.52%	3	2.17%
Ro-Ro cargo	20	2	10.00%	1	5.00%
Ro-Ro passenger ship	16	0	0.00%	0	0.00%
Special purpose ship	12	0	0.00%	0	0.00%
Tugboat	40	1	2.50%	1	2.50%
Vehicle carrier	206	1	0.49%	0	0.00%
Woodchip carrier	70	0	0.00%	0	0.00%
Total	6,720	157	2.34%	36	0.54%

### 3.1.9 Inspections and detentions per Flag State

(see Annex 1.4)

### 3.1.10 Inspections and detentions per Recognized Organization

(see Annex 1.5)

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### 3.1.11 Ship age overview

(Table 6)

Table 6 Ship age overview

SHIP AGE (YEARS)	# OF INSPECTIONS	DETENTIONS	DETENTION AS A % OF INSPECTIONS	DETENTIONS CIC-TOPIC RELATED	DETENTIONS CIC-TOPIC RELATED AS A % OF INSPECTIONS
<b>0-5</b>	1171	6	0.51%	2	0.17%
<b>6-10</b>	2391	49	2.05%	5	0.21%
<b>11-15</b>	1477	38	2.57%	4	0.27%
<b>16-20</b>	692	17	2.46%	9	1.30%
<b>21-25</b>	566	19	3.36%	5	0.88%
<b>26-30</b>	280	13	4.64%	4	1.43%
<b>31-35</b>	99	11	11.11%	5	5.05%
<b>35+</b>	44	4	9.09%	2	4.55%
<b>Total</b>	6720	157	2.34%	36	0.54%

## Annex 1 CIC Questionnaire

### Annex 1.1 CIC on Safety of Navigation

#### CIC on Safety of Navigation (SOLAS CH.V)

<b>Inspection Authority:</b>			
<b>Ship Name:</b>		<b>IMO Number:</b>	
<b>Date of Inspection</b>		<b>Inspection Port:</b>	

No.	Item	Yes	No	N/A
Q.1*	Is ship's navigation equipment in accordance with its applicable safety certificate (SEC, PSSC, CSSC)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q.2*	Does the ECDIS have the appropriate up-to-date electronic charts for the intended voyage and is there a suitable back-up arrangement?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q.3	Is there evidence that all watchkeeping officers comply with STCW requirements for ECDIS?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q.4*	Can watchkeeping officers demonstrate familiarization with ECDIS?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q.5*	Can ship's VDR/SVDR record data fully?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q.6*	Is second and/or third stage remote audible alarm of BNWAS recognized?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q.7	Is the ship's Automatic Identification System transmitting correct particulars?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q.8	Does the passage plan cover the whole voyage?	<input type="checkbox"/>	<input type="checkbox"/>	
Q.9*	Does all crew know and respect the official working language as established and recorded in the ship's logbook?	<input type="checkbox"/>	<input type="checkbox"/>	
Q.10*	Is the crew familiar with the procedure of emergency operation of steering gear?	<input type="checkbox"/>	<input type="checkbox"/>	
Q.11*	Are the exhibition of navigation/signal lights in accordance with the requirements of COLREG72?	<input type="checkbox"/>	<input type="checkbox"/>	
Q.12	Is the ship detained as a result of this CIC?	<input type="checkbox"/>	<input type="checkbox"/>	

Notes: If "No" is selected, for questions marked with an "\*" PSCO should use his/her professional judgement regarding the seriousness of the deficiency as to whether the ship may be considered for detention. The detail of any deficiencies including serious deficiencies, if any, should be appropriately entered on the PSC Report Form B.

Where there is no box in the N/A column, then either box "Yes" or "No" should be selected as appropriate.

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## Annex 1.2 & 1.3 – Additional Instructions and Explanatory notes

### Guideline for 2017 CIC

#### Introduction:

1. Navigation equipment has always been major inspection items for PSCOs. Tokyo MOU had carried out CIC on safety of navigation from Sept. 1 to Nov. 30, 2008, and Paris MOU had conducted CIC for SOLAS Chapter V (Ref. PSCC42/4.1.1; 11 March 2009), both taking CIC concerning safety of navigation.
2. However, the regulations on navigation equipment have undergone frequent changes according to a series of amendments from IMO on SOLAS Chapter V (safety of navigation). Of all deficiencies, those concerning navigation equipment contribute a major proportion. During 2009 to 2015, a total number of 131,022 deficiencies concerning safety of navigation were spotted, taking up 16.52% of all deficiencies. Among all deficiencies concerning safety of navigation, 1,875 deficiencies, i.e. 6.21%, were detainable.
3. Considering all above, the 25th Conference of PSC Committee (PSCC25) adopted to conduct CIC on safety of navigation with the joint work from Paris MOU, aiming at assuring the conformity of regulations on safety of navigation for SOLAS Chapter V (applicable to all ship types), thus meeting navigation safety requirements.
4. Apart from the above, it has been seen that ECDIS had contributed much to maintain navigation safety and reduce navigational workload of seafarers since its application. It not only provides conveniences for mariner all route planning, route monitoring, successive plotting of the vessel's position, etc., but also it provides appropriate alarms or indications with respect to the information displayed or malfunction of the equipment. Therefore, the CIC will focus on the installation and operation of ECDIS, with concerns also on voyage arrangements and navigation equipment, including AIS, VDR, BNWAS, signal lamps, etc.

#### Aim

The CIC aims at checking the conformity of safety regulations for ships, the overall status of the vessel's navigation safety, and the competency of crew involved in navigation operations. It is strongly recommended that PSCO read and understand this guideline before CIC inspection.

#### Objectives

This CIC shall assure that:

1. For ships of all types, equipment shall conform with valid legal certificates, and shall be accompanied with proper records;
2. Related equipment shall receive proper maintenance and shall function properly;
3. The captain and officers in duty shall be familiar with operation of bridge equipment, especially ECDIS.

The guideline provides aid to CIC for SOLAS Chapter V, besides, PSCOs shall refer to the following files:

SOLAS 74 Chapter V and Regulation 9 of Chapter I  
STCW I/4 and I/14  
COLREG 72

#### References

The following Resolutions and Circulars are for information purposes only and should not be construed as regulations to be applied by PSC. However, regarding the documents with underline below, it should be taken into account that there is a requirement of “, where applicable” shall conform to appropriate performance standards not inferior to those adopted by the Organization” in SOLAS Ch. V Reg. 12 (for ships constructed on or after 1 Sep. 1984 and before 1 Jul. 2002) or Reg.18 (for ships constructed on or after 1 Jul. 2002)

**A.817(19)** PERFORMANCE STANDARDS FOR ELECTRONIC CHART DISPLAY AND INFORMATION SYSTEMS (ECDIS)

**A.893(21)** GUIDELINES FOR VOYAGE PLANNING

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**MSC.128(75)** PERFORMANCE STANDARDS FOR A BRIDGE NAVIGATIONAL WATCH ALARM SYSTEM (BNWAS)  
**MSC.1/Circ.1474** GUIDANCE ON THE BRIDGE NAVIGATIONAL WATCH ALARM SYSTEM (BNWAS) AUTO FUNCTION  
**MSC.64(67)** and **MSC.86(70)** AMENDMENTS TO RESOLUTION A.817(19)-PERFORMANCE STANDARDS FOR ELECTRONIC CHART DISPLAY AND INFORMATION SYSTEMS(ECDIS)  
**MSC.232(82)** ADOPTION OF THE REVISED PERFORMANCE STANDARDS FOR ELECTRONIC CHART DISPLAY AND INFORMATION SYSTEMS (ECDIS)  
**MSC.163(78)** PERFORMANCE STANDARDS FOR SHIPBORNE SIMPLIFIED VOYAGE DATA RECORDERS (S-VDRs)  
**A.861(20)** PERFORMANCE STANDARDS FOR SHIPBORNE VOYAGE DATA RECORDERS (VDRs)  
**MSC.214(81)** ADOPTION OF AMENDMENTS TO THE PERFORMANCE STANDARDS FOR SHIPBORNE VOYAGE DATA RECORDERS (VDRS) (RESOLUTION A.861(20)) AND PERFORMANCE STANDARDS FOR SHIPBORNE SIMPLIFIED VOYAGE DATA RECORDERS (S-VDRS) (RESOLUTION MSC.163(78))  
**MSC.333(90)** ADOPTION OF REVISED PERFORMANCE STANDARDS FOR SHIPBORNE VOYAGE DATA RECORDERS (VDRs)  
**MSC/Circ.891** GUIDELINES FOR THE ON-BOARD USE AND APPLICATION OF COMPUTERS (FOR ELECTRONIC NAUTICAL PUBLICATIONS)  
**MSC.1/Circ.1503** ECDIS – GUIDANCE FOR GOOD PRACTICE  
**MSC.74(69), Annex 3** RECOMMENDATION ON PERFORMANCE STANDARDS FOR AN UNIVERSAL SHIPBORNE AUTOMATIC IDENTIFICATION SYSTEM (AIS)  
**MSC.1/Circ.1252** GUIDELINES ON ANNUAL TESTING OF THE AUTOMATIC IDENTIFICATION SYSTEM (AIS)  
**Resolution MSC. 253(83)** THE PERFORMANCE STANDARDS FOR NAVIGATION LIGHTS, NAVIGATION LIGHT CONTROLLERS AND ASSOCIATED EQUIPMENT.

#### **General principles**

1. The following guideline is provided to assist PSCO to familiarize relevant convention requirements, rather than a definitive check list. The PSCO should also use his or her professional judgment, and knowledge of the convention requirements in conducting the inspection and eliciting responses to the questions.
2. The campaign will target aspects of compliance provisions of SOLAS Chapter V regardless of ship's type. The campaign is designed to examine a specific area and not intended to detract from normal coverage of Port State Control Inspections.
3. A ship should only be subject to one inspection under this CIC during the period of the campaign by principle.
4. In arriving at a yes or no answer to the questions the following needs to be considered:
  - .1 Should a "NO" be answered, a deficiency using the appropriate deficiency code shall be issued on the form B of the PSC inspection report.
  - .2 The deficiency codes applicable are listed in the guideline of each question.
  - .3 Should a question be inapplicable, a "N/A" should be answered.
  - .4 Further a "no" answer to either of questions 1, 2, 4, 5, 6, 9, 10 and 11, marked with asterisk (\*) may be considered as grounds for a detention to be issued to the ship.

Q.1\*

#### **Is ship's navigation equipment in accordance with its applicable safety certificate (SEC, PSSC, CSSC)?**

Firstly, PSCO should confirm the validity of ship's certificates regarding safety equipment.

For all passenger ships and cargo ships of 500GT and upwards, verify by inspection if the navigation equipment is actually fitted in accordance with the records in the following certificates:

1. Record of Equipment the Passenger Ship Safety Certificate (Form P) Section 5;
2. Record of Equipment the Cargo Ship Safety Equipment Certificate (Form E) Section 3;
3. Record of Equipment the Cargo Ship Safety Certificate (Form C) Section 5.

For vessels below convention size there is no requirement for a Record of Equipment, PSCO's task will be to assess whether the ship is of an acceptable standard and be guided by any certificates or

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other documents issued by or on behalf of the flag state administration and check the equipment as mentioned.

**Deficiency code:**

**01101 (Cargo Ship Safety Equipment)**

**01103 (Passenger Ship Safety Cert.)**

**01105 (Cargo Ship Safety)**

**Convention Reference: S74/CI/R12**

**Suggested Action: 30/17**

**Q.2\***

**Does the ECDIS have the appropriate up-to-date electronic charts for the intended voyage and is there a suitable back-up arrangement?**

PSCO should check whether the ECDIS on board is endorsed in the S/E supplement or not, if endorsed, the following inspection should be carried out.

1. PSCO should check if the chart information in ECDIS is the latest ENC/SENC standard edition. The information should be appropriate for the intended voyage and up-to-date.
2. Some ECDIS equipment may operate in the Raster Chart Display System (RCDS) mode, and the chart information should be RNC/SRNC. When in RCDS mode, the updated APC should be equipped on board for readily use.
3. Updated paper chart folio for the entire planned voyage is the acceptable back-up arrangement.
4. PSCO should check if the ECDIS and back-up system are capable of performing the route planning and route monitoring.
5. PSCO should check if the ECDIS is driven by main power and emergency power. If an electronic device is used as back up arrangement. The back-up power supply should be separated from the ECDIS, which means the power should be supplied by separated switchboard (the main power may be supplied by two systems but should be distributed by different switchboards). (refer to Reg.42 and 44, Ch. II-1)

**Deficiency code: 10112 (ECDIS)**

**Convention Reference: S74/CV/R19.2**

**Suggested Action: 30/17**

**Q.3**

**Is there evidence indicate that all watchkeeping officers comply with STCW requirements for ECDIS?**

PSCO should check the qualification of officers on board in the ways specified as follows.

1. PSCO should check the endorsement of ECDIS operation restriction in the certificate of competency.
2. PSCO should check the requirements on standard of competence of using ECDIS for officers in charge of a navigational watch on ships required to carry ECDIS.
3. Training and assessment in the use of ECDIS is not required for those who serve exclusively on ships not fitted with ECDIS, but these limitations shall be reflected in the endorsements issued to the seafarer concerned.

Note: For certificate of competency that have expiry dates beyond 1 January 2017 with no limitation of ECDIS, PSCO should accept the certificate as *prima facie* evidence that seafarer has met the standard of competence of using ECDIS.

**Deficiency code: 01201 (Cert. for master and officers)**

**Convention Reference: STCW/A-II/1**

**Suggested Action: 17**

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**Q.4\*****Can watchkeeping officers demonstrate familiarization with ECDIS?**

During the inspection, PSCO may enquire, check relevant records or ask for onsite operation, to make sure that the watchkeeping personnel understand the functions and operation of installations/equipment, and are familiar with handling them.

1. PSCO should check if the officer is capable of monitoring and adjusting information which includes own position, sea area display, mode and orientation, chart date displayed, route monitoring, user-created information layers, contacts(when interfaced with AIS and /or radar tracking)and radar overlay functions(when interfaced).
2. PSCO should check if the officer is able to set alarm parameters for anti-grounding , proximity to contacts and special areas.
3. PSCO should check the officer's situational awareness while using ECDIS including safe water and proximity of hazards, set and drift, chart data and scale selection, suitability of route, contact detection and management, and integrity of sensors.
4. PSCO should check the familiarization of officer for ECDIS update procedure.
5. PSCO should check the officer's route designing skill.

**If SMS documents listed ECDIS as key equipment, PSCO should verify if there is operation procedure and if officers are familiar with the procedure. If SMS did not list ECDIS as key equipment, it's not appropriate for PSCO to record such a deficiency.**

**Deficiency code: 10133 (Bridge Operation)**

**15106 (Shipboard operations)**

**Convention Reference: STCW/A-VIII/2, ISMC/S8**

**Suggested Action: 17/18/30**

**Q.5\*****Can ship's VDR/SVDR record data fully?**

1. PSCO should check if the VDR/SVDR is equipped in accordance with requirements of SOLAS convention and its amendments.
2. PSCO should verify if the VDR/SVDR annual performance test is carried out. VDR/SVDR annual performance test may be carried out within 3 months before or after the anniversary date of SE certificate, as to be harmonized with requirements regarding surveys.
3. PSCO should check if the power of the VDR/SVDR is provided by the ship's main source as well as emergency source of electrical power.
4. PSCO should check the number of alarms shown on the VDR/SVDR panel and what do the alarms stand for (which could learn for the operation manual). If there is alarm indicated on the panel, PSCO can request officers to verify if concerned equipment is well connected to the VDR/SVDR.
5. PSCO should verify if the VDR/SVDR is able to record data fully according to the date of keel laid and the date the VDR/SVDR is installed to ship. PSCO can also refer to its annual performance test report.

**Deficiency Code: 10114 (VDR/SVDR)**

**Convention Reference: S74/CV/R18**

**Suggested Action: 17/30**

**Q.6\*****Is the second and/or third stage remote audible alarms of BNWAS recognized?**

PSCO should check that:

1. If means of activating the reset function are only available in positions on the bridge giving proper look out and preferably adjacent to visual indications.
2. If security protection for BNWAS is properly kept. The means of selecting the Operational Mode and the duration of the Dormant Period (Td) should be given safety protection so that access to these controls is for the Master only.

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- During normal navigating, for the key control type, the key shall be kept by captain,
  - For the password type, if the password is known by captain only.
3. Considering different types of BNWAS, master and OOW shall be familiar with different ways to initiate the reset function.
  4. PSCO should check the operation of BNWAS by OOW to confirm the system is in normal working condition. Once the BNWAS went into operation, the second stage and / or the third stage remote audible alarm shall be activated when the first stage alarm had not been reset
  5. The BNWAS should be powered from the ship's main power supply. The malfunction indication, and all elements of the Emergency Call facility, if incorporated, should be powered from a battery maintained supply.

**Deficiency Code : 10138 (BNWAS)**

**Convention Reference : S74/CV/R18.2/R19**

**Suggested Action : 17/30**

#### **Q.7**

##### **Is the ship's Automatic Identification System transmitting correct particulars?**

1. PSCO should verify if AIS is subjected to an annual test. The AIS annual test should be in accordance with the survey requirements of the ship's applicable safety certificate, and conducted within 3 months before or after each anniversary date of the Cargo Ship Safety Equipment Certificate.
2. PSCO should verify the correctness of the ship static and dynamic information, the substantial compliance with the practical condition of the ship.
  - Static information include: MMSI , Call sign & Name, IMO number, Length and beam, Type of ship and Location of position-fixing antenna on the ship.
  - Dynamic information include: Ship's position with accuracy indication and integrity status, Time in UTC\*, Course over ground, Speed over ground, Heading, Navigational status.
  - Voyage related information include: Ship's draught, Hazardous cargo (type), Destination and ETA.
3. PSCO should verify if navigation information is input and updated timely.
4. PSCO should check whether the operator can display and consider incoming safety-related messages and send safety-related messages as required.

**Deficiency code: 10113 (AIS)**

**Convention Reference: S74/CV/R19.2.4**

**Suggested Action: 17**

#### **Q.8**

##### **Does the passage plan cover the whole voyage?**

PSCO should verify if the following respects were taken into consideration :

- the condition and state of the vessel, its stability, and its equipment; any operational limitations; its permissible draught at sea in fairways and in ports; its maneuvering data, including any restrictions;
- any special characteristics of the cargo (especially if hazardous), and its distribution, stowage and securing on board the vessel;
- the provision of a competent and well-rested crew to undertake the voyage or passage;
- requirements for up-to-date certificates and documents concerning the vessel, its equipment, crew, passengers or cargo.

The following matters should be inspected:

- PSCO should verify if the voyage plan has been made and is approved by the captain and if

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the voyage plan has been prepared covering the entire voyage from the port of departure to the first port and effectively executed.

- PSCO should verify if there is evidence that the plan highlights areas where specific fixes or fix frequencies would be expected.
- PSCO should verify if the passage plan collect all relevant information concerning the intended voyage and the passage plan is planned with adequate and appropriate charts and other publications.
- PSCO should verify if the passage plan is clearly marked on charts. For ships where an ECDIS is solely being used for navigation, route planning and route monitoring in ECDIS should be checked.
- PSCO should verify if any changes to the plan is made and clearly marked and recorded by officers engaged in navigational watch.

**Deficiency code: 10127 (Voyage or Passage plan)**

**Convention Reference: S74/CV/R34, STCW/A-VIII/2**

**Suggested Action: 17**

**Q.9\***

**Does all crew know and respect the official working language as established and recorded in the ship's logbook?**

1. PSCO should verify if a working language is established and recorded in the ship's log-book.
2. PSCO should verify if each seafarer can understand and, where appropriate, give orders and instructions and to report back in working language.
3. PSCO should verify if senior officers could conduct ship - shore communication in English (working language on bridge).
4. PSCO may check whether the training manual, the fire safety operational booklet, garbage management plan, garbage placard, security plan, etc. on board are written in the ship's working language.

The ship may be considered for detention if her crew were found unable to communicate effectively in working language.

**Deficiency code: 10136 (Establishment of working language on board)**

**10132 (Communication – SOLAS Ch.V)**

**Convention Reference: S74/CV/R14**

**Suggested Action: 17/30**

**Q.10\***

**Is the crew familiar with the procedure of emergency operation of steering gear?**

1. PSCO should verify if steering gear is checked and tested by ship's crew before departure by means of checking relevant records.
  - .1 the full movement of the rudder according to the required capabilities of the steering gear;
  - .2 a visual inspection for the steering gear and its connecting linkage; and
  - .3 the operation of the means of communication between the navigation bridge and steering gear compartment.
2. PSCO should check if there is evidence of the emergency steering drills which shall take place at least once every three months. PSCO should also check if the drills include direct control within the steering gear compartment, the communications procedure with the navigation bridge and, where applicable the operation of alternative power supplies.
3. PSCO should check if master and duty officers are familiar with the procedures for changing from local steering gear control to remote steering gear control.
4. PSCO should verify if there are simple operating instructions with a block diagram showing the change-over procedures for remote steering gear control systems and steering gear power units permanently displayed on the navigation bridge and in the steering compartment.
5. PSCO can request crew to demonstrate each alarm of steering gear.

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6. PSCO can request crew to demonstrate emergency steering operation as to check the degree of familiarity.

**Deficiency Code: 02105 (Steering gear)**

**10126 (Record of drills and steering gear tests)**

**Convention Reference: S74/CV/R26**

**Suggested Action: 17/30**

**Q.11**

**Are the exhibitions of navigation/ signal lights in accordance with the requirements of COLREG 72?**

The ship should be equipped with navigation/ signal lights including masthead light, sidelights, stern light, towing light, all-round light, flashing light and maneuvering lights, etc., as required by INTERNATIONAL REGULATIONS FOR PREVENTING COLLISION AT SEA, 1972 ( Hereinafter referred to as "COLREGs") to indicate the state or nature of the ship. A daylight signaling lamp, or other means, should be equipped on ships of 150 gross tonnage and upwards and passenger ships irrespective of size constructed on or after 1 July 2012, using an energy source of electrical power not solely dependent upon the ship's power supply.

PSCO should check:

1. If the navigational/signal lights are in normal working condition. Unless clear grounds existed, the vertical positioning, horizontal positioning, sector and spacing of lights of navigation/ signal lights should not be inspected.
2. If the navigational/signal lights are supplied by main power and emergency power.
3. The maintenance conditions of Navigational lights/ signal lights. PSCO should inspect side light inboard screen, lamp holder of navigation and signal lights, to ensure that they are functioning properly.

**Deficiency Code : 10109 (Lights, shapes, sound-signals)**

**Convention Reference: COLREG72/CIII; S74/CII-1/R42.2/R43.2**

**Suggested Action: 17/30**

**Q.12**

**Is the ship detained as a result of this CIC ?**

If "No" is selected, for questions marked with an "\*\*\*" , PSCO should use his/her professional judgment considering the seriousness of the deficiency as to whether the ship may be considered for detention. The detail of any deficiencies and deficiency code in CIC questionnaire, if any, should be appropriately entered on the PSC Report Form B.

During inspection, PSCO shall further assess whether the ship and/or crew, throughout its forthcoming voyage, is able to navigate safely. If the result of any assessments is negative, taking into account all deficiencies found, the ship should be strongly considered for detention irrespective of the time the ship will stay in port.

## Annex 1.4 Inspections and detentions per Flag State

Table Annex 1.4

Flag	Inspections	Detentions	Detention as a % of inspections	Detentions CIC-topic related	Detentions CIC-topic related as a % of inspections	BGW LIST*
Antigua and Barbuda	84	0	0.00%	0	0.00%	White
Argentina	2	0	0.00%	0	0.00%	Not listed
Australia	1	0	0.00%	0	0.00%	Not listed
Bahamas	172	5	2.91%	0	0.00%	White
Bangladesh	11	0	0.00%	0	0.00%	Grey
Barbados	4	0	0.00%	0	0.00%	Grey
Belgium	9	0	0.00%	0	0.00%	White
Belize	173	12	6.94%	4	2.31%	Grey
Bermuda (UK)	11	0	0.00%	0	0.00%	White
Brazil	1	0	0.00%	0	0.00%	Not listed
Brunei Darussalam	2	0	0.00%	0	0.00%	Not listed
Cayman Islands (UK)	31	0	0.00%	0	0.00%	White
Chile	4	0	0.00%	0	0.00%	Not listed
China	118	0	0.00%	0	0.00%	White
Comoros	2	0	0.00%	0	0.00%	Not listed
Cook Islands	7	1	14.29%	1	14.29%	Grey
Croatia	8	0	0.00%	0	0.00%	Grey
Curacao	3	0	0.00%	0	0.00%	Grey
Cyprus	106	2	1.89%	1	0.94%	White
Denmark	43	1	2.33%	0	0.00%	White
Dominica	4	0	0.00%	0	0.00%	Grey
Egypt	1	0	0.00%	0	0.00%	Not listed
Ethiopia	1	0	0.00%	0	0.00%	Not listed
Fiji	1	0	0.00%	0	0.00%	Black
France	6	0	0.00%	0	0.00%	White
Germany	21	0	0.00%	0	0.00%	White
Gibraltar (UK)	7	0	0.00%	0	0.00%	White
Greece	68	2	2.94%	0	0.00%	White
Honduras	1	0	0.00%	0	0.00%	Not listed
Hong Kong, China	650	4	0.62%	0	0.00%	White
India	19	0	0.00%	0	0.00%	Grey
Indonesia	27	3	11.11%	3	11.11%	Black
Iran	8	1	12.50%	0	0.00%	Grey
Isle of Man (UK)	38	1	2.63%	0	0.00%	White
Israel	2	0	0.00%	0	0.00%	Not listed
Italy	29	0	0.00%	0	0.00%	White

Flag	Inspections	Detentions	Detention as a % of inspections	Detentions CIC-topic related	Detentions CIC-topic related as a % of inspections	BGW LIST*
Jamaica	8	0	0.00%	0	0.00%	Grey
Japan	48	0	0.00%	0	0.00%	White
Kiribati	19	1	5.26%	0	0.00%	Grey
Korea, Democratic People's Republic of	22	4	18.18%	2	9.09%	Black
Korea, Republic of	343	1	0.29%	0	0.00%	White
Kuwait	9	0	0.00%	0	0.00%	Grey
Liberia	543	17	3.13%	4	0.74%	White
Libya	2	1	50.00%	0	0.00%	White
Luxembourg	3	0	0.00%	0	0.00%	White
Malaysia	37	1	2.70%	0	0.00%	White
Malta	239	8	3.35%	1	0.42%	White
Marshall Islands	610	10	1.64%	0	0.00%	White
Micronesia, Federated States of	2	0	0.00%	0	0.00%	Black
Mongolia	4	0	0.00%	0	0.00%	Black
Myanmar	2	0	0.00%	0	0.00%	Not listed
Netherlands	23	0	0.00%	0	0.00%	White
Niue	7	1	14.29%	0	0.00%	Black
Norway	50	0	0.00%	0	0.00%	White
Pakistan	4	1	25.00%	1	25.00%	Not listed
Palau	18	0	0.00%	0	0.00%	Black
Panama	1876	47	2.51%	9	0.48%	White
Philippines	46	3	6.52%	0	0.00%	White
Portugal	50	1	2.00%	1	2.00%	White
Qatar	3	0	0.00%	0	0.00%	Not listed
Russian Federation	76	2	2.63%	2	2.63%	White
Saint Kitts and Nevis	2	0	0.00%	0	0.00%	Grey
Saint Vincent and the Grenadines	15	2	13.33%	0	0.00%	White
Saudi Arabia	10	0	0.00%	0	0.00%	Grey
Sierra Leone	76	4	5.26%	0	0.00%	Black
Singapore	478	6	1.26%	0	0.00%	White
Sri Lanka	3	1	33.33%	0	0.00%	Grey
Sweden	2	0	0.00%	0	0.00%	White
Switzerland	7	0	0.00%	0	0.00%	Grey
Taiwan, China	20	1	5.00%	1	5.00%	White
Tanzania, United Republic of	3	1	33.33%	1	33.33%	Black
Thailand	60	3	5.00%	2	3.33%	White
Togo	76	5	6.58%	1	1.32%	Black
Tonga	1	0	0.00%	0	0.00%	Not listed
Turkey	10	1	10.00%	0	0.00%	Grey
Tuvalu	28	1	3.57%	1	3.57%	White

Flag	Inspections	Detentions	Detention as a % of inspections	Detentions CIC-topic related	Detentions CIC-topic related as a % of inspections	BGW LIST*
Ukraine	2	0	0.00%	0	0.00%	Not listed
United Kingdom	35	0	0.00%	0	0.00%	White
United States	12	0	0.00%	0	0.00%	White
Vanuatu	19	0	0.00%	0	0.00%	Grey
Vietnam	142	2	1.41%	1	0.70%	White
Total	6720	157	2.34%	36	0.54%	

## Annex 1.5 Inspections and detentions per Recognized Organization

Table Annex 1.5

RO	# of inspection	Detentions	Detention as a % of inspections	Detentions CIC-topic related	Detentions CIC-topic related as a % of inspections
American Bureau of Shipping	552	11	1.99%	3	0.54%
Arados Bureau for Sea Services	1	0	0.00%	0	0.00%
Biro Klasifikasi Indonesia	7	2	28.57%	2	28.57%
Bureau Veritas	510	16	3.14%	2	0.39%
China Classification Society	412	1	0.24%	0	0.00%
Columbus American Register	1	0	0.00%	0	0.00%
Cosmos Marine Bureau Inc.	16	2	12.50%	1	6.25%
CR Classification Society	29	2	6.90%	1	3.45%
Croatian Register of Shipping	4	0	0.00%	0	0.00%
DNV GL AS	927	14	1.51%	2	0.22%
Dromon Bureau of Shipping	9	1	11.11%	0	0.00%
Indian Register of Shipping	14	0	0.00%	0	0.00%
Intermaritime Certification Services	64	4	6.25%	3	4.69%
International Naval Surveys Bureau	4	1	25.00%	0	0.00%
International Register of Shipping	18	0	0.00%	0	0.00%
International Ship Classification	23	1	4.35%	0	0.00%
Isthmus Bureau of Shipping, S.A.	37	3	8.11%	1	2.70%
Korea Classification Society	24	4	16.67%	2	8.33%
Korea Ship Safety Technology Authority	1	0	0.00%	0	0.00%
Korean Register of Shipping	696	11	1.58%	3	0.43%
Lloyd's Register	595	12	2.02%	0	0.00%
New United International Marine Services Ltd.	5	0	0.00%	0	0.00%
Nippon Kaiji Kyokai	2187	45	2.06%	9	0.41%
Overseas Marine Certification Services	25	2	8.00%	1	4.00%
Panama Maritime Documentation Services	25	1	4.00%	0	0.00%

RO	# of inspection	Detentions	Detention as a % of inspections	Detentions CIC-topic related	Detentions CIC-topic related as a % of inspections
Panama Shipping Registrar Inc.	3	2	66.67%	1	33.33%
Polski Rejestr Statkow	14	1	7.14%	0	0.00%
RINA Services S.p.A.	112	6	5.36%	1	0.89%
Russian Maritime Register of Shipping	82	1	1.22%	1	1.22%
Ship Classification Of Malaysia	2	0	0.00%	0	0.00%
Shipping Register of Ukraine (SRU)	1	0	0.00%	0	0.00%
Singclass International	2	0	0.00%	0	0.00%
Sing-Lloyd	14	2	14.29%	1	7.14%
Union Bureau of Shipping	33	0	0.00%	0	0.00%
Union Marine Classification Society	2	0	0.00%	0	0.00%
Universal Maritime Bureau Ltd	19	2	10.53%	0	0.00%
Venezuelan Register of Shipping	1	0	0.00%	0	0.00%
Vietnam Register	102	1	0.98%	0	0.00%