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

Paris MoU
on Port State Control

Executive Summary

The Paris Memorandum of Understanding (Paris MoU) on Port State Control (PSC) carried out a Concentrated Inspection Campaign (CIC) on Safety of Navigation including ECDIS jointly with the Tokyo MOU between 1 September 2017 and 30 November 2017. During the CIC, member States 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 Paris MoU. Results for the Tokyo Maritime Authorities will be 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 - around 6.21% over a six year period – have been noted as high.

During the CIC, a total of 4,288 inspections were carried out involving 4,217 individual ships. The overall CIC detention rate per individual ship was 3.5% (146 ships were detained). The CIC-topic detention rate was 1.1% (47 ships were detained). A total of 32.2% of the detentions were related to the CIC-topic. The overall number of CIC-topic related deficiencies reported per inspection was 1.1%.

Ships from 87 flag States were inspected during the CIC, of which 63 flag States (72.4%) did not have any CIC-topic related detentions. Of those that did, the highest number of ships detained were Panama (9), followed by the Marshall Islands (4), the Russian Federation (4), and Togo (4). The highest percentage of ships detained however were Albania (50%), followed by Egypt (25%), Ukraine (14.3%), and Togo (10.8%).

The overall number of CIC-topic related deficiencies reported per inspection was 0.18.

The Report concludes that the CIC has provided sound evidence that the industry has achieved a good level of compliance with the specific provisions inspected during the CIC of SOLAS Chapter V requirements pertaining to safety of navigation. The 1.2% rate for CIC-topic deficiency rates (average number of deficiencies reported per inspection) is overall satisfactory.

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1 Introduction

1.1 Purpose of this Report

The purpose of this report is to present the results of the CIC on Safety of Navigation, including ECDIS to both member States of the Paris MoU and the general public.

1.2 Objective of the CIC

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

Objectives

This CIC shall assure that:

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

1.3 Scope of the CIC

The CIC was undertaken on all ships targeted for inspection within the Paris MoU Region between 1 September 2017 and 30 November 2017.

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.

The CIC targeted 11 aspects of compliance provisions that are considered critical to safety of navigation. Areas included:

- ECDIS appropriate up-to-date charts and suitable back-up arrangement.
- Navigation equipment in accordance with applicable safety certificate.
- Passage plans covering whole voyages.

Paris MoU member States were provided with a standardized questionnaire format to record and report their results against the 11 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 to be included in the report:

- 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 exception of table 2.
- 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

2 Summary, Conclusions and Recommendations

2.1 Summary

The following summarizes the results of the CIC:

- Responses to Question 10, which asked whether the crew was familiar with the procedure of emergency operation of steering gear, reported the most favourable results – 99.2% responded yes. This was closely followed with Question 7, which asked whether the ship’s Automated Identification System transmitted correct particulars – 98.8% responded yes.

- The least favourable results were reported for Question 8, which asked whether the passage plan covered the whole voyage – 3.7% responded no. This was closely followed by Question 2, which asked whether the ECDIS had appropriate up-to-date electronic charts for the intended voyage and a suitable back-up arrangement – 2.4% responded no.

- Questions 2, 3 and 4 which address the CIC focus area of ECDIS hold the highest “n/a” responses. The average (mean) of “n/a” responses between these three questions is 1,511 out of 4,027 (37.5%). Between the three questions there was an average of 2,445 (60.7%) “yes” responses and 69 (1.7%) “no” responses.

- 4,217 individual ships and 4,288 inspections were conducted over the course of the CIC period.

- Of the 146 ships detained during the CIC, 47 were related to the CIC topic representing 32.2% of total detentions and 1.1% of all inspections.

- The overall detention rate as percentage of inspections 3.4%.

- The overall CIC-topic detention rate as related to percentage of inspections was 1.2%.

- The overall CIC topic related deficiencies rate was 18.1%.

- Deficiency code 10127 (related to Question 8), which pertains to voyage or passage plans, accounted for the most number of reported deficiencies at 15.8% of the total. Deficiency codes (01101, 01103, 01105, 01201 and 02105) associated with questions 1,

3 and 10 accounted for the least number of reported deficiencies with zero reported deficiencies.

- By Ship Risk Profile categories, the results of the CIC were consistent with what would be expected in accordance with the risk profiling breakdown. For both general and CIC-topic related detentions, ships with a high risk profile comprised the largest percentage of ships detained per inspection, ships with a low risk profile comprised the smallest percentage, and ships with a standard or unknown profile fell in between.

- By ship type, Ro-Ro passenger ships had the highest CIC-topic related detention rate (5%), followed by commercial yachts (3%), general cargo/multipurpose (2.2%), and offshore supply (1.9%). A number of ship types had zero CIC-topic related detentions.

- By ship age, younger ships had the lowest detention rate for CIC-topic detentions (0%) while the highest rate peaked for ships aged 31-35 years (3.9%).

- Ships from 87 flag states were inspected during the CIC. With respect to the CIC-topic related detentions, the flag state with the highest number of ships detained was Panama (9), followed by the Marshall Islands (4), the Russian Federation (4), and Togo (4). The flag state with the highest percentage of ships detained was Albania (50%), followed by Egypt (25%), Ukraine (14.3%), and Togo (10.8%).

- The worst performance on CIC-topic detentions aligns well in the case of Togo but not in the case of the others which hold a mix of white and grey list statuses.

- Ships from 43 Recognized Organizations (ROs) were inspected during the CIC. With respect to the CIC-topic related detentions, the RO with the highest number of ships detained was the International Registrar of Shipping (10), followed by Bureau Veritas (9) – together these two ROs account for 19 of 26 (73%) of all RO CIC-topic related detentions.

2.2 Conclusions

Navigation equipment has always been part of the items for PSC inspections. The Tokyo MoU and the Paris MoU had conducted a joint CIC for SOLAS Chapter V concerning safety of navigation back in 2008. However, the regulations on navigation equipment have undergone frequent changes according to a series of amendments to SOLAS Chapter V (safety of navigation). Especially the Electronic Chart Display and Information System (ECDIS) had contributed much to maintain navigation safety and reduced navigational workload of seafarers since its application. Of all deficiencies, those concerning navigation equipment contribute a major proportion. From 2009 to 2016, a total of 143,229 deficiencies concerning safety of navigation were recorded, taking up 16.35% of all deficiencies.

The objective of the CIC was to provide indications as to the industry's level of compliance with specific aspects of Safety of Navigation regardless of ship type, thus meeting navigation safety requirements.

The overall rate of 1.2% for CIC-topic deficiency rate (average number of deficiencies reported per inspection) is a satisfactory result.

2.3 Recommendations

- In relation to the deficiency "voyage or passage plan" it had the largest number of deficiencies, the industry should take note and care to ensure voyage or passage plan as required by SOLAS and STCW is up-to-date for the intended voyage.

- Industry should endeavour to implement ECDIS as it will become a mandatory system on board all vessels (1 July 2018). The implementation and use of ECDIS provides a wide range of advantages. It makes the voyage planning easier by allowing optimization according to time, speed and other parameters.

3 CIC Questionnaire Results

3.1 Analysis

The CIC on Safety of Navigation has been executed from the 1 September until 1 November 2017.

The analysis is done on the results of the CIC questionnaire and on the data in the inspections database.

The results show a number of 4288 inspections. 261 of those inspections have been done without questionnaire due to earlier inspections and EU inspection requirements that exempt ROPAX type of ships from Paris MoU port State control inspection.
4027 inspections have been performed with the CIC questionnaire. In 47 cases (1.2%) it is mentioned the ship should be detained as a result of the CIC.

In general the percentage of detentions due to the CIC, did not lead to a higher percentage of the average detention percentage.

3.1.1 Response to CIC questionnaire

The following table shows the results on the CIC questionnaire.

On the 4027 inspections using the questionnaire the results are divided in “Yes”, “No”, “N/A” and “Blank”.
There are no specific results in “N/A” or “Blank” that need specific attention.

Table 1: Responses to CIC questionnaire

		nr Yes	"/Total Y+N"	nr No	"/Total Y+N"	nr N/A	"/Line total Insp"	Nr Blank	"/Line total Insp"	"Not detained/consider detained"
		Measured over only Yes and No answers				Measured over Total of CIC Inspections				
Nr.	**CIC on Safety of Navigation, including ECDIS**	'YES'(1)		'NO'(1)		N/A(2)		Blank(2)		% 'NO' adjusted Det.(3)
		#	%	#	%	#	%	#	%	
01*	Is ship's navigation equipment in accordance with its applicable safety certificate (SEC, PSSC, CSSC)?	3845	97.9%	84	2.1%	94	2.3%	4	0.1%	100.0%
02*	Does the ECDIS have the appropriate up-to-date electronic charts for the intended voyage and is there a suitable back-up arrangement?	2382	96.2%	95	3.8%	1549	38.5%	1	0.0%	29.5%
03	Is there evidence that all watchkeeping officers comply with STCW requirements for ECDIS?	2537	98.4%	42	1.6%	1447	35.9%	1	0.0%	
04*	Can watchkeeping officers demonstrate familiarization with ECDIS?	2415	97.2%	70	2.8%	1537	38.2%	5	0.1%	30.0%
05*	Can ship's VDR/SVDR record data fully?	3111	97.5%	79	2.5%	828	20.6%	9	0.2%	-20.2%
06*	Is second and/or third stage remote audible alarm of BNWAS recognized?	3833	98.6%	54	1.4%	127	3.2%	13	0.3%	-33.3%
07	Is the ship's Automatic Identification System transmitting correct particulars?	3977	99.3%	29	0.7%	15	0.4%	6	0.1%	
08	Does the passage plan cover the whole voyage?	3871	96.3%	147	3.7%	0	0.0%	9	0.2%	
09*	Does all crew know and respect the official working language as established and recorded in the ship's logbook?	3944	98.0%	82	2.0%	0	0.0%	1	0.0%	-4.7%
10*	Is the crew familiar with the procedure of emergency operation of steering gear?	3994	99.4%	24	0.6%	0	0.0%	9	0.2%	100.0%
11*	Are the exhibition of navigation/signal lights in accordance with the requirements of COLREG72?	3937	97.9%	86	2.1%	0	0.0%	4	0.1%	-38.6%
12	Is the ship detained as a result of this CIC?	44	1.1%	3978	98.9%	0	0.0%	5	0.1%	

Note: Questions with a "*" answered with a "NO" MUST be accompanied by a relevant deficiency on the Report of Inspection.
If the box "No" is ticked off for questions marked with an "*",the ship may be considered for detention.
If the box "No" is ticked off for questions marked with an "**", and if the deficiency found is repeated (occur more than 1 time), the ship may be considered for detention.

Remark: the last column of the table in the questionnaire is part of the template once developed. At this moment the percentages as such do not add any value and the minus outcome on some lines even create confusion. Advice is to delete the column in the table.

3.1.2. Analysis of answers to questionnaire in relation to detention

The CIC instrument is set up to generate attention on subjects or investigate a particular problem on subjects that have been the result of inspections. In the PSCOs inspection report it was determined the area with the most detentions was related to the Voyage Data Recorder (VDR) / Simplified Voyage data recorder (S-VDR) 101 inspections with deficiencies and 16 detentions related to VDR/S-VDR – 15.8%. The question investigated many aspects of the VDR/S-VDR as mentioned in the guidelines and as such a total analysis to determine what the exact problem is would entail a manual check in each inspection report analysing the description of the deficiency. Although these restrictions complicate reporting, the results reveal sufficient information on the compliance to the subjects of the safety of navigation, including ECDIS.

3.1.3. Analysis of CIC-topic related deficiencies

The tables 2 and 3 show the results on the CIC topic related deficiencies.
Based on those figures it shows that the Voyage Data Recorder was most recorded as ground for detention (16) followed by voyage or passage plan (12).
Looking at the number of inspections with deficiencies, the voyage or passage plan (147) followed by lights, shapes and sound signals (147) are recorded most.

3.1.4. Number of inspections and number of ships in CIC

The following table shows the total number of the CIC. Be aware of the number of 4217 “individual ships inspected during CIC”. This is different from the next columns that refer to “inspections”. 261 out of 4288 inspections (6%) have been done without CIC.

Table 2 Number of inspections and number of ships in CIC

	# of individual ships inspected during CIC	# of inspections performed with a CIC questionnaire	# of inspections without a CIC questionnaire
Total # of inspections	**4217**	**4027**	**261**
# of inspections with detentions	**146**	**137**	**9**
# of detentions with *CIC-topic* related deficiencies	**47**	**47**	**0**

3.1.5 Specification of CIC-topic related deficiencies

Deficiency code 10127 (related to Question 8), which pertains to voyage or passage plans, accounted for the most number of reported deficiencies at 15.8% of the total. Deficiency codes (01101, 01103, 01105, 01201 and 02105) associated with questions 1, 3 and 10 accounted for the least number of reported deficiencies with zero reported 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
		(# 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)
10109	Lights, shapes, sound-signals	147	9	2
10112	Electronic charts (ECDIS)	69	10	
10113	Automatic Identification System (AIS)	27	1	
10114	Voyage data recorder (VDR) / Simplified Voyage data recorder (S-VDR)	101	16	1
10127	Voyage or passage plan	169	12	
10133	Bridge operation	50	5	
10136	Establishment of working language onboard	86		
10138	BNWAS	82	10	2
Total		731	63	5

3.1.6. Number of ships to number of inspections during CIC campaign

Table 4 reveals that six ships (0.1% of the total) were inspected twice during the course of the CIC campaign.

(Table 4)

# of inspections performed per ship	# of ships	% of total
1	4021	99.9%
2	6	0.1%
3	0	0.0%
Total	4027	100.0%

3.1.7 Number of inspected ships per Ship Risk Profile

Table 5 illustrates that for both general and CIC-topic related detentions, ships with a high risk profile comprised the largest percentage of ships detained per inspection, ships with a low risk profile comprised the smallest percentage, and ships with a standard or unknown profile fell in between.

(Table 5)

Ship Risk Profile	# of inspections	# of detentions	detention as % of inspections	detentions CIC-topic related	detentions CIC-topic related as % of inspections
High Risk Ship (HRS)	317	34	10.7%	14	4.4%
Standard Risk Ship (SRS)	3345	94	2.8%	29	0.9%
Low Risk Ship (LRS)	161	1	0.6%	1	0.6%
Unknown	204	8	3.9%	3	1.5%
Total	4027	137	3.4%	47	1.2%

3.1.8 Number of inspected ships and detentions per ship type

Table 6 reports the number of ship inspections and the number and percentage of ships detained during the CIC by ship type. With respect to CIC-topic related detentions, Ro-Ro passenger ships had the highest CIC-topic related detention rate (5%), followed by commercial yachts (3%), general cargo/multipurpose (2.2%), and offshore supply (1.9%). A number of ship types had zero CIC-topic related detentions

(Table 6)

Ship type	# of inspections	# of detentions	detention as % of inspections	detentions CIC-topic related	detentions CIC-topic related as % of inspections
Bulk carrier	883	28	3.2%	8	0.9%
Chemical tanker	426	6	1.4%	2	0.5%
Combination carrier	1	0	0.0%	0	0.0%
Commercial yacht	33	2	6.1%	1	3.0%
Container	405	10	2.5%	3	0.7%
Gas carrier	89	3	3.4%	1	1.1%
General cargo/multipurpose	1155	69	6.0%	25	2.2%
Heavy load	13	0	0.0%	0	0.0%
High speed passenger craft	2	0	0.0%	0	0.0%
NLS tanker	8	0	0.0%	0	0.0%
Offshore supply	106	4	3.8%	2	1.9%
Oil tanker	398	7	1.8%	4	1.0%
Other	57	0	0.0%	0	0.0%
Other special activities	89	1	1.1%	0	0.0%
Passenger ship	39	0	0.0%	0	0.0%
Refrigerated cargo	52	1	1.9%	0	0.0%
Ro-Ro cargo	172	2	1.2%	0	0.0%
Ro-Ro passenger ship	20	3	15.0%	1	5.0%
Special purpose ship	25	1	4.0%	0	0.0%
Tug	54	0	0.0%	0	0.0%
Total	4027	137	3.4%	47	1.2%

3.1.9 Inspections and detentions per Flag State

(see Annex 1.2)

Ships from 87 flag states were inspected during the CIC. With respect to the CIC-topic related detentions, the flag state with the highest number of ships detained was Panama (9), followed by the Marshall Islands (4), the Russian Federation (4), and Togo (4). The flag state with the highest percentage of ships detained was Albania (50%), followed by Egypt (25%), Ukraine (14.3%), and Togo (10.8%).

The worst performance on CIC-topic detentions aligns well in the case of Togo have a black status but not in the case of the others which hold a mix of white and grey statuses

3.1.10 Inspections and detentions per Recognized Organization

(see Annex 1.3)

Ships from 43 ROs were inspected during the CIC. With respect to the CIC-topic related detentions, the RO with the highest number of ships detained was the International Register of Shipping (10), followed by Bureau Veritas (9) – together these two ROs account for 19 of 26 (73%) of all RO CIC-topic related detentions.

3.1.11 Ship age overview

Table 7 shows that younger ships had the lowest detention rate for CIC-topic detentions (0%) while the highest rate peaked for ships aged 31-35 years (3.9%) and then tapered for those over 35 years (2.1%).

(Table 7)

Ship age*	# of inspections	# of detentions	Detention as a % of inspections	Detentions CIC-topic related	Detentions CIC-topic related as a % of inspections
≤ 5 years	599	5	0.8%	0	0.0%
6-10 years	1119	28	2.5%	9	0.8%
11-15 years	848	23	2.7%	7	0.8%
16-20 years	475	15	3.2%	6	1.3%
21-25 years	311	20	6.4%	5	1.6%
26-30 years	212	12	5.7%	7	3.3%
31-35 years	180	18	10.0%	7	3.9%
> 35 years	283	16	5.7%	6	2.1%
Total	4027	137	3.4%	47	1.2%

Annex 1

Annex 1.1 Inspection form of the CIC

CONCENTRATED INSPECTION CAMPAIGN ON SAFETY OF NAVIGATION (SOLAS CH.V)

Inspection Authority:			
Ship Name:		**Flag:**	
IMO Number:		**Classification Society:**	
Date of Inspection		**Inspection Port:**	

No.	Item	Yes	No	N/A
Q.1*	Is ship's navigation equipment in accordance with its applicable safety certificate (SEC, PSSC, CSSC)? **(01101 01103 01105 -S74/CI/R12)**	❒	❒	❒
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? **(10112 - S74/CV/R19.2)**	❒	❒	❒
Q.3	Is there evidence that all watchkeeping officers comply with STCW requirements for ECDIS? **(01201 – STCW/A-II/1)**	❒	❒	❒
Q.4*	Can watchkeeping officers demonstrate familiarization with ECDIS? **(10133 – STCW/A-VIII/2)**	❒	❒	❒
Q.5*	Can ship's VDR/SVDR record data fully? **(10114 - S74/CV/R18)**	❒	❒	❒
Q.6*	Is second and/or third stage remote audible alarm of BNWAS recognized? **(10138- S74/CV/R19.2.2)**	❒	❒	❒
Q.7	Is the ship's Automatic Identification System transmitting correct particulars? (**10113 - S74/CV/R19.2.4)**	❒	❒	❒
Q.8	Does the passage plan cover the whole voyage? **(10127 - S74/CV/R34,STCW/A-VIII/2)**	❒	❒	
Q.9*	Does all crew know and respect the official working language as established and recorded in the ship's logbook? **(10136 - S74/CV/R14)**	❒	❒	
Q.10*	Is the crew familiar with the procedure of emergency operation of steering gear? **(02105 - S74/CII-1/R29, 10126 - S74/CV/R26)**	❒	❒	
Q.11*	Are the exhibition of navigation/signal lights in accordance with the requirements of COLREG72? **(10109 – COLREG72/CIII: 04103 - S74/CII-1/R42.2/R43.2:**	❒	❒	
Q.12	Is the ship detained as a result of this CIC?	❒	❒	

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.

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 1 September to 30 November 2008, and Paris MOU had conducted CIC for SOLAS Chapter V 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 meeting of the Tokyo MoU PSC Committee 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.

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.

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

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

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 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)?
The PSCO should confirm the validity of ship's SE certificate and 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, however SOLAS may require the carriage of certain navigation equipment for tonnages of less than 500 GT. PSCO's task will further be to determine whether the ship is of an acceptable standard and be guided by any certificates or other documents issued by or on behalf of the flag state administration.

Deficiency code: 01101/01103/01105

Convention Reference: S74/CI/R12
Suggested Action: 30/17

Q.2*
Does the ECDIS have the appropriate 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 Appropriate Portfolio of Paper charts (APC) should be equipped on board for readily use.
3、The Record of Equipments indicates the approved back-up arrangements. Updated paper chart folio for the entire planned voyage is an 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.

Deficiency code: 10112
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 ECIDS 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.. Every candidate for certification shall provide evidence of having achieved the required standard of competence in accordance with the methods for demonstrating competence and the criteria for evaluating competence listed in STCW/AII/1 (general training and familiarization training evidence).
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.

Deficiency code: 01201
Convention Reference: STCW/A-II/1
Suggested Action: 17

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

Deficiency code: 10133
Convention Reference: STCW/A-VIII/2
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. For cargo ships the 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. For passenger ships the performance test may be carried out up to 3 months before the due date for survey
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 be learned 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
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 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.

- 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.

2、Considering different types of BNWAS, master and OOW shall be familiar with different ways to initiate the reset function.

3、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

4、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

Convention Reference： S74/CV/R19.2.2

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
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 the voyage plan has been prepared covering the entire voyage from berth to berth 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
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, muster list, garbage management plan, garbage placard, security plan, noise notice board, 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
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.
6. PSCO can request crew to demonstrate emergency steering operation as to check the degree of familiarity.

Deficiency Code: 10126; 02105
Convention Reference: S74/CV/R26; S74/CIX/R3
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 masthead light, sidelights and a stern light installed on board a ship on or after 1 January 2009 not less than 50 m in length should be duplicated or be fitted with duplicate lamps.

PSCO should check:
1. If the navigational/signal lights are in normal working condition.
2. If the navigational/signal lights are supplied by main power and emergency power.

Deficiency Code: 10109, 04103
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 1.2 Inspections and Detentions per Flag State

Table Annex 1.2 Inspections and detentions per Flag State

Flag	# of inspections	# of detentions	Detention as a % of inspections	# of detentions CIC-topic related	Detentions CIC-topic related as a % of inspections	WGB-list* 2016
Albania	2	1	50.0%	1	50.0%	Grey
Algeria	6	0	0.0%	0	0.0%	Grey
Antigua and Barbuda	180	8	4.4%	2	1.1%	White
Azerbaijan	10	1	10.0%	1	10.0%	Grey
Bahamas	164	2	1.2%	0	0.0%	White
Barbados	37	2	5.4%	0	0.0%	White
Belgium	10	0	0.0%	0	0.0%	White
Belize	24	2	8.3%	1	4.2%	Black
Bermuda (UK)	18	0	0.0%	0	0.0%	White
Brazil	1	0	0.0%	0	0.0%	Not listed
Bulgaria	2	0	0.0%	0	0.0%	Grey
Canada	1	0	0.0%	0	0.0%	Not listed
Cayman Islands (UK)	32	1	3.1%	0	0.0%	White
Chile	1	0	0.0%	0	0.0%	Not listed
China	17	0	0.0%	0	0.0%	White
Comoros	31	8	25.8%	3	9.7%	Black
Cook Islands	35	2	5.7%	0	0.0%	Black
Croatia	6	0	0.0%	0	0.0%	White
Curacao	8	0	0.0%	0	0.0%	Grey
Cyprus	141	2	1.4%	0	0.0%	White
Denmark	87	1	1.1%	1	1.1%	White
Dominica	2	0	0.0%	0	0.0%	Not listed
Egypt	4	1	25.0%	1	25.0%	Grey
Estonia	2	0	0.0%	0	0.0%	White
Faroe Islands	16	3	18.8%	1	6.3%	White
Fiji	1	0	0.0%	0	0.0%	Not listed
Finland	23	0	0.0%	0	0.0%	White
France	16	0	0.0%	0	0.0%	White
Germany	26	1	3.8%	0	0.0%	White
Gibraltar (UK)	36	0	0.0%	0	0.0%	White
Greece	63	2	3.2%	0	0.0%	White

Flag	# of inspections	# of detentions	Detention as a % of inspections	# of detentions CIC-topic related	Detentions CIC-topic related as a % of inspections	WGB-list* 2016
Hong Kong, China	150	1	0.7%	0	0.0%	White
India	4	0	0.0%	0	0.0%	Grey
Iran, Islamic Republic of	12	1	8.3%	0	0.0%	White
Ireland	7	0	0.0%	0	0.0%	White
Isle of Man (UK)	38	2	5.3%	1	2.6%	White
Israel	2	0	0.0%	0	0.0%	Not listed
Italy	58	0	0.0%	0	0.0%	White
Jamaica	1	0	0.0%	0	0.0%	Not listed
Japan	15	0	0.0%	0	0.0%	White
Kazakhstan	7	0	0.0%	0	0.0%	White
Korea, Republic of	4	0	0.0%	0	0.0%	Grey
Latvia	11	0	0.0%	0	0.0%	White
Lebanon	4	0	0.0%	0	0.0%	Grey
Liberia	336	5	1.5%	2	0.6%	White
Libya	1	0	0.0%	0	0.0%	Grey
Lithuania	7	0	0.0%	0	0.0%	Grey
Luxembourg	12	1	8.3%	1	8.3%	White
Malta	357	9	2.5%	1	0.3%	White
Marshall Islands	354	8	2.3%	4	1.1%	White
Moldova, Republic of	40	4	10.0%	2	5.0%	Black
Mongolia	1	0	0.0%	0	0.0%	Not listed
Montenegro	2	0	0.0%	0	0.0%	Not listed
Morocco	4	1	25.0%	1	25.0%	Grey
Netherlands	220	4	1.8%	2	0.9%	White
Norway	125	0	0.0%	0	0.0%	White
Pakistan	1	0	0.0%	0	0.0%	Not listed
Palau	19	3	15.8%	0	0.0%	Black
Panama	506	25	4.9%	9	1.8%	White
Philippines	14	0	0.0%	0	0.0%	White
Poland	11	0	0.0%	0	0.0%	Grey
Portugal	86	4	4.7%	1	1.2%	White
Romania	1	0	0.0%	0	0.0%	Not listed
Russian Federation	77	7	9.1%	4	5.2%	White
Saint Kitts and Nevis	10	2	20.0%	0	0.0%	Black
Saint Vincent and the Grenadines	34	1	2.9%	0	0.0%	Grey

Flag	# of inspections	# of detentions	Detention as a % of inspections	# of detentions CIC-topic related	Detentions CIC-topic related as a % of inspections	WGB-list* 2016
Saudi Arabia	6	0	0.0%	0	0.0%	White
Seychelles	2	0	0.0%	0	0.0%	Not listed
Sierra Leone	19	2	10.5%	1	5.3%	Black
Singapore	159	0	0.0%	0	0.0%	White
Slovenia	1	0	0.0%	0	0.0%	Not listed
Spain	11	0	0.0%	0	0.0%	White
Sri Lanka	1	0	0.0%	0	0.0%	Not listed
Sweden	8	0	0.0%	0	0.0%	White
Switzerland	2	0	0.0%	0	0.0%	Grey
Syrian Arab Republic	1	0	0.0%	0	0.0%	Not listed
Tanzania, United Republic of	40	2	5.0%	1	2.5%	Black
Thailand	4	1	25.0%	0	0.0%	Grey
Togo	37	6	16.2%	4	10.8%	Black
Tunisia	3	1	33.3%	0	0.0%	Grey
Turkey	70	4	5.7%	1	1.4%	White
Turkmenistan	1	0	0.0%	0	0.0%	Not listed
Tuvalu	4	0	0.0%	0	0.0%	Not listed
Ukraine	7	1	14.3%	1	14.3%	Grey
United Kingdom	87	1	1.1%	0	0.0%	White
United States	14	3	21.4%	0	0.0%	White
Vanuatu	17	1	5.9%	0	0.0%	Black

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

Annex 1.3 Inspections and detentions per Recognized Organization

(Table Annex 1.3)

Table Annex 1.3 Inspections and detentions per Recognized Organization

Issuing authority	Inspection*						Detentions CIC-topic related with RO responsibility**
	CSSC	CSSE	CSS	PSS	HSCS	Polar Ship Cert	
American Bureau of Shipping	342	338	5				
Bulgarian Register of Shipping	16	16					
Bureau Veritas	428	416	119	12			9
China Classification Society	59	59					
Croatian Register of Shipping	7	7		1			
DNV GL AS	870	864	51	10			
Intermaritime Certification Services, ICS Class	12	11					
International Naval Surveys Bureau	32	33					
International Register of Shipping	13	15					10
Korean Register of Shipping	72	72	1				
Lloyd's Register	437	433	37	7			
Macosnar Corporation	8	8					
National Shipping Adjuster Inc.	9	9					
Nippon Kaiji Kyokai	548	548	1				
Novel Classification Society S.A.	2	2					
Phoenix Register of Shipping	31	31					
RINA Services S.p.A.	181	138	9	9			
Russian Maritime Register of Shipping	149	150	1				1
Shipping Register of Ukraine	38	38					1
Venezuelan Register of Shipping	6	6					
Columbus American Register	3	3					1
Cosmos Marine Bureau Inc.	3	3					
Guardian Bureau of Shipping	2	2					
Isthmus Bureau of Shipping, S.A.	5	4					
Maritime Bureau of Shipping	7	6					
Dromon Bureau of Shipping	29	29	1				
Mediterranean Shipping Register	19	19					
Panama Maritime Documentation Services	3	3	2				
Polski Rejestr Statkow (Polish Register of Shipping)	30	29	2	1			1
Turkish Lloyd	4	4					
United Registration and Classification of Services	5	5					
ASIA Classification Society	7	7					
Indian Register of Shipping	3	3					

Issuing authority	Inspection*						Detentions CIC-topic related with RO responsibility**
	CSSC	CSSE	CSS	PSS	HSCS	Polar Ship Cert	
Iranian Classification Society	3	3					
Limdal Marine Services	1	1					
Maritime Lloyd	15	15					
Other	3	4	1				
Overseas Marine Certification Services	4	4					
Panama Shipping Registrar Inc.	4	4					1
Register of Shipping (Albania)	1	1		1			2
Hellenic Register of Shipping	1	1					
Total	3412	3344	230	41			26

* Number of inspections where the certificate is recorded as issued by the RO
** Number of inspections where the RO issued the certificate and a deficiency covered by that certificate was recorded as detainable and RO related