



CR

CR船級檢驗動態、PSC統計及 2017年重點檢查活動

CR Classification Activity,
PSC Statistics and
Concentrated Inspection Campaign (CIC) 2017

副總驗船師兼檢驗處處長 黃建樺 博士
2017年CR第三次技術研討會

報告大綱

●CR船級檢驗動態

- ▶ 現有入級船舶概況 (截至2017年7月31日)
- ▶ 新造船舶 (截至2017年7月31日)
 - 國外新造船舶
 - 國內新造船舶
- ▶ 2016年度入級船舶

報告大綱(續)

- PSC統計分析
 - ▶ Tokyo MOU
 - ▶ Paris MOU
 - ▶ USCG
 - ▶ 缺失分析
 - ▶ 國輪為灰名單
 - ▶ CR為高表現度
- 2016-2017年重要檢驗工作

報告大綱(續)



- 2017年重點檢查活動

Concentrated Inspection Campaign (CIC) 2017

- ▶ Tokyo MOU: Safety of Navigation

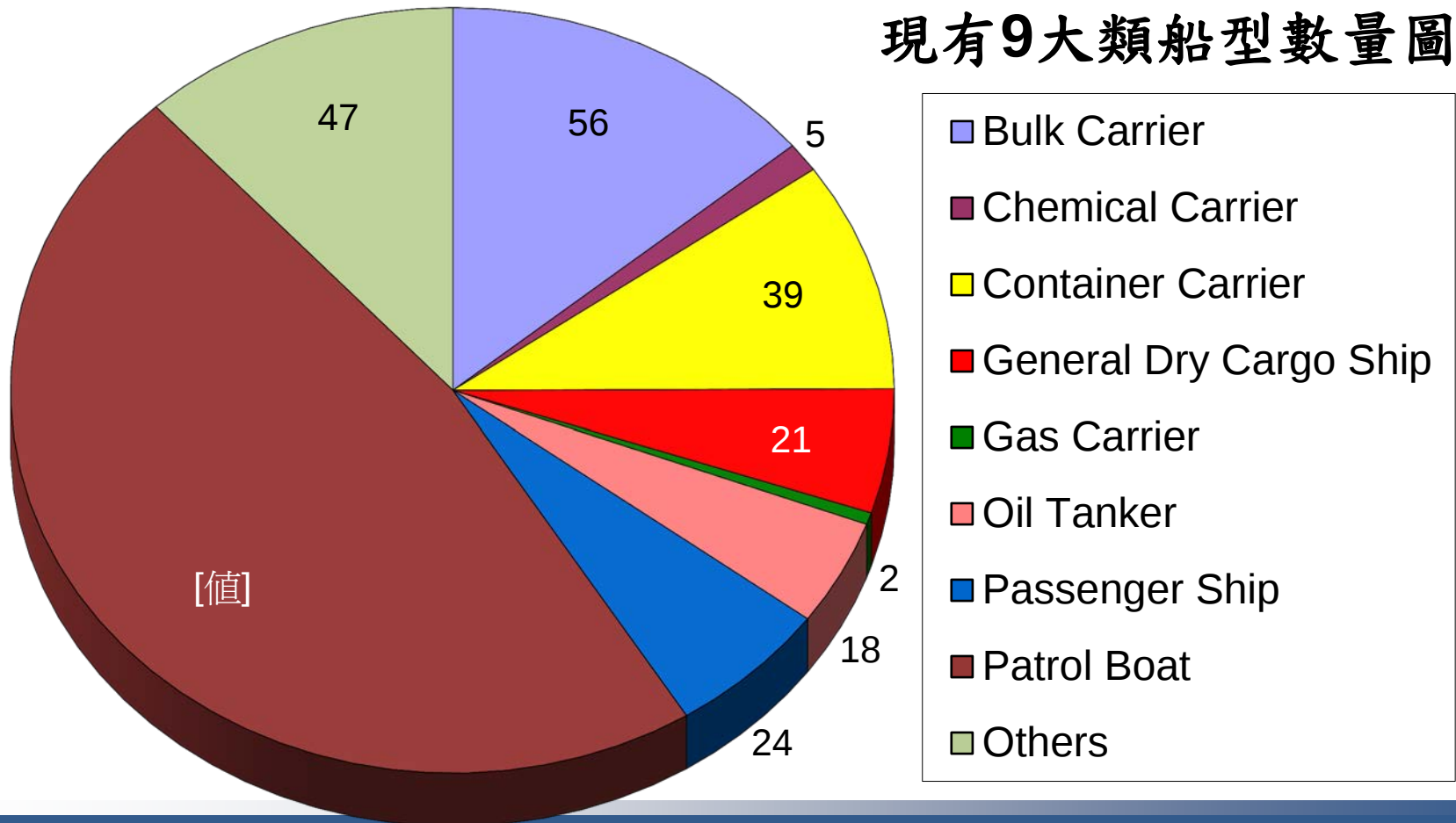
- ▶ Paris MOU: Safety of Navigation

現有入級船舶概況

(截至2017年7月31日)

● 總數量：401艘

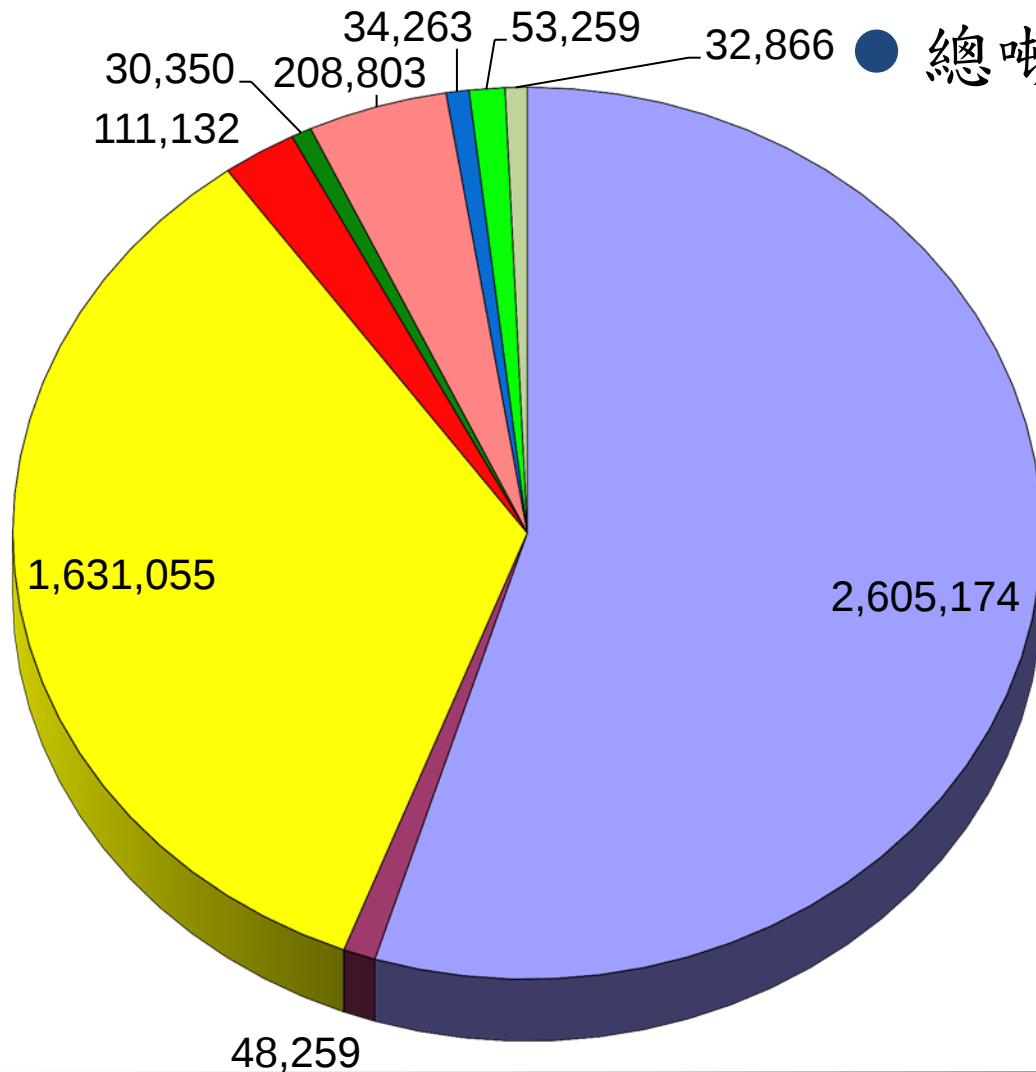
現有9大類船型數量圖



現有入級船舶概況

(截至2017年7月31日)

● 總噸位：4,755,162 GT



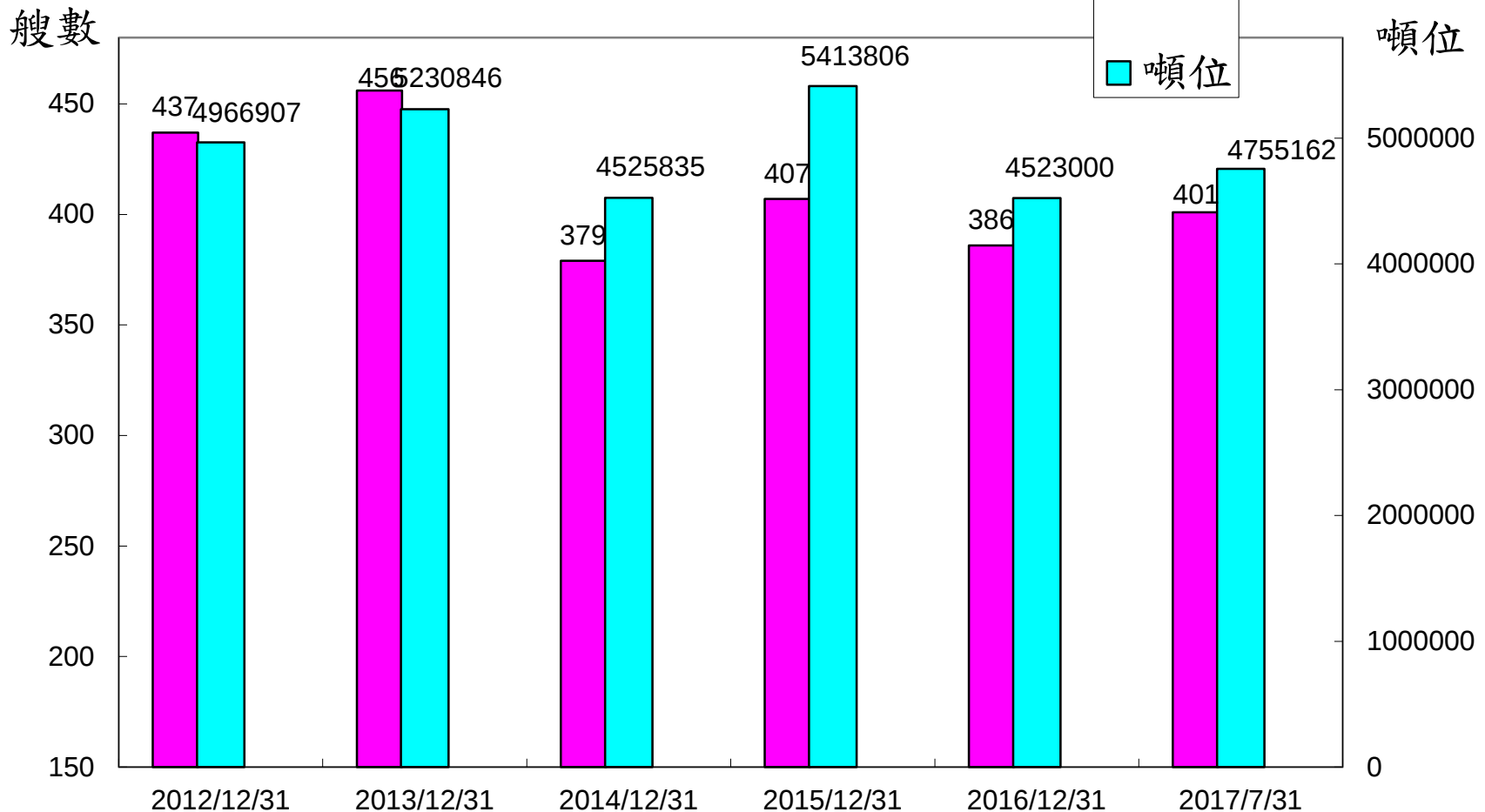
現有船舶噸位分佈圖

- Bulk Carrier
- Chemical Carrier
- Container Carrier
- General Dry Cargo Ship
- Gas Carrier
- Oil Tanker
- Passenger Ship
- Patrol Boat
- Others

現有入級船舶概況

(截至2017年7月31日)

歷年艘數及噸位

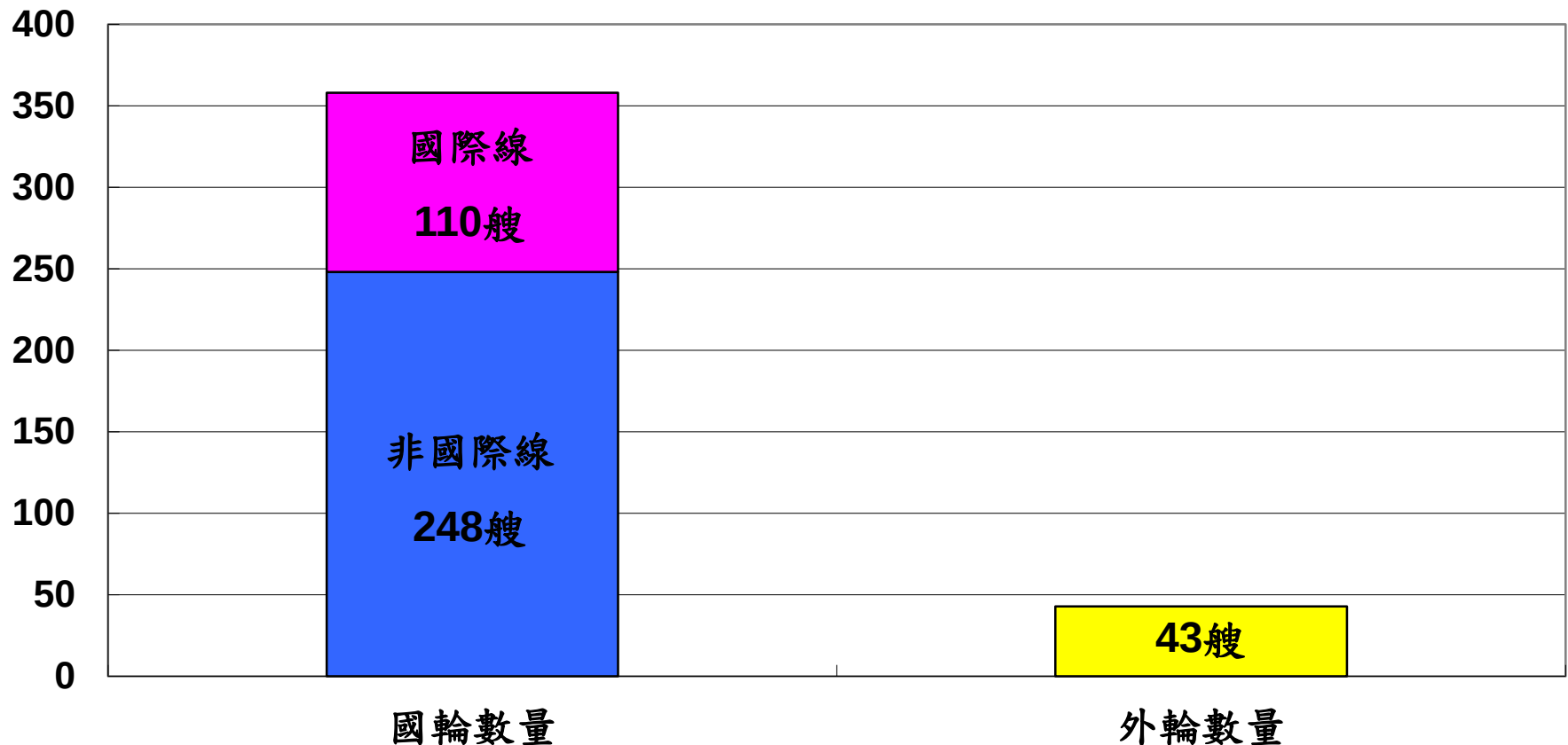


現有入級船舶概況

(截至2017年7月31日)

- 國輪數量：358艘，外輪數量：43艘

現有船舶國輪及外輪數量圖



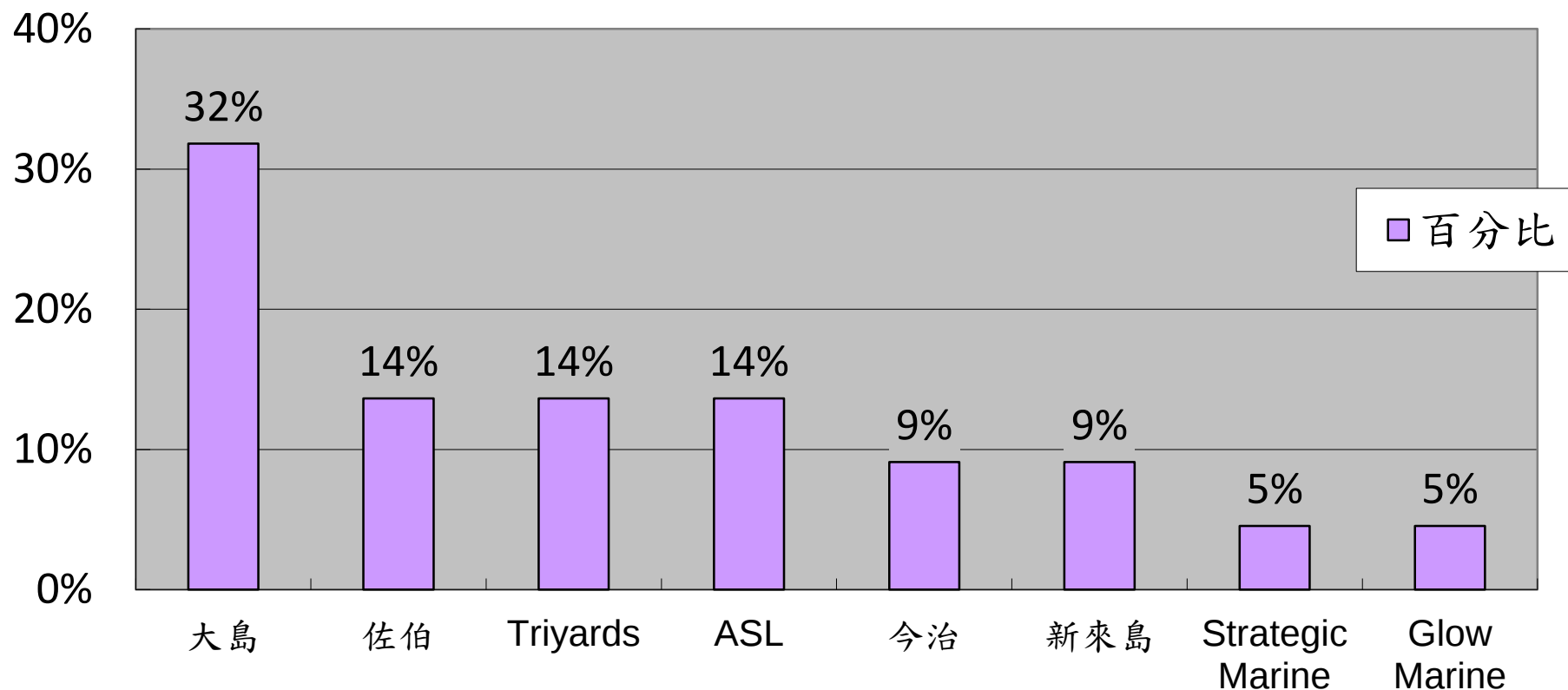
國外新造船舶

(截至2017年7月31日)



國外地區各船廠新造船

總艘數：22艘

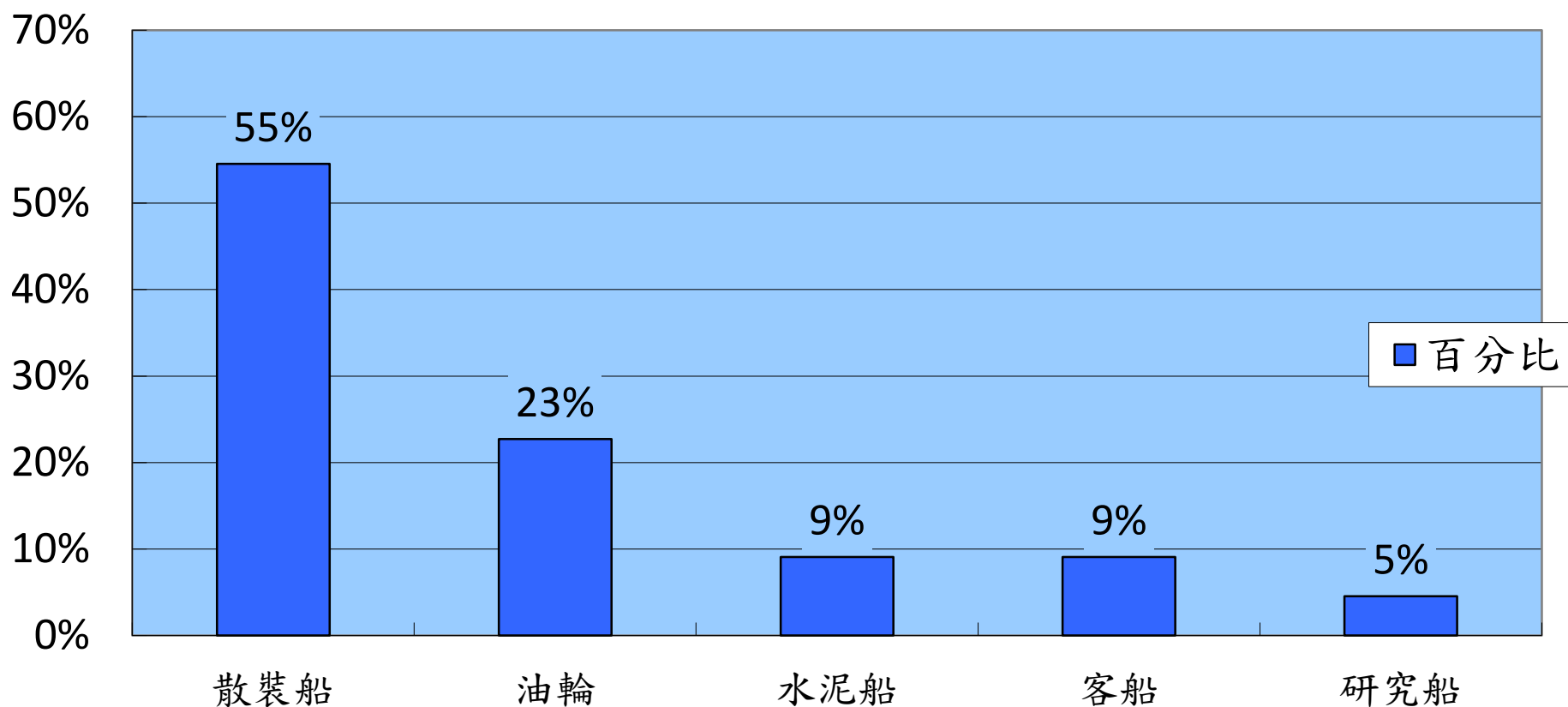


國外新造船船舶

(截至2017年7月31日)



國外地區新造船船型清單 總艘數：22艘



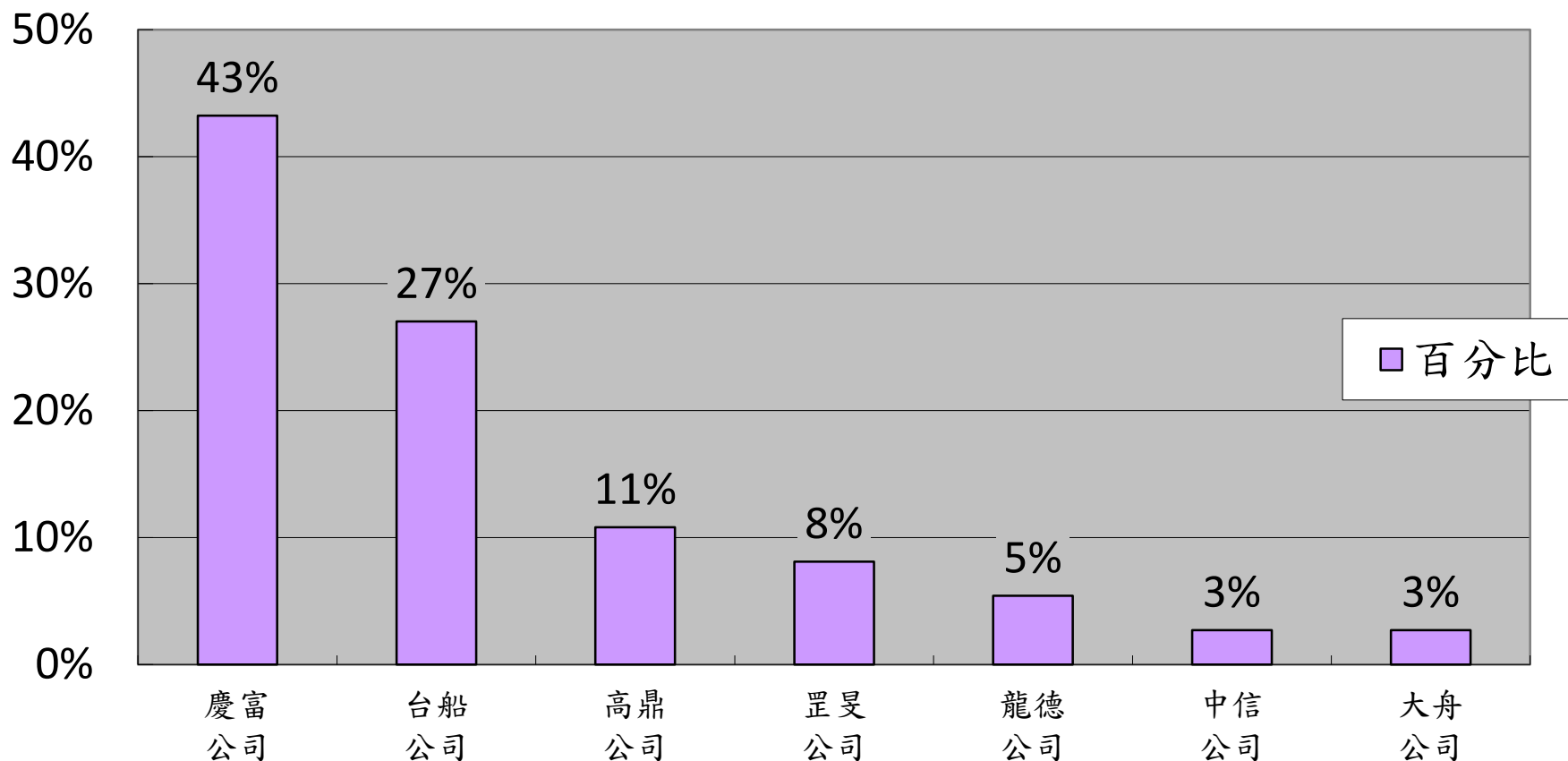
國內新造船船

(截至2017年7月31日)



國內地區各船廠新造船

總艘數：37艘

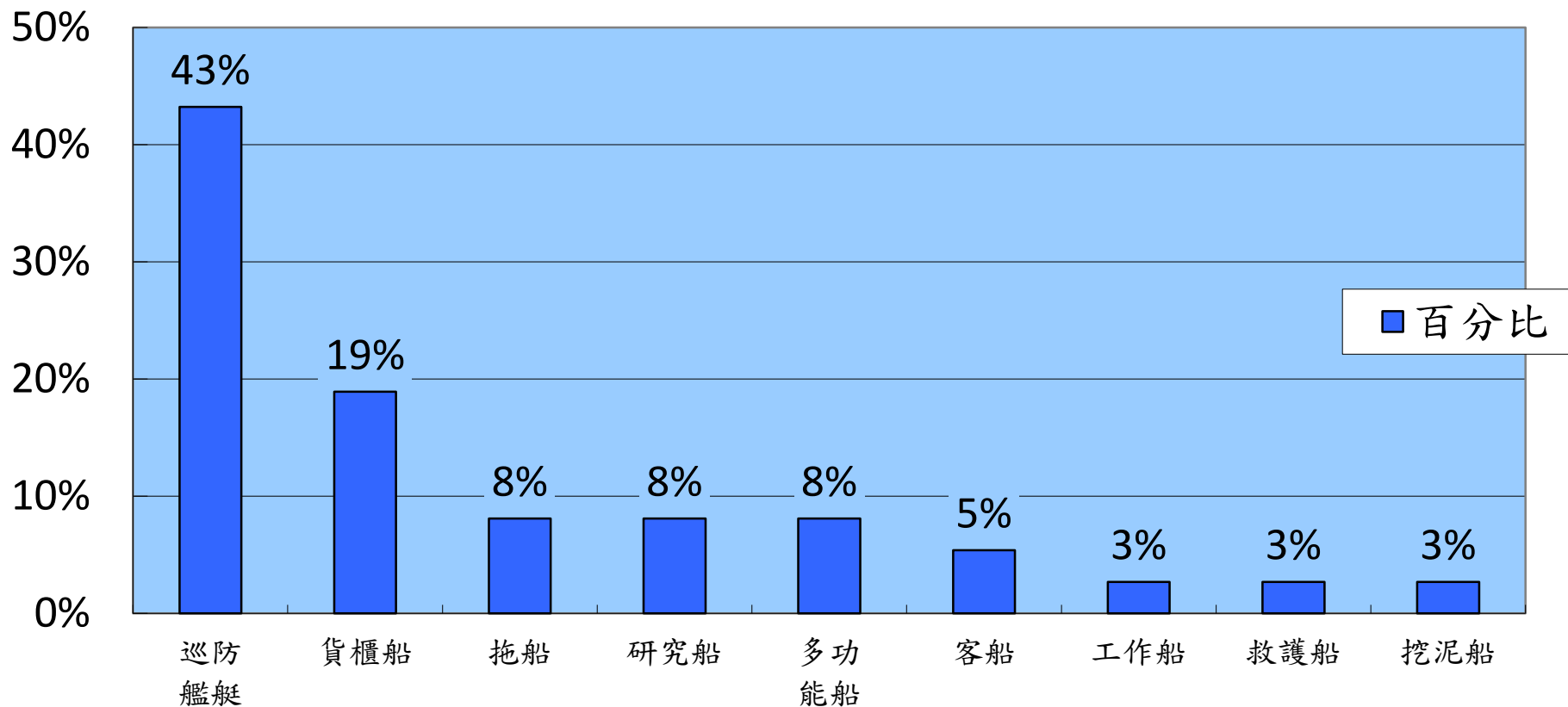


國內新造船舶

(截至2017年7月31日)



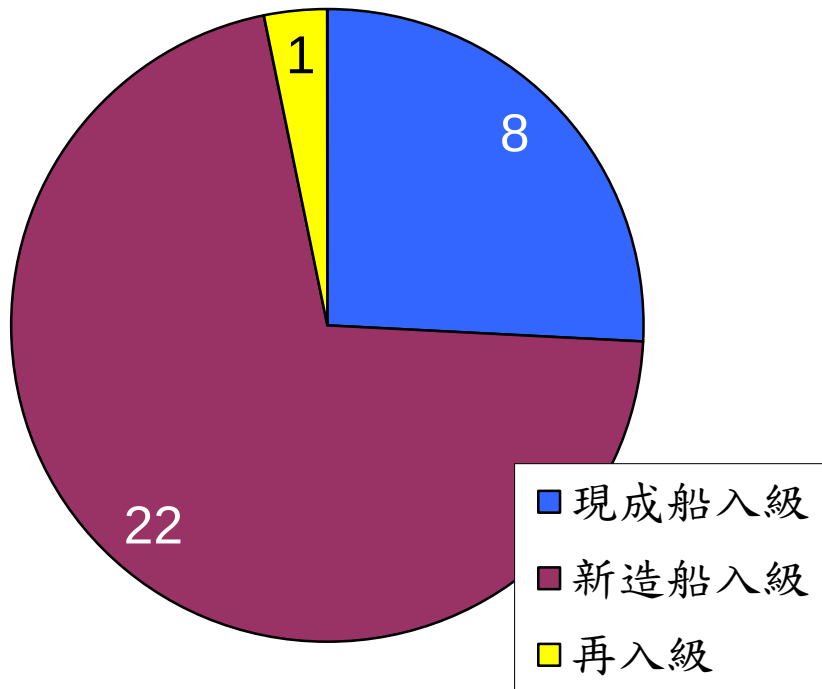
國內地區新造船船型清單 總艘數：37艘



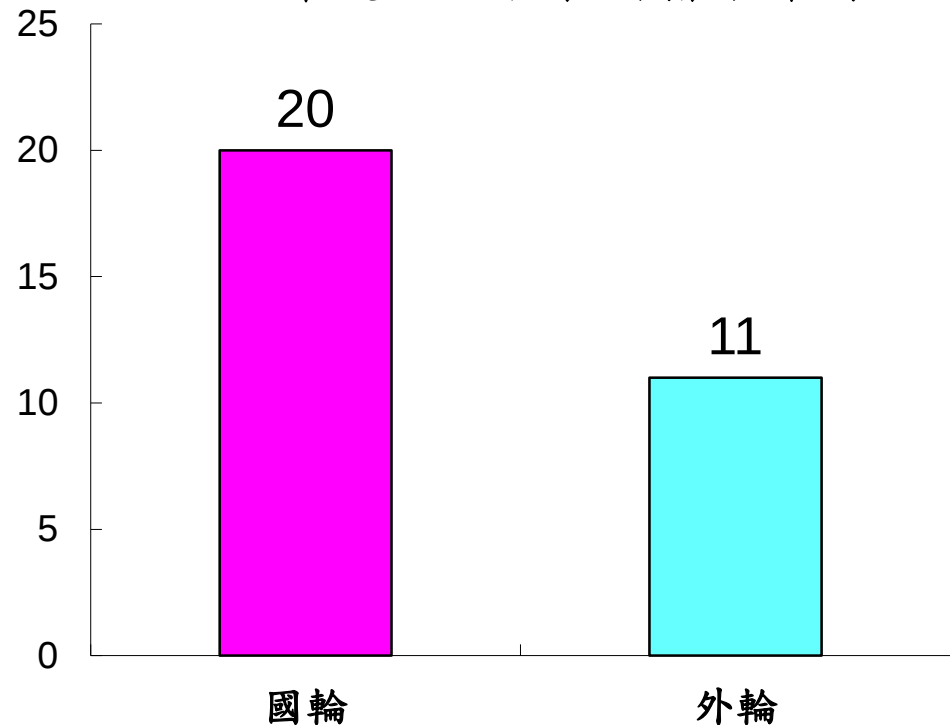
2016年度入級船舶

- 新造船入級22艘，現成船入級8艘，再入級1艘。共31艘。
- 其中國輪20艘，外輪11艘

2016年度入級船舶數量圖

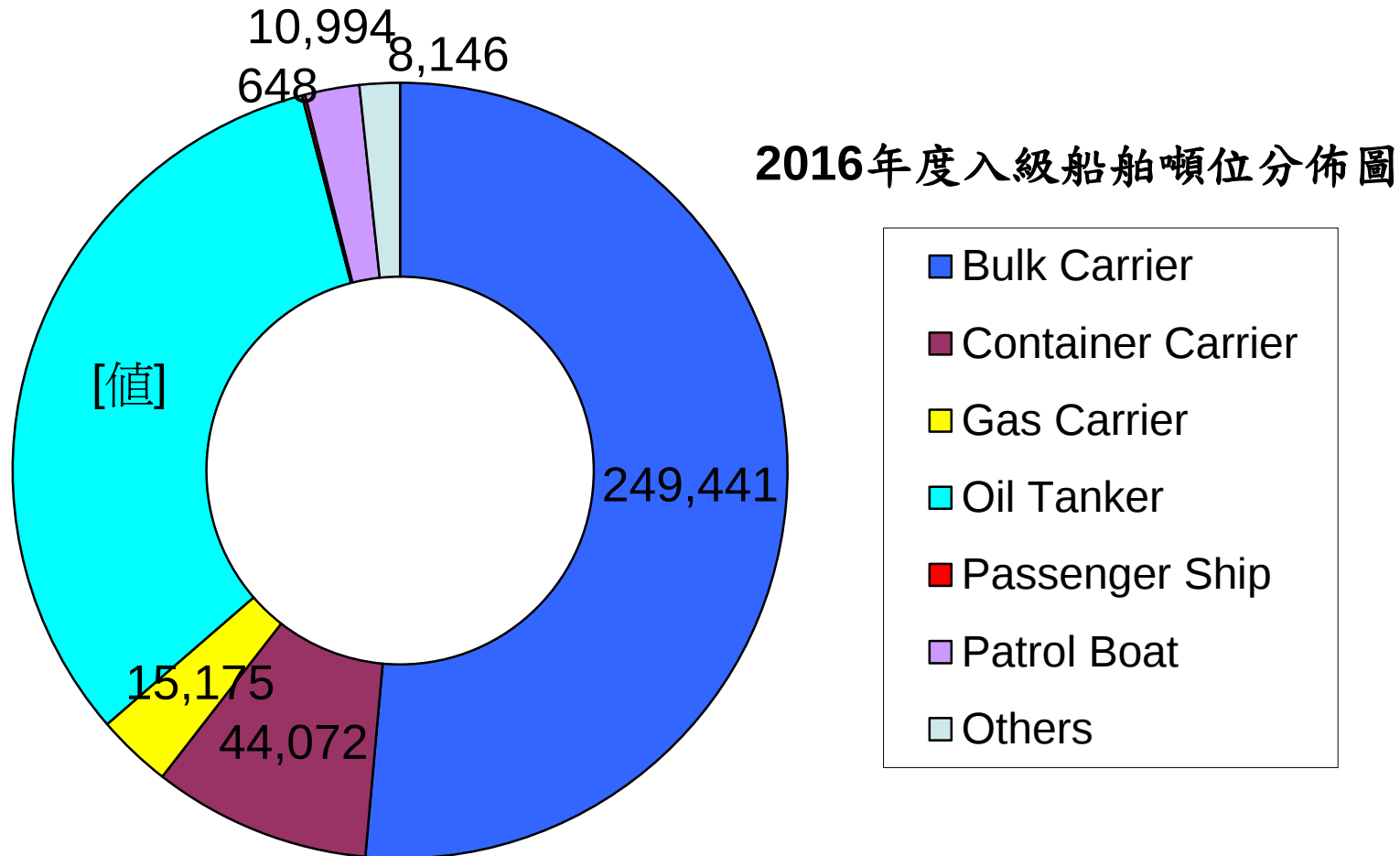


2016年度入級船舶國籍分佈圖



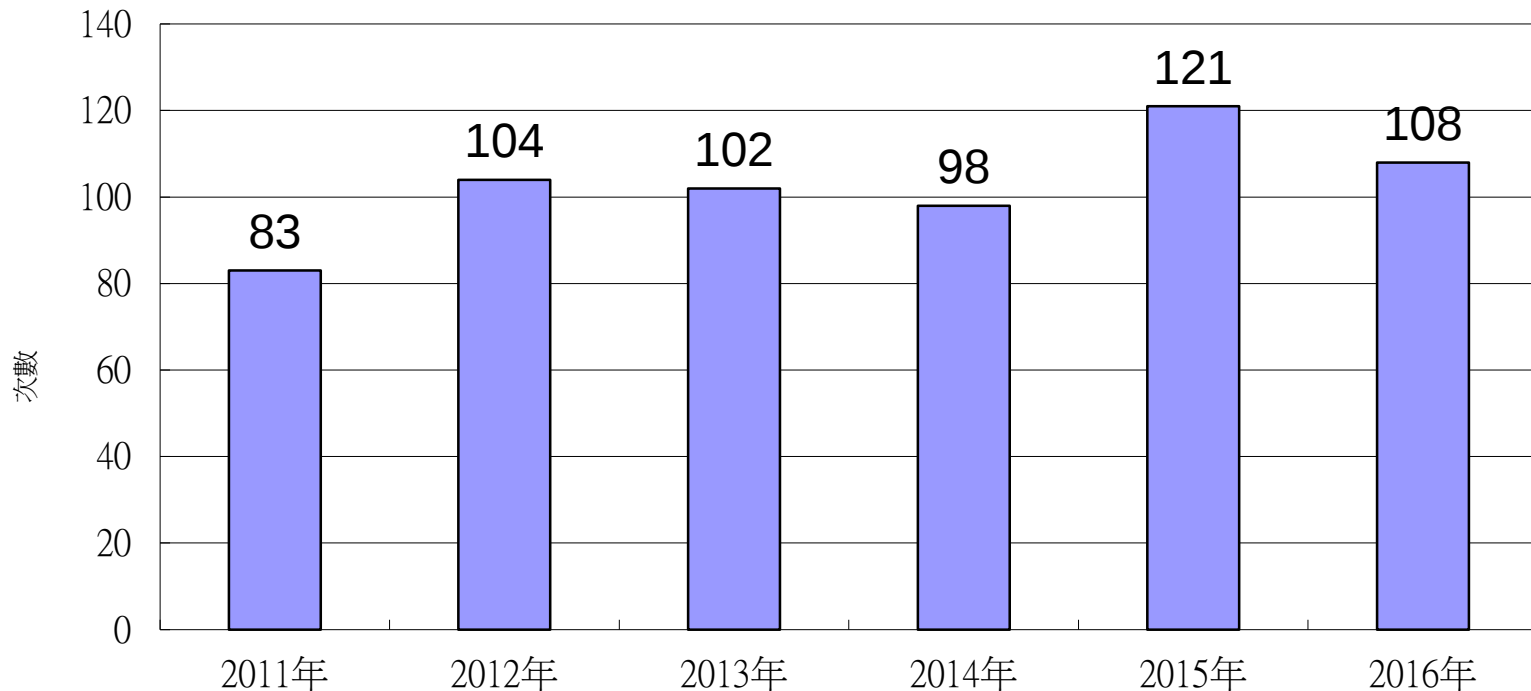
2016年度入級船舶

● 總噸位：484,977 GT



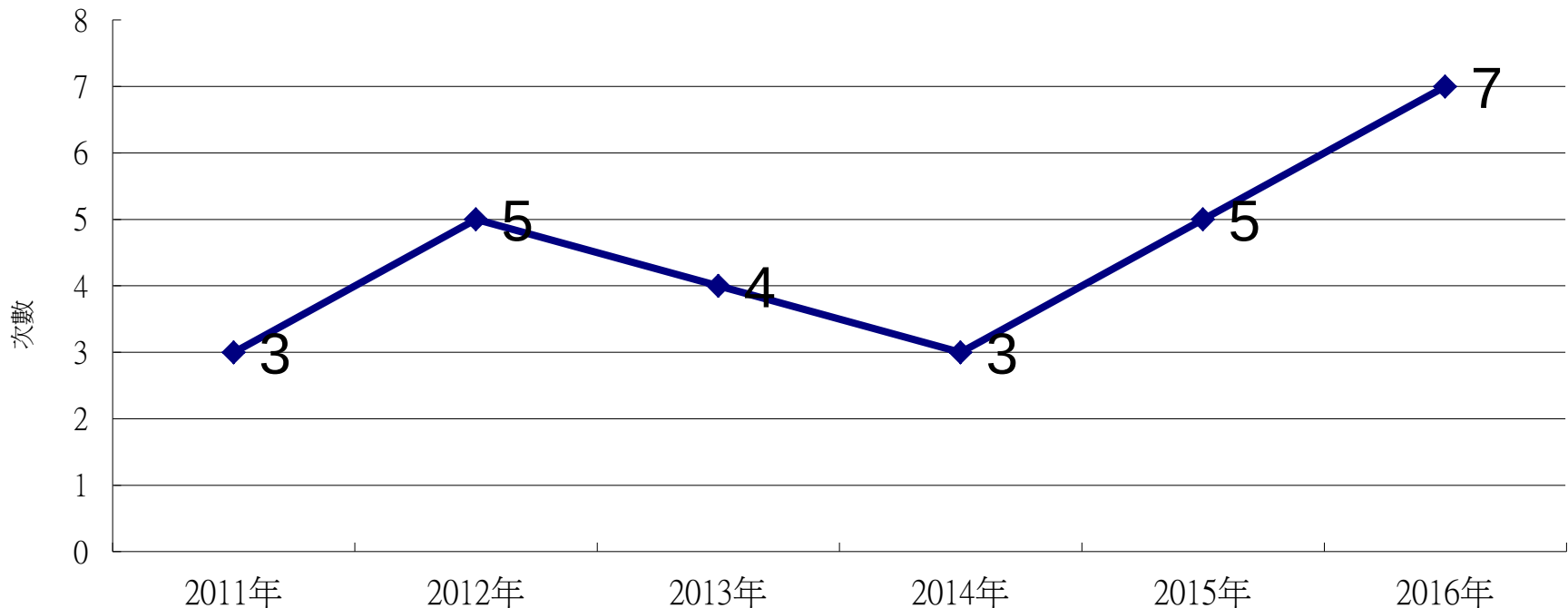
PSC統計分析—Tokyo MOU

- 2011年檢查艘次為近六年最少檢查艘次，僅83艘次；2012年~2013年檢查艘次皆超過100艘次；2014年檢查艘次降為98艘次，2015年檢查艘次為121艘次為近年來最多，但2016年檢查艘次減少為108艘次。



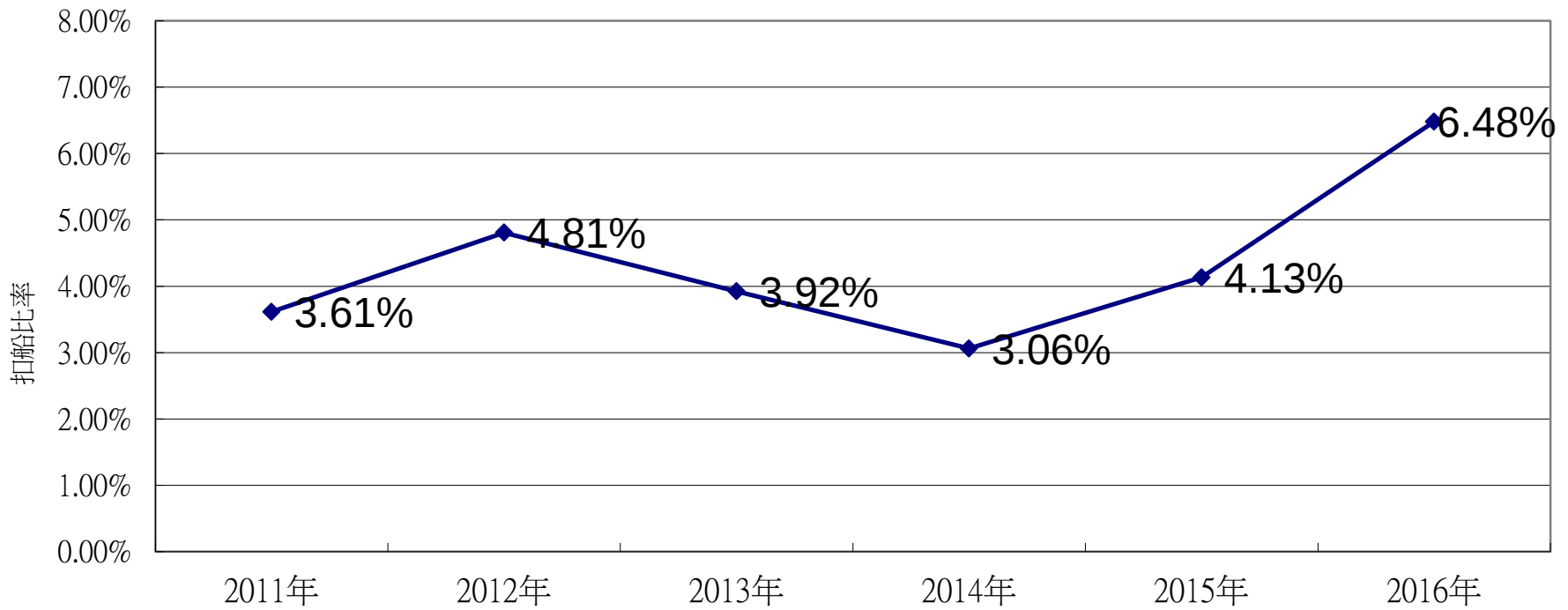
PSC統計分析—Tokyo MOU

- 扣船數：2011年~2013年的扣船數分別為3艘次、5艘次及4艘次，2012年~2014年的扣船數則呈現下降趨勢，但2015年~2016年扣船數分別上昇至5艘次及7艘次。



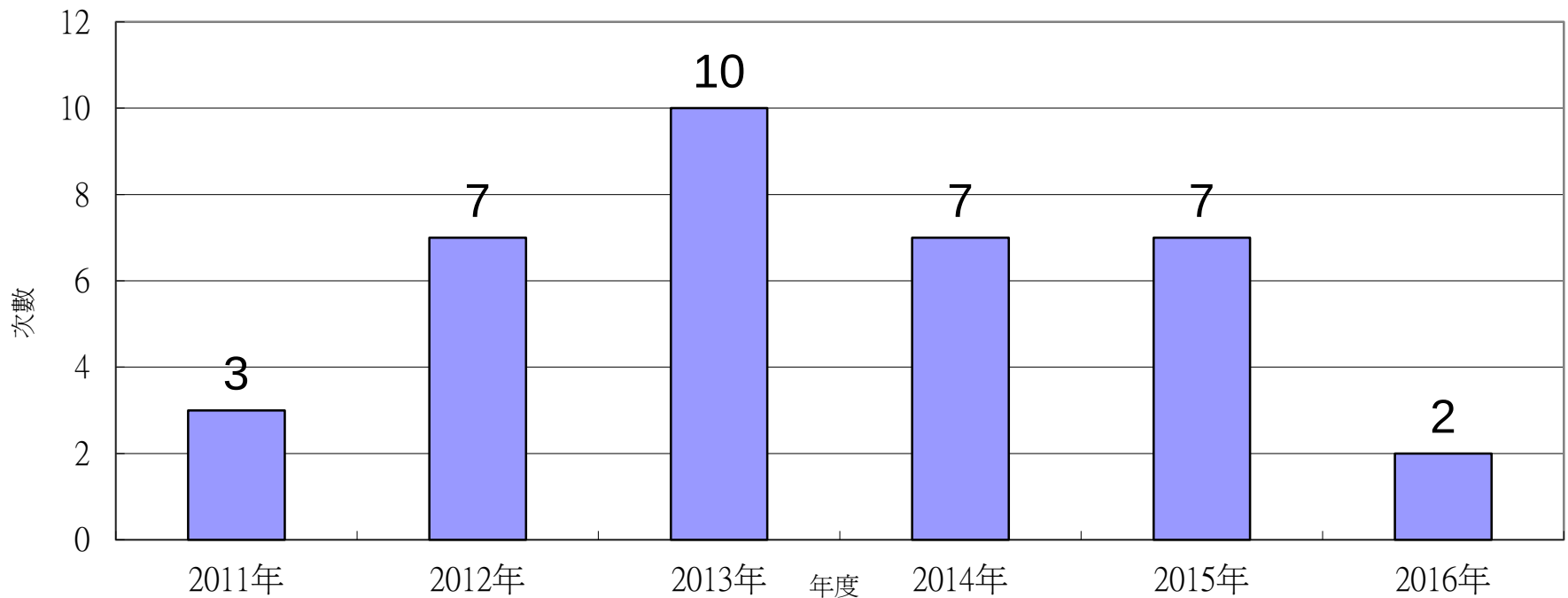
PSC統計分析—Tokyo MOU

- 扣船率：2011年扣船率為3.61%，2012年~2014年扣船率呈現下降趨勢，但從2014年~2016年扣船率從3.06%上升至6.48%。



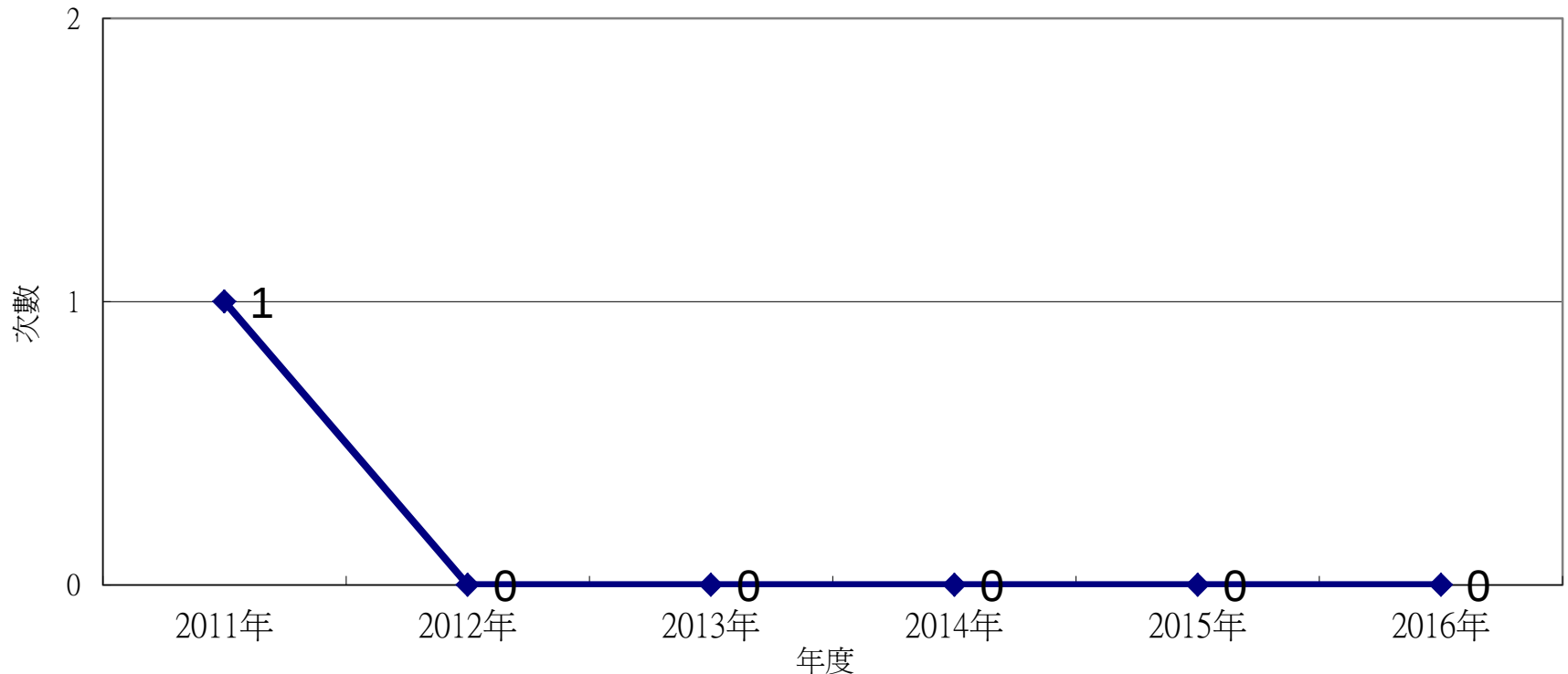
PSC統計分析—Paris MOU

- 國輪2016年度於Paris MOU總計受檢2艘次。
- 受檢船舶類別為貨櫃船。



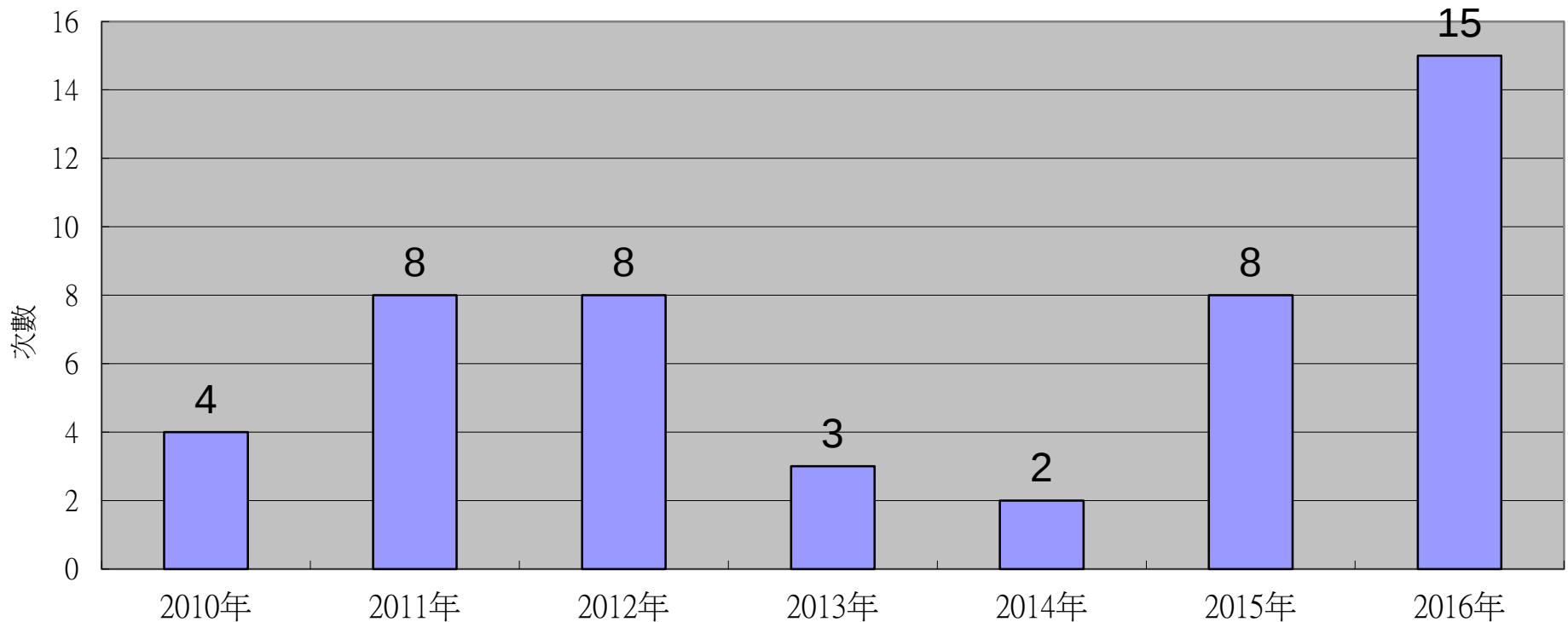
PSC統計分析—Paris MOU

- 扣船數、扣船率：2016年因無扣船紀錄故扣船率為0。但要近3年檢查艘數達30艘才會被列入排名。



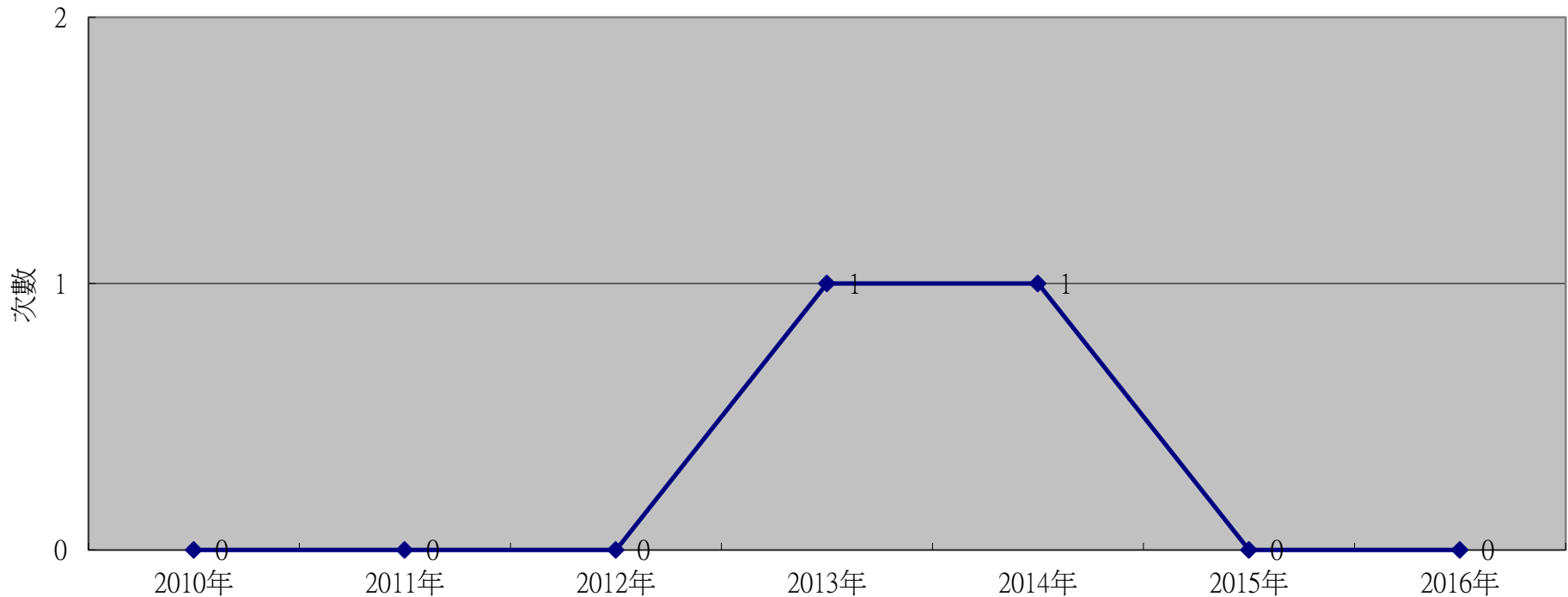
PSC統計分析—USCG

- 登輪檢查次數：2010年4艘次，2011年及2012年為8艘次，2013年檢查艘次為3艘次，2014年檢查艘次為2艘次為近年最低，2016年檢查艘次上升至15艘次。



PSC統計分析—USCG

- 扣船數：2013年及2014年各有1艘次被扣船，其他年度扣船數為0。



PSC統計分析—缺失分析

- 依據Tokyo MOU 2016年度PSC檢查項目分析，四大項目是檢查之重點，亦是缺失較多之項目：
 - ▶ 消防安全(Fire safety)
 - ▶ 救生設備(Life saving appliance)
 - ▶ 航行安全(Safety of navigation)
 - ▶ 應急系統(Emergency systems)
- 依據Paris MOU 2016年度PSC檢查項目分析，無缺失項目。
- 綜合以上，因應PSC檢查應以上述四大項目為首要工作。

Tokyo MOU 2016年國輪缺失項目分析

缺失項目	缺失數	扣船缺失數
Cargo Operations Including Equipment (貨物操作包含設備)	4	0
Certificate and Documentation - Crew Certificates (船員證書)	3	1
Certificate and Documentation – Documents (文件)	17	0
Certificate and Documentation - Ship Certificates (船舶證書)	1	0
Dangerous Goods (危險物品)	1	0
Emergency Systems (應急系統)	24	4
Fire Safety (消防安全)	46	0
ISM (安全管理系統)	8	2
Labour Conditions - Accommodation, Recreational Facilities, Food and Catering (勞工狀況：起居艙室、娛樂設施、食品和膳食服務)	10	0
Labour Conditions – Conditions of Employment (勞工狀況：雇用條件)	2	2
Labour Conditions – Health Protection, Medical Care, Social Security (勞工狀況：健康保護、醫療、福利和社會保障)	11	0

Tokyo MOU 2016年國輪缺失項目分析



(續)

缺失項目	缺失數	扣船缺失數
Life Saving Appliances (救生設備)	32	4
Living and Working Conditions – Living Conditions (生活條件)	3	0
Living and Working Conditions – Working Conditions (工作條件)	10	0
Others (其他)	5	0
Pollution Prevention – Marpol Annex I (油污染)	6	2
Pollution Prevention – Marpol Annex IV (污水污染)	3	1
Pollution Prevention – Marpol Annex V (垃圾污染)	2	0
Pollution Prevention – Marpol Annex VI (空氣污染)	1	0
Propulsion and Auxiliary Machinery (推進及輔機)	12	0
Radio Communications (無線電通訊)	3	0
Safety of Navigation (航行安全)	30	0
Structural Conditions (結構狀況)	7	0
Water/Weathertight Conditions (水密及風雨密狀況)	17	1

PSC統計分析—扣船缺失分析檢討



- 2016年國輪於Tokyo MOU之總扣船數為7艘次。4艘為散裝船，2艘為一般貨船/多用途船舶，1艘為貨櫃船。
- 扣船地點分別在澳洲(4艘)、新加坡、印尼及香港(各1艘)。
- 船齡分別為24年(1艘)、20年(1艘)、19年(1艘)、18年(2艘)、16年及14年(各1艘)。
- 以扣船缺失之種類分析，主要分佈於應急系統、救生設備、國際船舶安全管理(ISM)、勞工雇用條件、防止油污染 (Marpol Annex I)。
- 以船齡分析並未偏向老齡船舶，因此船齡並非扣船之絕對因素。船東及船員對船舶的自主維護保養觀念、船員本身素質與教育訓練為減少扣船發生之重要因素。
- 每項硬體造成之缺失，亦可能因ISM管理系統未能落實而造成。

2016 Tokyo MOU統計分析— 國輪六年來首次落入灰名單



表現度評比	船旗國
白名單	China, Republic of Korea, Singapore, Hong Kong, Japan, Norway, Denmark, Netherlands、Marshall Islands, Bahamas, Cayman Islands (UK), United Kingdom (UK), U.S.A., Saint Vincent and the Grenadines, Panama, Liberia, Malaysia, Portugal, Viet Nam, Tuvalu, Bermuda (UK), Isle of Man (UK), Belgium, Malta, Greece、Germany, Cyprus, Thailand, France, Luxembourg, Antigua and Barbuda, Italy, Russian Federation, Gibraltar(UK)
灰名單	Taiwan , Turkey, Switzerland, Kuwait, Curacao, Philippines, Saudi Arabia, India, Sweden, Croatia, Belize, Iran, Vanuatu, Bangladesh, Barbados, Kiribati, Saint Kitts and Nevis, Jamaica, Dominica, Cook Islands
黑名單	Palau, Micronesia, Democratic People's Republic of Korea, Niue, Togo, Indonesia, Tanzania, Cambodia, Sierra Leone, Mongolia

2016 Tokyo MOU統計分析— CR於RO評比仍維持在高表現度



Rank	Recognized Organization (RO)	Performance Level
1	China Classification Society (CCS)	High Performance
2	RINA Services (RINA)	
3	Korean Register of Shipping (KR)	
4	Lloyd's Register (LR)	
5	DNV GL AS (DNV-GL)	
12	CR Classification Society (CR)	Medium
23	International Ship Classification	
24~		
~83		Low

2017 Tokyo MOU統計 (2017年8月23日止)



國籍	檢查艘次	扣船艘次	扣船時間	扣船地點	扣船缺失
國輪	79	1	2017.8	澳洲	同一船員有兩份不同的僱傭契約 Seafarers onboard the same ship, repeatedly not in possession of valid SEA. (3 seafarers in possession of 2 different sets of SEA). 未依僱傭契約每月給付船員全額工資 Seafarers repeatedly not paid wages in full at monthly intervals in accordance with SEA.
巴拿馬	37	3	2017.2 2017.8 2017.8	日本 中國 中國	船員不熟悉救難艇釋放與回收演練 救難艇操舵輪損壞 無港口的海圖 救生筏繩梯繩索斷裂 貨艙區CO₂管路嚴重損壞，船長有報修而未獲公司支持(缺證據)

MLC僱傭契約造成之扣船缺失

CR Notice CR-17-011(Q)



- 一個船員不能有兩份不同的僱傭契約(SEA)
 - ▶ 船員和船公司簽的SEA
 - ▶ 船員和外國招募機構(SRPS)簽的SEA

應完全相同
- 如果集體談判協定(CBA)是構成SEA之全部或一部分，該CBA副本應保留在船上，且維持在有效期內。
- 船上應備有SRPS執照及DOC of SRPS(內含年度評鑑簽證)之副本。
- 註：
 - ▶ 僱傭契約(Seafarers' Employment Agreement, SEA)
 - ▶ 集體談判協定(Collective Bargaining Agreement, CBA)
 - ▶ 船員招募和職業介紹服務機構
(Seafarer Recruitment and Placement Services, SRPS)

MLC僱傭契約造成之扣船缺失

CR Notice CR-17-011(Q)

● 未依僱傭契約每月給付船員全額工資

- ▶ SEA所載之工資(含Basic monthly wage, Fix overtime, Allowance等)應清楚明列，並留存船員簽收單。簽收金額必須與SEA所載工資完全相同。

**** EMPLOYMENT CONTRACT ****

THE SEAMAN

Signature: _____ Give Name: _____

Home Address: _____

Medical certificate issued on: _____

Port where Position taken up: _____

No: _____ Seaman's book No: _____

Rank	NAME (same as on passport)	Passport No.	Basic Wages	FIX O.T.	Leave Pay+ Allowance	Days From To	SBP	SIGNATURE
A/B	1		614	384	80	1 31	US\$1,078.00	
A/B	2		614	384	80	1 31	US\$1,078.00	
CPNTR	3		686	429	90	1 31	US\$1,205.00	

應完全相同

- ▶ 工資應達到CBA、國家所訂之最低標準。

TERMS AND CONDITIONS OF CONTRACT

The owner and _____ both agreed that all the terms and conditions of this employment contract shall be the same as that of NCSU/SD/ _____

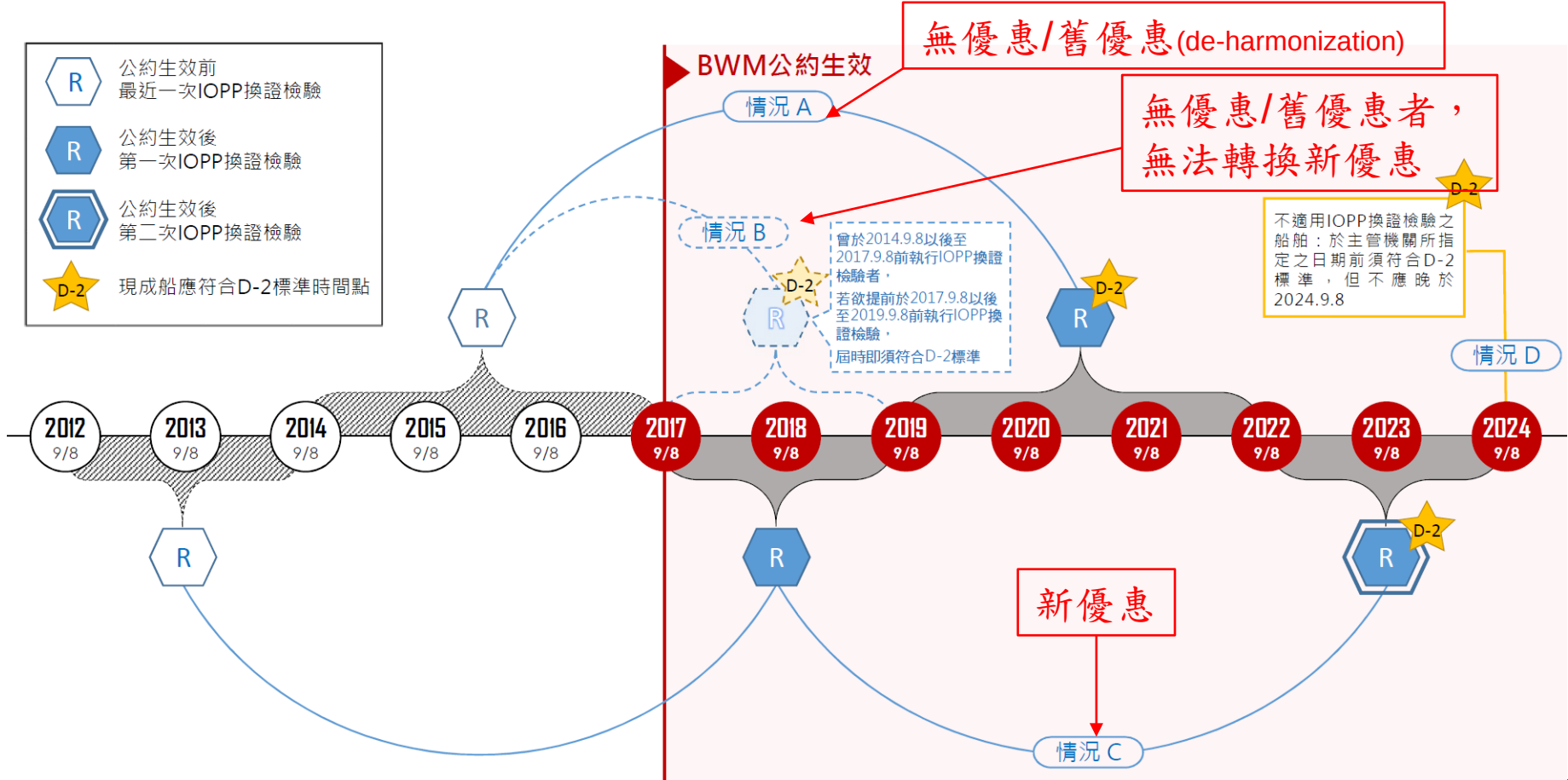
Collective General Agreement signed by mutual parties on _____

Period of employment: _____	Basic monthly wage: _____	Wage: ALLOWANCE US\$ _____
Hours of work: _____	Fix overtime: _____	LEAVE PAY US\$ _____
Other terms: _____		Total wage: US\$ _____

- ▶ MLC 2006 Standard A1.4 paragraph 5(b)規定，除了個人旅行證件(如國家法定體檢證書、國家船員服務簿、護照等)的費用之外，不得向船員收取其他任何費用。

2016-2017年重要檢驗工作

- 壓艙水管理(BWM)公約，2017年9月8日生效。
MEPC 71最新決議D-2時程請參考通報**CR-17-007(R)**。



2016-2017年重要檢驗工作

- 提前IOPP換證所須提前符合之公約規定：
 - ▶ 所有船舶：依據MEPC.266(68)決議案，2017年1月1日前建造者，在2017年1月1日以後第一次IOPP換證檢驗時，Sludge tanks排放管路不可連接至Bilge system。
(請參考CR Notice CR-16-005(S))。
 - ▶ 油輪：依據MEPC.248(66)決議案，2016年1月1日前建造者，在2016年1月1日以後第一次IOPP換證檢驗須符合配備能驗證完整及破損穩度的穩度儀器之規定。
(請參考本中心第72期技術通報)

2016-2017年重要檢驗工作

● 預防性加強檢驗

- ▶ 航港局、國輪航商、海員公會及全國船聯會與CR等單位研商制定「強化國輪管制檢查作業精進作為」，實施預防性加強檢驗。
- ▶ 導船東及對船舶實行預防性加強檢驗依據航港局2017.3.8船舶字第1061710115號函決議，針對Tokyo MOU屬高風險之船舶，本中心驗船師將會同航務中心檢查員每2-4月主動登輪執行預防性加強檢驗。直到該輪升級至標準風險船舶為止。
- ▶ 標準風險船舶於定期檢驗時實施預防性加強檢驗。
- ▶ 截至2017.8.18止已執行44次預防性加強檢驗，其中對高風險船舶共進行21次加強檢驗(高風險船共14艘)，對標準風險船舶共進行23次加強檢驗(標準風險船共86艘)。

2016-2017年重要檢驗工作



● 預防性加強檢驗之執行重點

- ▶ 確認PSC開立之缺失已矯正
- ▶ 清查可能遭PSC扣船之重大缺點
- ▶ 嚴重鏽蝕部位應處理完成
- ▶ CR提供「船上保養指南」
與4個「港口國管制檢查表」
以強化船上自主維護保養
檢查機制

The image shows a form titled 'Check List for onboard Maintenance' from the CR Classification Society. It includes a header with the society's logo and name in Chinese and English. The title is in bold. Below the title, it says '(Guidance only - NOT required by PSC)' and '船上保養檢查表(保養指導用, 非PSC要求)'. There is a paragraph of English text explaining the purpose of the checklist and a disclaimer. Below this is a table with three rows and two columns for 'Ship Name', 'Checklist No.', and 'Date'. The date is 09/2017. To the right of the main form, there is a partial view of another form titled 'Checklist on Board'.

Checklist I
Routine Maintenance

Checklist II
PSC Inspection

Checklist III
Safety Management System

Checklist IV
International Ship and Port Facility Security

2017年重點檢查活動

Concentrated Inspection Campaign (CIC) 2017



Year	Tokyo MOU	Paris MOU
2017	Safety of Navigation	Safety of Navigation
2016	Cargo Securing Arrangements	MLC
2015	Crew Familiarization for Enclosed Space Entry	Crew Familiarization for Enclosed Space Entry
2014	STCW Hours of Rest	STCW Hours of Rest
2013	Propulsion and Auxiliary Machinery	Propulsion and Auxiliary Machinery
2012	Fire Safety System	Fire Safety System

CIC問卷



MEMORANDUM OF UNDERSTANDING
ON PORT STATE CONTROL
IN THE ASIA-PACIFIC REGION



CONCENTRATED INSPECTION CAMPAIGN
ON SAFETY OF NAVIGATION (SOLAS CH.V)
01/09/2017 to 30/11/2017

CIC on Safety of Navigation (SOLAS CH.V)

Inspection Authority:			
Ship Name:		IMO Number:	
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)?	☐	☐	☐
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?	☐	☐	☐
Q.3	Is there evidence that all watchkeeping officers comply with STCW requirements for ECDIS?	☐	☐	☐
Q.4*	Can watchkeeping officers demonstrate familiarization with ECDIS?	☐	☐	☐
Q.5*	Can ship's VDR/SVDR record data fully?	☐	☐	☐
Q.6*	Is second and/or third stage remote audible alarm of BNWAS recognized?	☐	☐	☐
Q.7	Is the ship's Automatic Identification System transmitting correct particulars?	☐	☐	☐
Q.8	Does the passage plan cover the whole voyage?	☐	☐	☐
Q.9*	Does all crew know and respect the official working language as established and recorded in the ship's logbook?	☐	☐	☐
Q.10*	Is the crew familiar with the procedure of emergency operation of steering gear?	☐	☐	☐
Q.11*	Are the exhibition of navigation/signal lights in accordance with the requirements of COLREG72?	☐	☐	☐
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.

Rijnstraat 8
P.O. Box 16191
2500 BD The Hague
The Netherlands



Telephone: +31 70 456 1508
E-mail: secretariat@parismou.org
Internet: www.parismou.org

QUESTIONNAIRE CONCENTRATED INSPECTION CAMPAIGN ON SAFETY OF NAVIGATION (SOLAS CH.V) 2017

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)? (S74/CII/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? (S74/CV/R19.2)	☐	☐	☐
Q.3	Is there evidence that all watchkeeping officers comply with STCW requirements for ECDIS? (STCW/A-II/1)	☐	☐	☐
Q.4*	Can watchkeeping officers demonstrate familiarization with ECDIS? (STCW/A-VIII/2)	☐	☐	☐
Q.5*	Can ship's VDR/SVDR record data fully? (S74/CV/R18)	☐	☐	☐
Q.6*	Is second and/or third stage remote audible alarm of BNWAS recognized? (S74/CV/R19.2.2)	☐	☐	☐
Q.7	Is the ship's Automatic Identification System transmitting correct particulars? (S74/CV/R19.2.4)	☐	☐	☐
Q.8	Does the passage plan cover the whole voyage? (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? (S74/CV/R14)	☐	☐	☐
Q.10*	Is the crew familiar with the procedure of emergency operation of steering gear? (S74/CII-1/R29, S74/CV/R26)	☐	☐	☐
Q.11*	Are the exhibition of navigation/signal lights in accordance with the requirements of COLREG72? (COLREG72/CII: 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.

2017 CIC Q.1

- Is ship's navigation equipment in accordance with its applicable safety certificate (SEC, PSSC, CSSC)? **SOLAS I/12**
船上航行裝備符合其適用之安全證書？
- SEC: Cargo Ship Safety Equipment Certificate (貨船安全設備證書)
- PSSC: Passenger Ship Safety Certificate (客船安全證書)
- CSSC: Cargo Ship Safety Certificate (貨船安全證書)

貨船安全設備證書

CARGO SHIP SAFETY EQUIPMENT CERTIFICATE

本證書應附有貨船安全之設備紀錄(格式E)

This Certificate shall be supplemented by a Record of Equipment for Cargo Ship Safety (Form E)

茲由中華民國政府委託中國驗船中心依照一九八八年議定書修訂之
一九七四年海上人命安全國際公約之規定發給本證書

中華民國
REPUBLIC OF CHINA

Issued under the provisions of the
INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE AT SEA, 1974,
as modified by the Protocol of 1988 relating thereto
under the authority of the Government of
the REPUBLIC OF CHINA by CR Classification Society

證書號碼 Certificate No. [REDACTED]

船名 Name of ship	船舶號數或信號符字 Distinctive number or letters	船籍港 Port of registry	總噸位 Gross tonnage	載重噸(公噸)* Deadweight of ship (metric tons)*	船舶長度 (第III/3.12條) Length of ship (regulation III/3.12)	IMO 編號 IMO number
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

貨船安全之設備紀錄 (格式E) Record of Equipment for Cargo Ship Safety (Form E)

符合一九七四年海上人命安全國際公約之設備紀錄暨其修正案

RECORD OF EQUIPMENT FOR COMPLIANCE WITH
THE INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE AT SEA, 1974, AS AMENDED

1 船舶要目 Particulars of ship

船名
Name of ship [REDACTED]
船舶號數或信號符字
Distinctive number or letters [REDACTED]

2 救生設備細目 Details of life-saving appliances

1 救生設備可供之總人數 Total number of persons for which life-saving appliances are provided	25	
	左舷 Port side	右舷 Starboard side
2 吊架降落救生艇總數 Total number of davit launched lifeboats	1	1
2.1 可容載之總人數 Total number of persons accommodated by them	25	25

2017 CIC 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? [SOLAS V/19.2](#)

電子海圖顯示及資訊系統(ECDIS)為新版，適合預計航程，並且有備份？



- ▶ ECDIS應配備最新的ENC資料。
- ▶ ENC (Electronic Navigational Chart)，電子航行海圖，與ECDIS一起使用的資料庫。由政府、經授權的航道組織等發佈，具標準化內容、結構和格式，並符合IHO標準。



應安裝ECDIS的船舶

- SOLAS V/19.2.10，下列從事國際航行的船舶必須安裝ECDIS：
 - ▶ 2012年7月1日及以後建造的客船，500總噸及以上
 - ▶ 2012年7月1日及以後建造的液貨船，3000總噸及以上
 - ▶ 2013年7月1日及以後建造的非液貨船，10000總噸及以上
 - ▶ 2014年7月1日及以後建造的非液貨船，3000總噸及以上，小於10000總噸
 - ▶ 2012年7月1日以前建造的客船，500總噸及以上，不晚於2014年7月1日以後的第1個檢驗
 - ▶ 2012年7月1日以前建造的液貨船，3000總噸及以上，不晚於2015年7月1日以後的第1個檢驗
 - ▶ 2013年7月1日以前建造的非液貨船，50,000總噸及以上，不晚於2016年7月1日以後的第1個檢驗
 - ▶ 2013年7月1日以前建造的非液貨船，20,000總噸及以上，小於50,000總噸，不晚於2017年7月1日以後的第1個檢驗
 - ▶ 2013年7月1日以前建造的非液貨船，10,000總噸及以上，小於20,000總噸，不晚於2018年7月1日以後的第1個檢驗

ECDIS應為新版

CR Notice CR-17-005(R)



- 依據MSC.1/Circ.1503，ECDIS的軟體、使用的海圖資料等皆應為最新版本以確保航行安全。
- 國際航道測量組織(IHO)於2015年更新S-52、S-52附錄A及S-64等標準，國際海事組織(IMO)的NCSR次委員會亦決議自2017年9月1日起，船上的ECDIS設備應符合新版標準。
- 最新ECDIS軟體狀況清單：
https://www.iho.int/mtg_docs/enc/enc_prod/latest_version_of_ECDIS_software_provided_by_OEMs.pdf

設備	適用	性能標準	
ECDIS	2009.1.1之前	舊	A.817(19)
	2009.1.1以後	新	MSC.232(82)
	2017.09.01起 IHO新版標準	新	S-52，版次6.1 (Spec. for chart content and display aspects of ECDIS) S-52，Annex A，版次4.0 (IHO ECDIS presentation library) S-64，版次3.0 (Test data sets for ECDIS)

ECDIS應有備份

- 再加另一部ECDIS，或使用紙本海圖做為備份。

使用紙本海圖，備份為ECDIS時，曾有個別澳洲Ride surveyor要求如下，應不適當。

2. Two ECDIS only (no nautical charts) MSC.1/Circ.1496

Item	Actual provision
2.1 Nautical charts /Electronic chart display and information system (ECDIS)	"Provided"
2.2 Back-up arrangements for ECDIS	"ECDIS"

3. ECDIS + Nautical Charts

2.1 海圖/電子海圖顯示及資訊系統 ³ Nautical charts/Electronic chart display and information system (ECDIS) ³	Provided
2.2 電子海圖顯示及資訊系統備用設施 Back-up arrangements for ECDIS	ECDIS

Item	Actual provision
2.1 Nautical charts/Electronic chart display and information system (ECDIS)	"Both provided"
2.2 Back-up arrangements for ECDIS	"ECDIS" or "Nautical Charts"*

* Enter as appropriate.

or

2.1 海圖/電子海圖顯示及資訊系統 ³ Nautical charts/Electronic chart display and information system (ECDIS) ³	Both Provided
2.2 電子海圖顯示及資訊系統備用設施 Back-up arrangements for ECDIS	ECDIS

2.1 Nautical charts /Electronic chart display and information system (ECDIS)	"Provided"
2.2 Back-up arrangements for ECDIS	"Nautical Charts"



同IMO



AMSA對海圖之要求

AMSA Marine Notice 6/2017



- AMSA對ENC及紙本海圖之要求：官方發行，比例尺適合該航程，最新版本，保持更新依其原先格式使用。
- 非官方正式海圖不得用於航程計劃以及航行，其類型包含：影印本、官方紙本海圖的傳真或模仿版、掃描ENC的商業大格式印刷版。
- 由數張影印 RNC (Raster Navigational Chart)部份區域內容組合而成的紙本海圖。
- 若ECDIS 之備份為紙本海圖，亦須同步製定航程計畫。

我國對海圖之要求

- 應使用海軍大氣海洋局出版之海圖。
- 我國目前尚無經國家認證並於IHO註冊之電子海圖(ENC)供船舶使用。因此，有2套電子海圖顯示與資訊系統(ECDIS)船舶，依據國際海事組織(IMO) MSC.1/Circ.1496公告，免備我國海軍大氣海洋局出版之海圖。

航港局船舶字第1061710391號文

- 一、依船舶法第101條及商港法第75條參採國際公約執行船旗國檢查(FSC)及港口國檢查(PSC)，應勸導船舶改善並具備我國海軍大氣海洋局出版之海圖。
- 二、由於我國目前尚無經國家認證並於IHO註冊之電子海圖(ENC)供船舶使用。因此，有2套電子海圖顯示與資訊系統(ECDIS)船舶，依據國際海事組織(IMO)MSC.1/Circ.1496公告，得免備我國海軍大氣海洋局出版之海圖。

2017 CIC Q.3 and Q.4

- Is there evidence that all watchkeeping officers comply with STCW requirements for ECDIS? STCW A-II/1
有無證據顯示船長及當值甲級船員符合STCW操作ECDIS訓練要求？
- Can watchkeeping officers demonstrate familiarization with ECDIS?
當值船員能否展示對ECDIS的熟悉度？ STCW A-VIII/2
 - ▶ 通用訓練 (Generic training)
 - STCW A-II/1
 - IMO Model Course 1.27
 - ▶ 熟悉訓練 (Familiarization training)
 - STCW A-I/14, para. 1.5
 - ISM Code Sec. 6.3 and 6.5

熟悉訓練 (Familiarization training)



不要求針對特定型號的訓練文件

- IMO不要求針對特定ECDIS型號的訓練文件，但應熟悉ECDIS。
- 交通部航港局之規定亦相同。

航港局船員字第1061910211號文

(一)STCW公約要求艙面部門甲級船員完成經認可之ECDIS訓練，係為證明其符合相關適任能力。倘船員已依職級持有適任證書，則足以證明其完成經認可訓練，符合公約對該職級之最低適任能力要求。

(二)依據STCW公約規則I/14，公司有責任確保受僱船員熟悉船上安裝之設備（包括ECDIS）。

(三)船員須接受適當之ECDIS訓練，並熟悉船上安裝之設備，惟不應被要求提供特定型式訓練證明。

STCW.7/Circ.24

12 No requirement exists for the approval of type-specific. The knowledge, understanding and practical skills should be generalized to ensure seafarers have the necessary competence to use the installed equipment.

13 In accordance with regulation I/14, companies are responsible for ensuring that seafarers employed on their ships are familiarized with the installed equipment, including ECDIS.

14 It is agreed that seafarers required to have training in the use of ECDIS:

- .1 should not be required to provide documentation of training in ECDIS that is specific to the installed equipment; and
- .2 are required to be familiarized with the ECDIS equipment installed on board.

2017 CIC Q.5

● Can ship's VDR/SVDR record data fully? SOLAS V/18

航行資料記錄器(VDR) 能完整記錄資料？

► 為協助海難事故調查，2002.7.1以後建造從事國際航線之客船及 $\geq 3,000$ GT之貨船應裝設航行資料記錄器。

► 2002.7.1以前建造之現成船應裝設航行資料記錄器或簡易型航行資料記錄器(VDR or SVDR)

- $\geq 20,000$ GT之貨船，應於2006年7月1日以後之第一次塢驗，最遲於2009年7月1日裝設；

- $\geq 3,000$ GT但 $< 20,000$ GT之貨船，應於2007年7月1日以後之第一次塢驗，最遲於2010年7月1日裝設。

設備	適用	性能標準	
VDR	2014.07.01之前安裝	舊	A.861(20)
	2014.07.01以後安裝	新	MSC.333(90)

VDR/S-VDR之年度性能測試

- VDR/SVDR系統，包括所有感測器應由經認可之測試或服務廠商執行年度性能測試(Annual Performance Test)以驗證所記錄數據之準確度、持續時間及再現性，並應執行測試及檢驗以確定記錄器保護箱及定位裝置之可用性。由測試廠商簽發，載明符合日期及適用性能標準之符合證書(Certificate of Compliance)副本應保存於船上備查。

VOYAGE DATA RECORDER PERFORMANCE TEST REPORT	
Note – Insert Yes for success, No for failure or N/A for non fitted interfaces in these boxes, as appropriate.	
☐ Yes ☐ No ☐ N/A	
Ship's details	
Ship's name	
Flag	
IMO number	
Date keel laid	
Gross tonnage	
Voyage data recorder details	
Manufacturer	
Model	
System serial number	
Software version number	
Date fitted	

CERTIFICATE OF COMPLIANCE (ANNUAL PERFORMANCE TESTS OF A VOYAGE DATA RECORDER)	
Vessel:	_____ (Name)
IMO No.	_____
This is to certify that an annual performance tests for the VDR on board the captioned vessel has been completed satisfactory as follows :	
Date of Performance Tests:	_____
Place:	_____

VDR與S-VDR記錄的資料

No.	Data to be recorded	VDR			S-VDR	
		IMO A.861(20)	IEC Clause(s)	Interface	IMO MSC.163(78)	Interface
1	Date and time	5.4.1	4.6.1	NMEA /IEC61162	5.4.1	NMEA /IEC61162
2	Ship's position and datum used	5.4.2	4.6.2	NMEA /IEC61162	5.4.2	NMEA /IEC61162
3	Speed (through the water and/or over the ground)	5.4.3	4.6.3	NMEA /IEC61162	5.4.3	NMEA /IEC61162
4	Heading (from compass)	5.4.4	4.6.4	IEC61162, Step, Synchro, Analog	5.4.4	IEC61162, Step, Synchro, Analog
5	Bridge audio (by one or more microphones on the bridge)	5.4.5	4.6.5	Audio	5.4.5	Audio
6	Communications audio	5.4.6	4.6.6	Audio	5.4.6	Audio
7	Radar, post-display selection	5.4.7	4.6.7	R.G.B.H.V	5.4.7	R.G.B.H.V (if available)
8	Depth	5.4.8	4.6.8	NMEA /IEC61162	5.4.9	if available IEC 61162 Interface
9	Main alarms (mandatory alarms on the bridge)	5.4.9	4.6.9	NMEA/IEC61162, Contact, Analog	5.4.9	
10	Rudder order and response	5.4.10	4.6.10	IEC61162, Contact, Analog	5.4.9	
11	Engine order and response	5.4.11	4.6.11	IEC61162, Contact, Analog	5.4.9	
12	Hull openings status (all mandatory information required to be displayed on the bridge)	5.4.12	4.6.12	IEC61162, Contact	5.4.9	
13	Water tight and fire door status (all mandatory information required to be displayed on the bridge)	5.4.13	4.6.13	IEC61162, Contact	5.4.9	
14	Accelerations and hull stresses (If fitted)	5.4.14	4.6.14	IEC61162, Contact, Analog	5.4.9	
15	Wind speed and direction (If fitted)	5.4.15	4.6.15	IEC61162, Analog	5.4.9	
16	AIS Information				5.4.8	IEC61162 (if radar data isn't recorded should be recorded)

新標準之VDR增加記錄的資料

MSC.333(90)

- 2014.7.1以後安裝在從事國際航線之客船及 $\geq 3,000$ GT之貨船之航行資料記錄器(VDR)



Fixed

- ▶ 最終紀錄媒體之數據資料時間修訂
- ▶ 船橋聲音最少2 channels，外部wing最少1 channel
- ▶ VHF聲音及麥克風聲音應以分別channel記錄
- ▶ No.1及No.2兩部雷達影像(修訂前只記錄一部雷達影像)
- ▶ ECDIS一台影像(修訂前不要求)
- ▶ AIS (S-VDR用以替代雷達影像記錄)
- ▶ Bridge Alert Management System (若有)
- ▶ Thruster (若有)
- ▶ 電子傾斜計(若有)
- ▶ 電子航海日誌(若有)



Float free
www.jotron.com

記錄媒體	修正前	修正後
固定式媒體	12小時	48小時
自由浮揚式媒體	12小時	48小時
長期紀錄媒體	12小時	720小時(30日)

2017 CIC Q.6

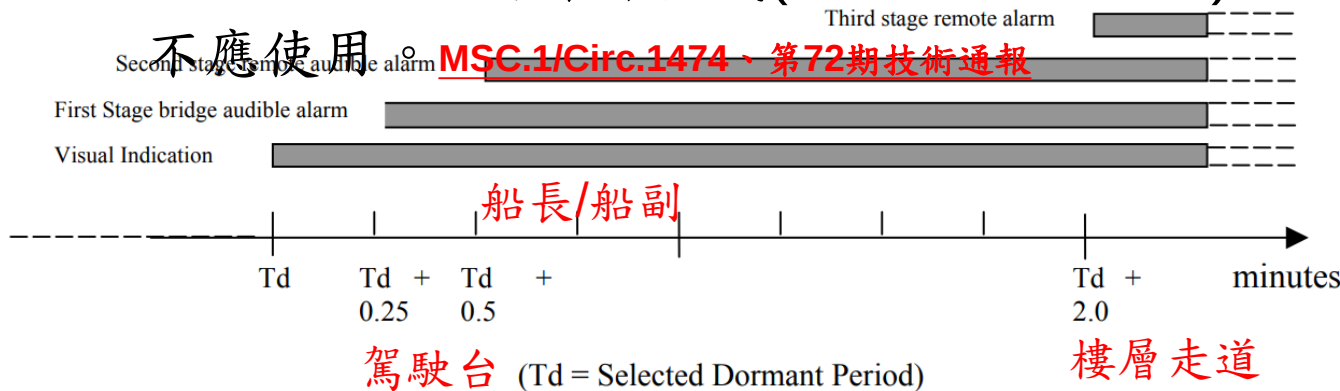
- Is second and/or third stage remote audible alarm of BNWAS recognized? [SOLAS V/19.2.2](#)

船橋航行當值警報系統(BNWAS)之第二、三階段之遠端音響警報能否識別？

- ▶ 2011.7.1以後建造之船舶須安裝BNWAS；2011年之前建造之船舶，

按SOLAS V/19.1.2.4, 19.2.2.3規定之時程，逐步安裝。

- ▶ BNWAS之自動操作模式(Automatic mode)



2017 CIC Q.7

- Is the ship's Automatic Identification System transmitting correct particulars? **SOLAS V/19.2.4**

船舶自動識別系統(AIS)是否傳送正確資料？

- ▶ 所有客船及300總噸以上船舶，應裝設船舶自動識別系統(AIS)，並使AIS設備始終保持在操作狀態。每年測試，需有測試報告。

- ▶ 自動識別系統之功能：

- 自動提供船舶識別碼、船型、船位、航向、航速、航行狀態資訊等給岸台、其他船舶及飛機；
- 自動接收其他船舶AIS發送之上述資訊；
- 監視及追蹤船隻；
- 與岸台設施做資料交換。

- ▶ 目的：避碰、交通管制、船位監控...



AIS傳送之資料

類別	項目
Static	MMSI number, IMO number, Call sign, Type of ship, Location of position-fixing antenna, Length and Beam
Dynamic	Ship's position with accuracy indication and integrity status, Time in UTC, Course over ground (COG), Speed over ground (SOG), Heading, Rate of turn (ROT)
Voyage related	Navigation status (Underway using engine / at anchor / not under command / restricted maneuverability, moored...), Ship's draught, Cargo type, Destination and estimated time of arrival (ETA)
Safety related messages	Broadcast message, Addressed message

船員須記得更新

AIS之年度測試

- 船舶自動識別系統(AIS)之年度測試(Annual Test)可依照 MSC.1/Circ.1252 準則執行。
- 船上應保有年度測試報告備查。
- VDR/AIS 進行年度測試之可接受期間，與安全設備(SE)之檢查期間一致。 [MSC.1/Circ.1576](#)

AUTOMATIC IDENTIFICATION SYSTEM (AIS) TEST REPORT		
Name of ship/call sign:		
MMSI number:		
Port of registry:		
IMO Number:		
Gross tonnage:		
Date keel laid:		
1. Installation details		
	Item	Status
1.1	AIS transponder type:	
1.2	Type approval certificate	
1.3	Initial installation configuration report on board?	
1.4	Drawings provided? (Antenna-, AIS-arrangement and block diagram)	
1.5	Main source of electrical power,	
1.6	Emergency source of electrical power,	
1.7	Capacity to be verified if the AIS is connected to a battery	
1.8	Pilot plug near pilots operating position?	
1.9	120 V AC provided near pilot plug? (Panama and St. Lawrence requirement)	

2017 CIC Q.8

- Does the passage plan cover the whole voyage?

航行計畫涵蓋整個航程？ SOLAS VI/34, STCW A-VIII/2

- ▶ 航行計畫之四個主要步驟：

- 評估(Appraisal)、計畫(Planning)、執行(Execution)、監控(Monitoring)

- ▶ 應考量已知的航行風險、天氣條件、減少海洋污染、航程中足夠的空間(淺水、暗礁、沈船、穿越橋樑、運河...)、所需的燃料、水、滑油、零件、消耗品等。

- ▶ 航行計畫須涵蓋碼頭至碼頭(港至港還不足)、涵蓋領港水域。

2017 CIC Q.9

- Does all crew know and respect the official working language as established and recorded in the ship's logbook? SOLAS V/14

全體船員理解並重視建立並記載於航海日誌之正式工作語言？

- ▶ SOLAS V/14規定，公司或船長應確定一種每個船員都能理解的工作語言，建立並記載於航海日誌中。原則上要用英文，除非直接參與通訊的人員(船、岸、領港...)都講英文以外的一種共同語言。
- ▶ 所有船員應能使用此工作語言來應答。

2017 CIC Q.10

- Is the crew familiar with the procedure of emergency operation of steering gear? SOLAS II-2/29, SOLAS V/26

船員是否熟悉舵機緊急操作？

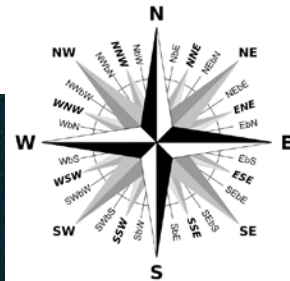
- ▶ 開航前12小時內，船員確認並測試操舵裝置。定期或短程航行船舶每週至少一次。
- ▶ 每3個月應進行緊急操舵演習。包含舵機室內直接控制、與駕駛室之通信程序，以及轉換電力供應。
- ▶ 上述測試日期，以及與緊急操舵演習之日期及詳細內容應有紀錄。

2017 CIC Q.11

- Are the exhibition of navigation/signal lights in accordance with the requirements of COLREG72? **COLREG III, SOLAS II-1/42.2 & 43.2**
航行與信號燈符合國際海上避碰規則之規定？

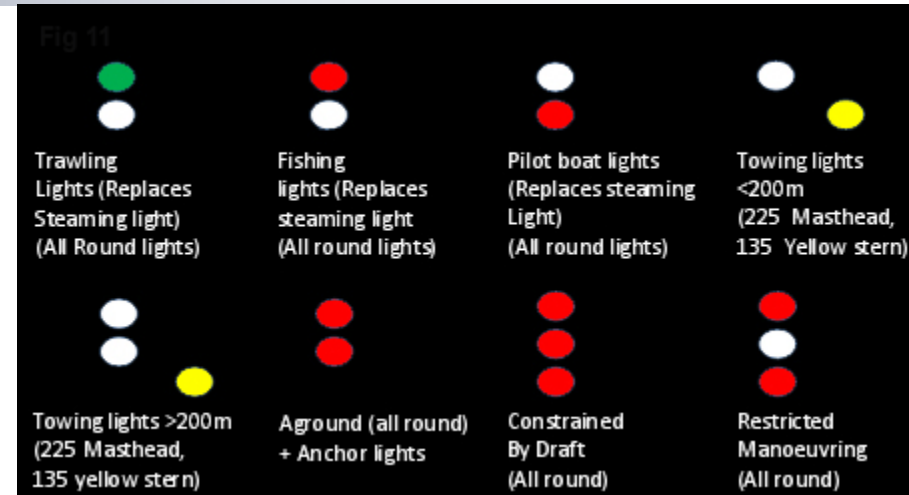
	MASTHEAD LIGHT 225° COLOUR: White ARC: Shows in an unbroken light over an arc of 225 degrees from dead ahead to 22.5 degrees abeam on both sides of the vessel POSITION: Fore and aft centerline of the boat. The term 'Masthead Light' is a misnomer. More often than not, the light is not on the top of a mast. On motorboats it is often on a short pole on top of the cabin or windshield, or on a pole at the stern of the boat		PORT SIDELIGHT 112.5° COLOUR: Red ARC: Showing an unbroken light over an arc of the horizon of 112.5 degrees and so fixed as to show the light from dead ahead to 22.5 degrees abeam on the port (left) side POSITION: Forward area of pleasure craft
	ALL-ROUND LIGHT 360° COLOUR: White ARC: Shows an unbroken light over an arc of the horizon of 360 degrees POSITION: Must be placed as to be visible from all directions		STARBOARD SIDELIGHT 112.5° COLOUR: Green ARC: Showing an unbroken light over an arc of the horizon of 112.5 degrees and so fixed as to show the light from dead ahead to 22.5 degrees abeam on the starboard (right) side POSITION: Forward area of pleasure craft
	TOWING LIGHT 135° COLOUR: Yellow ARC: Shows an unbroken light over an arc of the horizon of 135 degrees POSITION: Placed as close as possible to the stern		STERNLIGHT 135° COLOUR: White ARC: Shows an unbroken light over an arc of the horizon of 135 degrees POSITION: Placed as close as possible to the stern (back) of the boat

www.boatsmartexam.com



較常失效的環照燈

- 失去控制：環照紅X2
- 擱淺：環照紅X2 + 錨泊燈號
- 受限於吃水：環照紅X3
- 操縱能力受限制：環照紅-白-紅
- ...



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2017 CIC Q.12

- Is the ship detained as a result of this CIC?
本船曾因本次重點檢查活動而被扣船？
▶ YES or NO

CIC問卷



MEMORANDUM OF UNDERSTANDING
ON PORT STATE CONTROL
IN THE ASIA-PACIFIC REGION



CONCENTRATED INSPECTION CAMPAIGN
ON SAFETY OF NAVIGATION (SOLAS CH.V)
01/09/2017 to 30/11/2017

CIC on Safety of Navigation (SOLAS CH.V)

Inspection Authority:			
Ship Name:		IMO Number:	
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)?	☒	☐	☐
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?	☒	☐	☐
Q.3	Is there evidence that all watchkeeping officers comply with STCW requirements for ECDIS?	☒	☐	☐
Q.4*	Can watchkeeping officers demonstrate familiarization with ECDIS?	☒	☐	☐
Q.5*	Can ship's VDR/SVDR record data fully?	☒	☐	☐
Q.6*	Is second and/or third stage remote audible alarm of BNWAS recognized?	☒	☐	☐
Q.7	Is the ship's Automatic Identification System transmitting correct particulars?	☒	☐	☐
Q.8	Does the passage plan cover the whole voyage?	☒	☐	☐
Q.9*	Does all crew know and respect the official working language as established and recorded in the ship's logbook?	☒	☐	☐
Q.10*	Is the crew familiar with the procedure of emergency operation of steering gear?	☒	☐	☐
Q.11*	Are the exhibition of navigation/signal lights in accordance with the requirements of COLREG72?	☒	☐	☐
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.

Rijnstraat 8
P.O. Box 16191
2500 BD The Hague
The Netherlands



Telephone: +31 70 456 1508
E-mail: secretariat@parismou.org
Internet: www.parismou.org

QUESTIONNAIRE CONCENTRATED INSPECTION CAMPAIGN ON SAFETY OF NAVIGATION (SOLAS CH.V) 2017

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)? (S74/CII/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? (S74/CV/R19.2)	☒	☐	☐
Q.3	Is there evidence that all watchkeeping officers comply with STCW requirements for ECDIS? (STCW/A-II/1)	☒	☐	☐
Q.4*	Can watchkeeping officers demonstrate familiarization with ECDIS? (STCW/A-VIII/2)	☒	☐	☐
Q.5*	Can ship's VDR/SVDR record data fully? (S74/CV/R18)	☒	☐	☐
Q.6*	Is second and/or third stage remote audible alarm of BNWAS recognized? (S74/CV/R19.2.2)	☒	☐	☐
Q.7	Is the ship's Automatic Identification System transmitting correct particulars? (S74/CV/R19.2.4)	☒	☐	☐
Q.8	Does the passage plan cover the whole voyage? (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? (S74/CV/R14)	☒	☐	☐
Q.10*	Is the crew familiar with the procedure of emergency operation of steering gear? (S74/CII-1/R29, S74/CV/R26)	☒	☐	☐
Q.11*	Are the exhibition of navigation/signal lights in accordance with the requirements of COLREG72? (COLREG72/CIII: 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.

結語



Tokyo MOU NIR

- 2017年重點檢查活動(CIC)
於9月1日至11月30日舉行，
主題為航行安全。
- PSC扣船可能影響船期、造成損失、
影響聲譽。若被分類為「高風險船舶」
將會面臨較高的檢查頻率。
- 自主維護保養、船員本身素質與
教育訓練為減少扣船發生之重要
因素。

Parameters		High Risk Ship (HRS) (When sum of weighting points ≥ 4)	
		Criteria	Weighting points
Type of Ship		Chemical tanker, Gas Carrier, Oil tanker, Bulk carrier, Passenger ship	2
Age of Ship		All types > 12y	1
Flag	BGW-list ¹⁾	Black	1
	VIMSAS ²⁾	-	-
Recognized Organization	RO of Tokyo MOU ³⁾	-	-
	Performance ⁴⁾	Low Very Low	1
Company performance ⁵⁾		Low Very Low	2
Deficiencies	Number of deficiencies recorded in each inspection within previous 36 months	How many inspections were there which recorded over 5 deficiencies?	No. of inspections which recorded over 5 deficiencies
Detentions	Number of Detention within previous 36 months	3 or more detentions	1



CR Notice及技術通報下載點

<http://www.crclass.org>



財團法人中國驗船中心
CR Classification Society

中文版 | ENGLISH



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航運新聞摘要及翻譯
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研討會或訓練課程
技術合作
技術及學術論文
能源局核可之漁船柴油引擎
技術新聞
公告

技術通報

CR Notice

熱門焦點!

- ❖ MTNet遊艇申辦作業服務連結
- ❖ 公告
- ❖ 發佈最新制定 離岸風場認證規範2016 (中英文對照版)
- ❖ 最新制定 修訂規範(英文版)已報交通部原則同意
- ❖ 中國海事局2008年12月15日所訂台灣海峽兩岸直航船舶監督管理暫行辦法

Welcome

CR仍持續提供巴拿馬籍船舶之檢驗服務，不受巴拿馬斷交之影響。

因應BWM公約，中華民國及巴拿馬旗船舶之IOPP單獨提前換證做法

本中心已獲得巴拿馬政府授權簽發船級證書，請參考熱門焦點之重大公告。

Google 自訂搜尋





CR

歡迎討論與提供意見

<http://www.crclass.org/>