The Second Safety Meeting of
Shipowner/Management Company, 2017

PSC Session

CCS Headquarters
August 2017

Contents

I. General Status of PSC Inspections of CCS Ships during 2014-2016

II. Statistical Analysis of PSC Inspections of CCS Ships in the First Half of 2017

III. Case Study on Typical Detentions

IV. Centralized Inspection Campaign of Navigation Safety from Sep. to Nov. of 2017

V. Recommendations on PSC Work

General Status of PSC Inspections of CCS Ships during 2014-2016

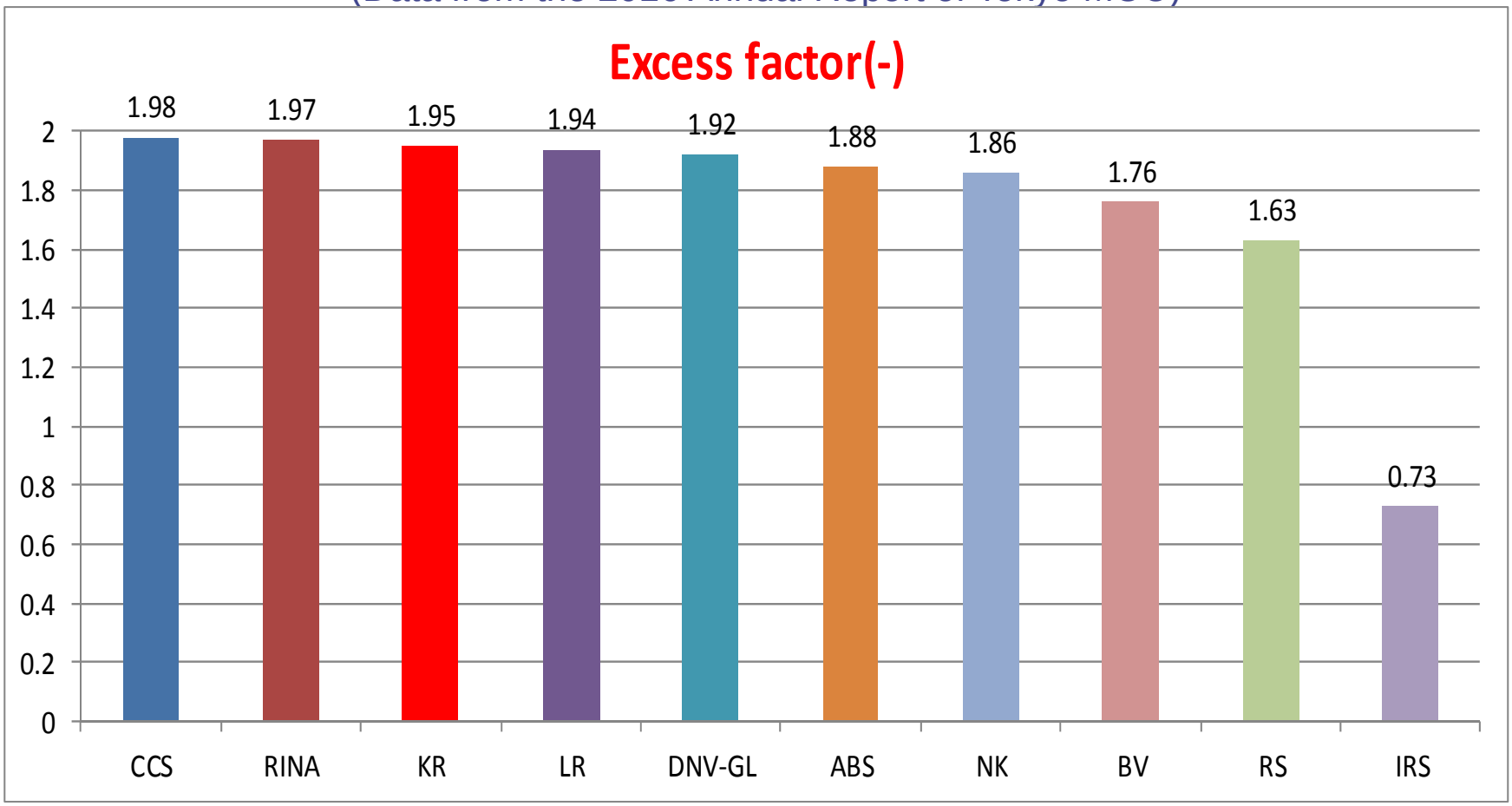
1. General Status:

- **TOKYO MOU**: A total of 7,883 inspections were carried onboard CCS classed ships, among which 71 were detained, with a detention rate of **0.90**%;
- **PARIS MOU**: A total of 817 inspections carried onboard CCS classed ships, among which 17 were detained, with a detention rate of 2.08%;
- **USCG**: Approximately 745 inspections carried onboard CCS classed ships, among which 3 were detained, with a detention rate of 0.76%.
- In summary, a total of 9,445 CCS classed ships were inspected in the PSC inspections carried out by **TOKYO MOU, PARIS MOU and USCG**, among which 91 were detained, with a detention rate of 0.96%, which is slightly higher than that during the period of 2013-2015 (0.95%), and the overall performance of CCS classed ships is relatively good.
- Thanks to years' supports to CCS and relentless efforts from all shipping companies, as well as their good practices of ship safety management, the above-mentioned results have been achieved.

(Data source: Annual reports /website data of the three MOU organizations)

General Status of PSC Inspections during 2014-2016

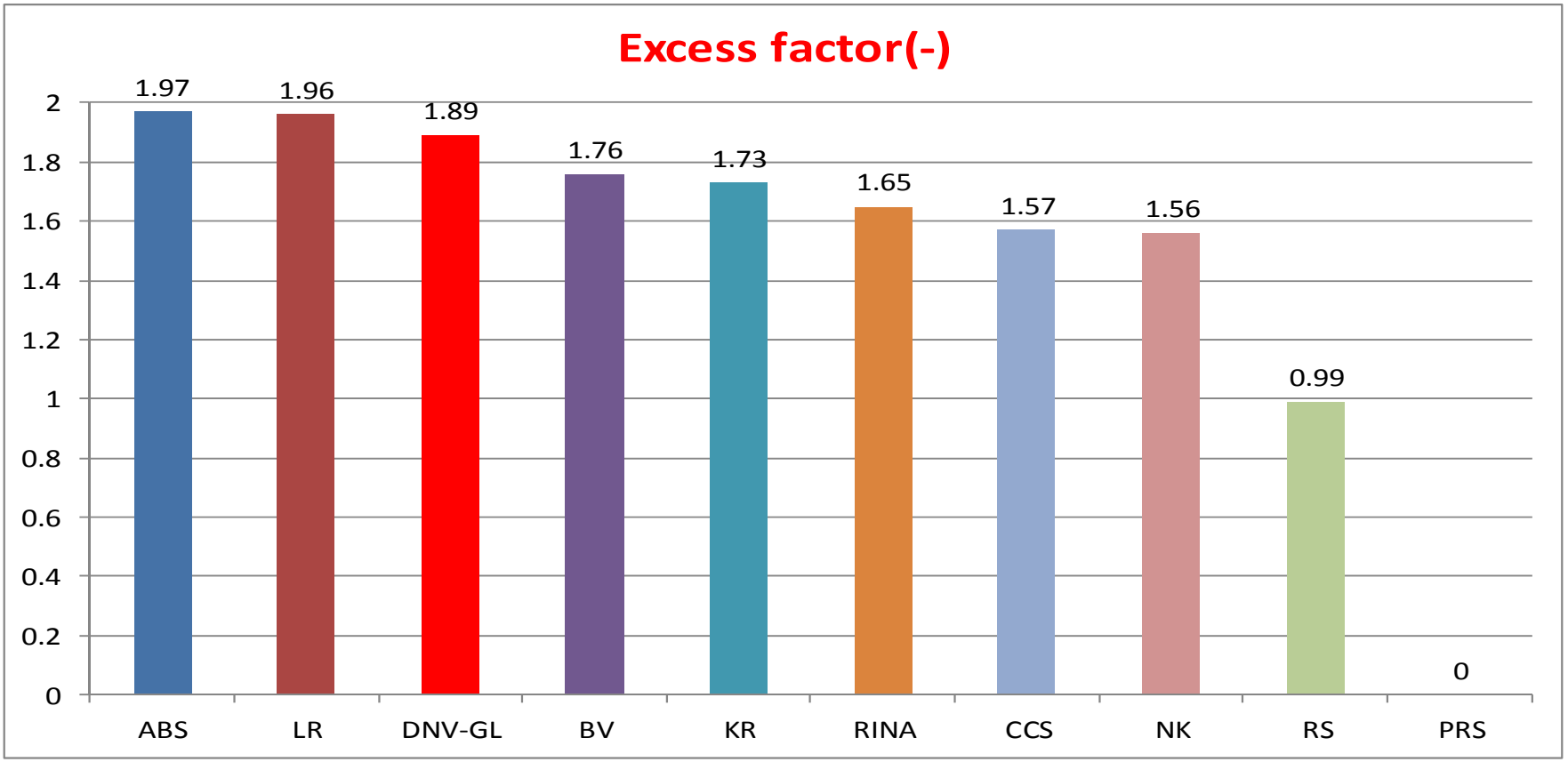
Comparison of IACS Members' Tokyo MOU PSC Performance Assessment during 2014-2016 (bigger negative data means better performance)
(Data from the 2016 Annual Report of Tokyo MOU)



CCS ranked on the top of all ROs for Tokyo MOU PSC performance during 2014-2016.

General Status of PSC Inspections during 2014-2016

Comparison of IACS Members' Paris MOU PSC Performance Assessment during 2014-2016 (bigger negative data means better performance) (Data from the 2016 Annual Report of Paris MOU)



Under the impact of a RO responsible detention during Paris MOU inspections in 2015, the Paris MOU PSC performance of CCS during 2013-2015 ranked no.8 in all of the ROs, which is below the rank of no.4 for the period of 2012-2014.

General Status of PSC Inspections of CCS Ships during 2014-2016

Comparison of IACS Members' USCG PSC Performance during 2014-2016 (data from the 2015 Annual Report of USCG).

Classification Society	Inspections				Classification Society Responsible Detentions	Classification Society Responsible Detention Rate
	2014	2015	2016	Total		
ABS	1603	1677	1836	5116	0	0.00%
B	1331	1038	1113	3461	3	0.08%
CCS	**280**	**234**	**231**	**745**	**0**	**0.00%**
DNV-GL	3622	2687	2122	8431	3	0.04%
KR	293	287	242	822	0	0.00%
LR	2310	2143	2403	6865	0	0.00%
NK	2590	2203	2296	7089	0	0.00%
RINA	387	355	284	1026	1	0.10%
RS	47	43	34	124	0	0.00%

CCS has been ranked in the top performing ROs for a continuous period of years, and has not occurred any RO responsible detention for the same period of years.

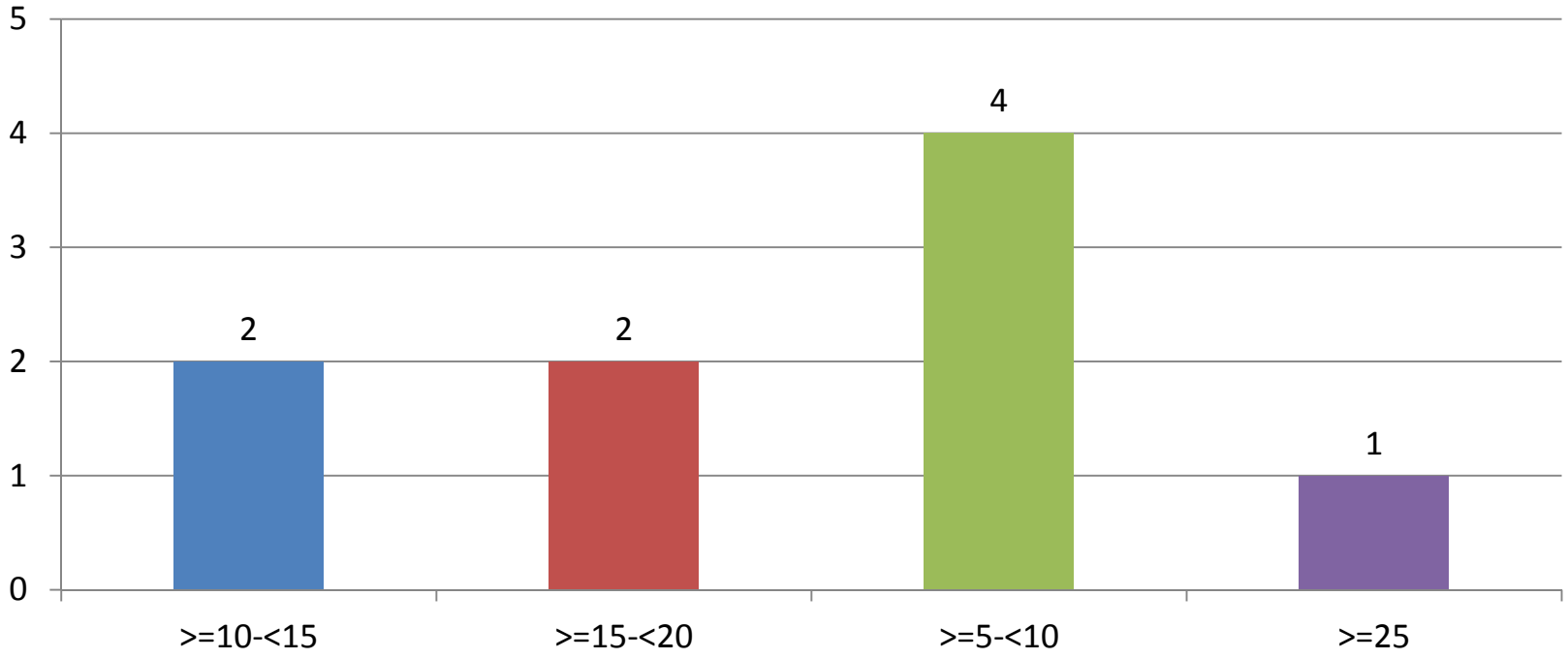
Statistical Analysis of PSC Inspections of CCS Ships in the First Half of 2017

- **TOKYO MOU:** A total of 1,226 inspections carried onboard CCS ships, among which 6 were detained, resulting in a detention rate of 0.49%.
- **PARIS MOU:** A total of 129 inspections carried onboard CCS ships, among which 3 was detained, resulting in a detention rate of 2.33%.
- **USCG:** A total of 130 inspections carried onboard CCS ships, among which 1 was detained, resulting in a detention rate of 0.77%.
- Other regions: No detentions of CCS classed ships reported.
- Among the above-mentioned 9 detained ships for which PSC reports were received (1 ship was detained in Canada, and is included in the ship detentions of TOKYO MOU and PARIS MOU), 7 of them are CCS classed ships, and 2 is not classed by CCS but possess CCS issued SMS.

In recent years, the world shipping market has witnessed a continuous sluggish growth, and the intensity of PSC inspections has been increased, especially from September to November of this year, Paris MOU and Tokyo MOU have carried out a centralized inspection campaign of navigation safety, resulting in high risks of PSC detention. We hope that all companies should be highly vigilant and take proactive measures to prevent detentions.

Note: The above quoted data are sourced from related websites, and the detentions is the number of detained ships for which we had received PSC reports.

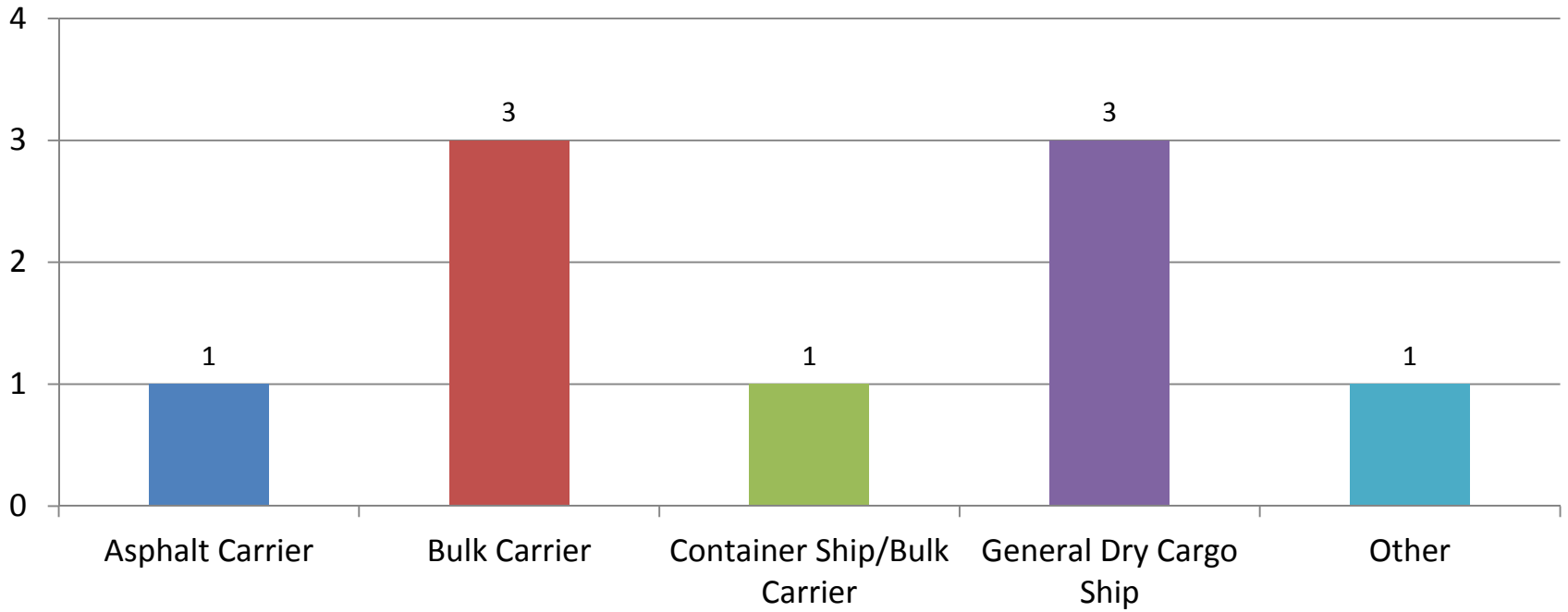
Distribution of CSS classed ship detentions by ship age



Ships with an age of 5-10 years accounts for more than 45% of the total detentions, most of which are smaller dry bulk carriers built around 2008. All companies should continue to strengthen the management of similar ships, in order to reduce detentions.

Statistical Analysis of PSC Inspections of CCS Ships in the First Half of 2017

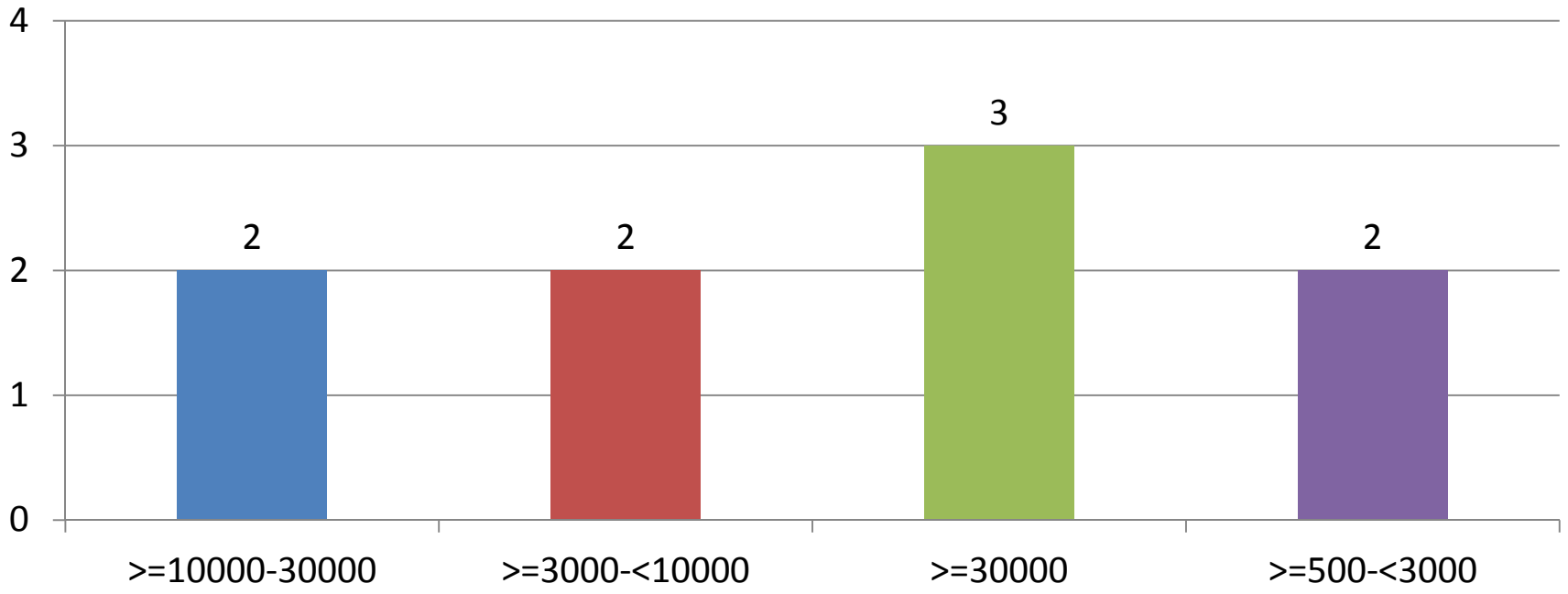
Distribution of CSS classed ship detentions by ship type



The detained ship types are predominantly dry/bulk cargo carriers, accounting for more than 80%, especially those engaged in voyages to Australia, Japan and Korea. All companies must pay attention to strengthen the safety management and maintenance of ships that sail to Japan, Korea, Australia, Europe, and America, intensify the inspections of MLC Convention, reduce ship’s deficiencies, and avoid detentions.

Statistical Analysis of PSC Inspections of CCS Ships in the First Half of 2017

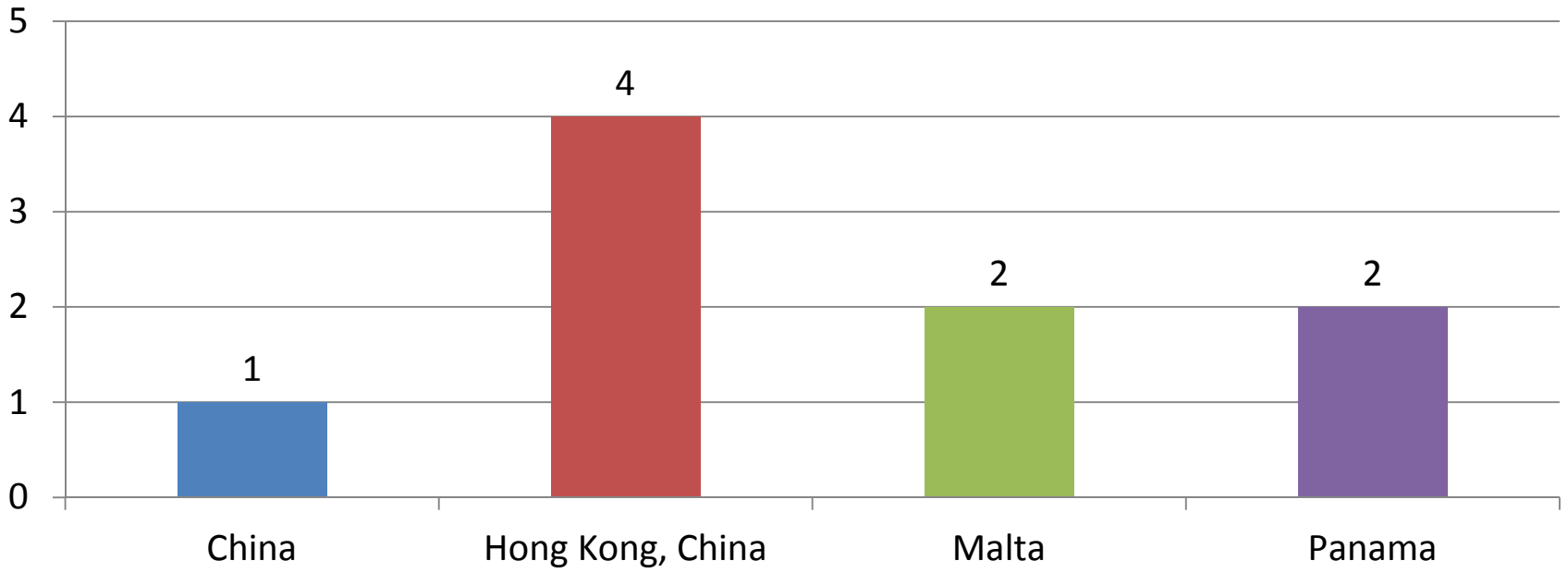
Distribution of CSS classed ship detentions by gross tonnage



The detained ships are predominantly small and medium sized ships under 7,000 GT, accounting for more than 45%, especially dry/bulk cargo carriers engaged in voyages to Japan and Korea. Larger sized dry cargo carriers engaged in voyages to Australia, Europe, and America also witness an increasing tendency. All companies must pay attention to strengthen the emergency drill of the ships and the inspections of navigation safety and MLC, reduce ship’s deficiencies, and avoid detentions.

Statistical Analysis of PSC Inspections of CCS Ships in the First Half of 2017

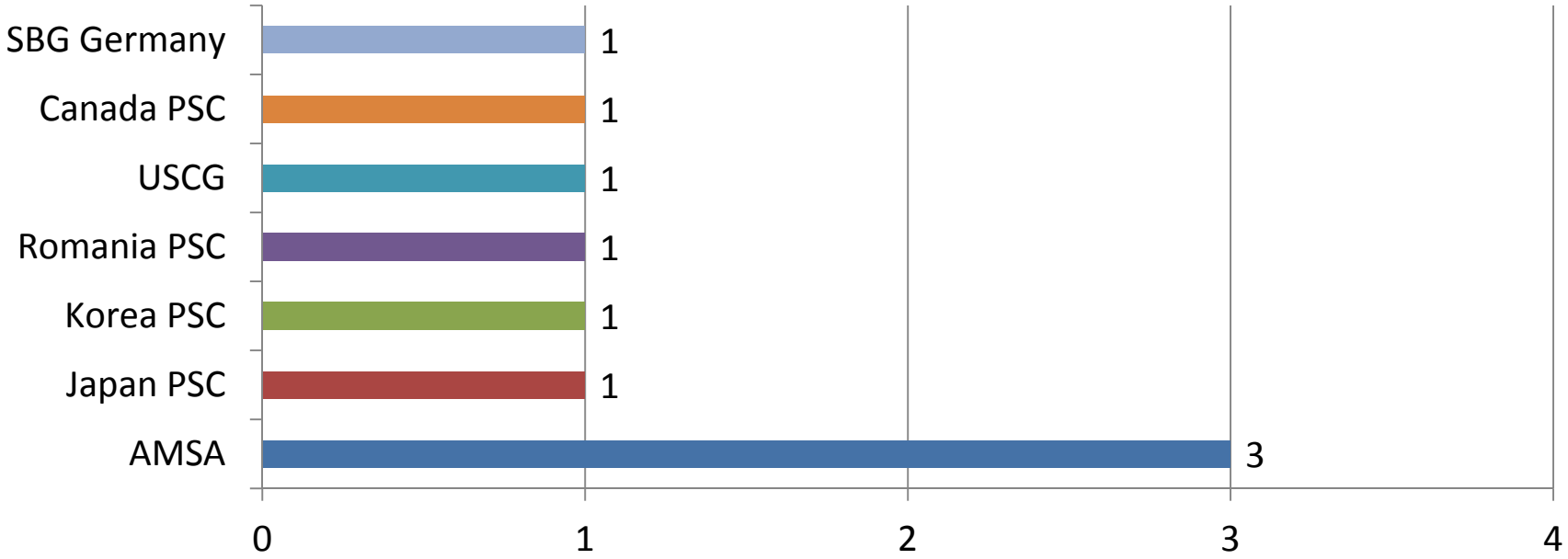
Distribution of CSS classed ship detentions by flag



The detained ships are predominantly with Hong Kong flag, accounting for more than 45%, and Panama and Malta flag ships also met with more detentions. All companies must pay attention to safety management and maintenance of the ships in order to reduce loss caused by detentions. There was 1 detention of China flag ship, and risks of detention occurred many times in Japan, Korea, Singapore, and Hong Kong. All companies shall do their best to reduce China flag ship with high political responsibilities.

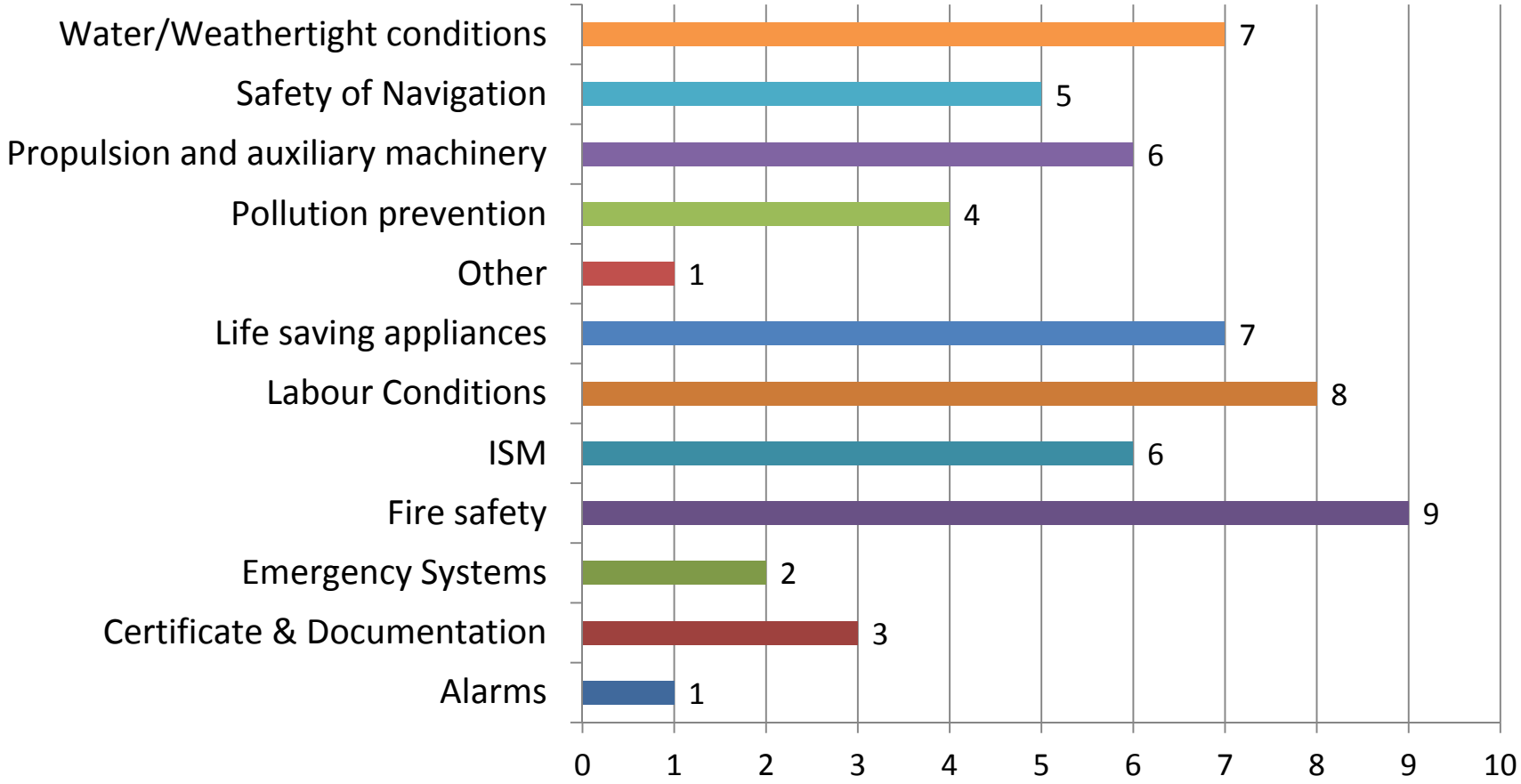
Statistical Analysis of PSC Inspections of CCS Ships in the First Half of 2017

Distribution of CSS classed ship detentions by country/region



Australia, Japan, and Korea are the countries where detentions frequently occurred. For ships engaged in voyages to Europe and America, the risks of RO responsible detentions in PSC inspections are still very high, and any single defect might cause detention. We hope that all companies attach great importance to the management and maintenance of ships engaged in voyages to Australia, Japan, Korea, Europe and America, thus to reduce deficiencies and detentions.

Distribution of all deficiencies by category

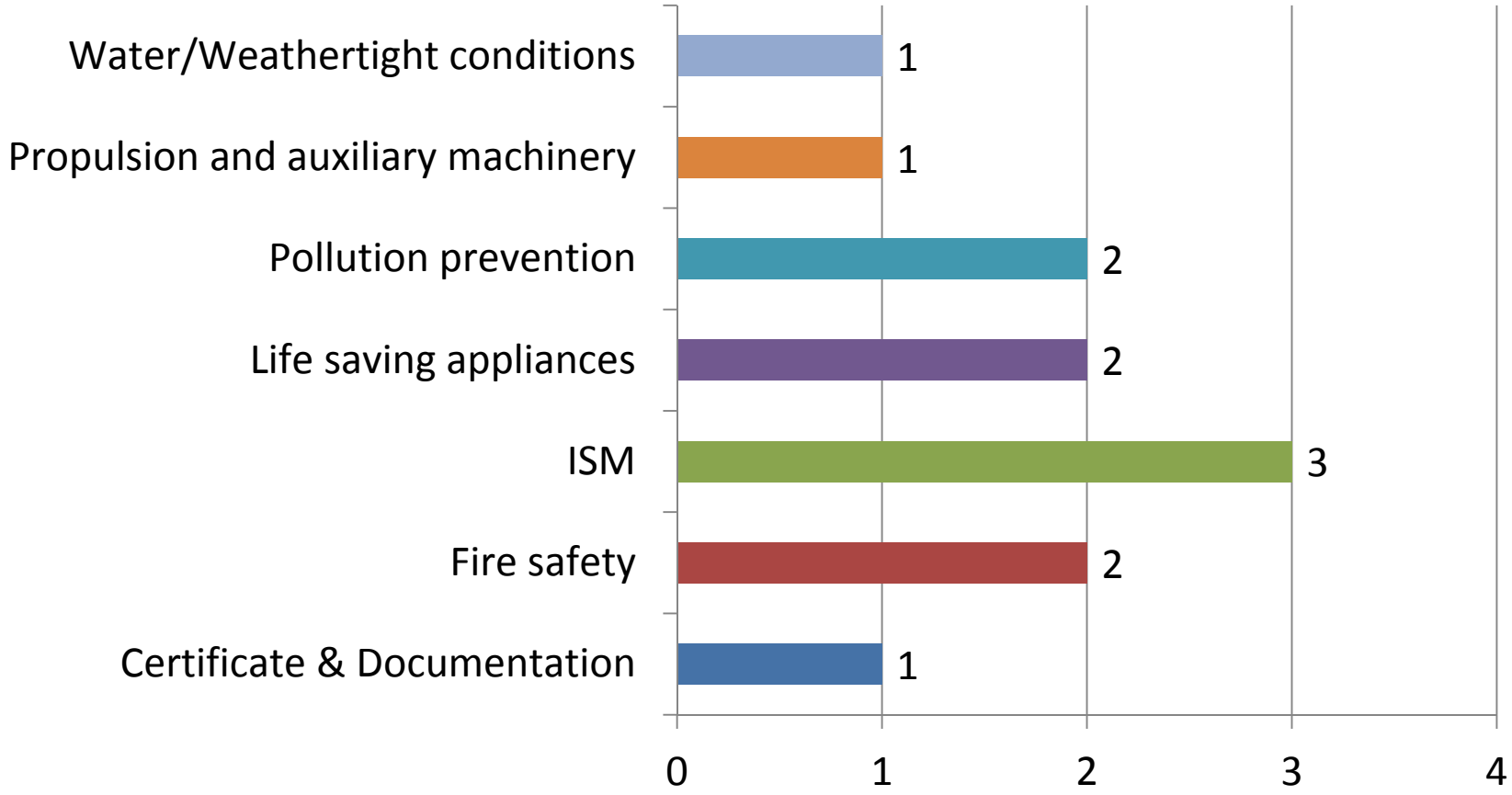


Statistical Analysis of PSC Inspections of CCS Ships in the First Half of 2017

Statistical analysis of deficiencies:

- A total of 9 CCS classed ships were detained in the first half of 2017, with a total of 59 deficiencies raised by PSC authorities, and about 6.56 deficiencies on average for each detained ship, which witnesses a decline compared to the average 10 deficiencies in the first half of 2016.
- The deficiencies are mostly from categories such as fire-fighting appliances, working environment, life-saving equipment, windtight and watertight condition, ISM and machinery. In addition, with the forthcoming implementation and inspection of MLC 2006, a substantial increase of deficiencies relating to ISM and MLC deficiencies may be resulted.
- From Sep. to Nov. this year, PSC organizations worldwide will carry out a centralized inspection campaign on navigation safety, therefore relevant deficiencies and detentions might meet with further increase.
- All companies must pay attention to the safety management and maintenance of ships in a detail oriented manner, thus to reduce ship's deficiencies, and minimize the loss due to PSC deficiencies that require mandatory corrections on the spot.

Distribution of deficiencies for detentions by category



Statistical Analysis of PSC Inspections of CCS Ships in the First Half of 2017

Statistical analysis of deficiencies for detention:

- A total of 9 CCS classed ships were detained in the first half of 2017, with a total of 12 detainable deficiencies raised by PSC authorities, and about 1.33 deficiencies for detentions on average for each detained ship, which meets a decline compared to the average 2.83 deficiencies in the first half of 2016.

- The deficiencies for detention are mostly regarding ISM, fire-fighting equipment, life-saving appliances, pollution prevention and etc. with ISM related deficiency still ranked on the top category; PSCO believed the ship's safety management did not conform to requirements because of certain technical deficiencies, which led to detention.

- In addition, with MLC 2006's entry into force and the CIC on MLC 2006, there will be some number of ships to be detained due to MLC 2006 related major deficiencies, especially in conuntries/rigions such as Australia, Europ and America.

- We hope all companies may pay more attention to safety management and maintenance of ships, strengthen training and inspection dynamics, pay efforts to reduce frequently occurred deficiencies, and aovid detentions declared by PSCO with SMS maloperation due to relatively more general deficiencies.

Case Study on Typical Detentions

America, January 17, 2017

- **Deficiencies for detention:** a PSC inspector from USCG found that the quick closing valve of MGO service tank was blocked by a wood block, which led to failure of the remote close when there is fire.

- **Investigation Results:** the on-site investigation showed a satisfactory conditon of the quick closing valve, and revealed no technical problems. The wood block was used to prevent auxiliary engine shut-down due to oil cut-off under circumstances of closing the quick closing valve of MGO service tank, while the crew were carrying out tests to quick closing valve of fuel and lubricating oil after arrived the port. Then the wood block was forgot to be taken away after tests were finished before USCG boarded the ship for inspection, which caused the failure of remote close of the quick closing valve that did not meet with the instant availability, and led to 30 detention deficiencies being issued.

- **Lessons to be learned:** emergency equiment shall be resotred after finishing the tests, and be inspected respectively with details. Also training and education on crew's sense of safety and responsibilities shall be strengthened.

Case Study on Typical Detentions

Test on quick-closing valves of the oil tank (before and after closing, wood block been removed)





Case Study on Typical Detentions

Japan, Febuary 1st, 2017

- **Deficiencies for detention:** the Master's license did not include endorsement of the flag state.

- **Investigation Results:** one crew onboard had been the Chief Officer since Dec. 21st, 2016, and was promoted as Master on Jan. 8th, 2017, and his panama license' lacking of signature page of the flag state led to detention. After the company sent the scaning copy to the ship, PSCO pointed out other two deficiencies not causing detention: the endorsement of the flag state on Master's license is a copy; and the signature page of flag state of the crew's license was not controlled correctly, and the Master was not familiar with STCW Convention (ISM deficiency). In addition, investigation revealed that issues of a seaman's license were brought up during PSC inspection on Jan. 10th, which did not brought company's much attention, and therefore caused this detention.

- **Lessons to be learned:** the company had handled the endorsement of the flag state for the Master, but it was not sent to the ship in time, thus proved that this detention mainly due to the Master and company's management problem to crew's license. Therefore, all companies shall strenghten management to ship's certificatesa and documents, especially shall pay more attention on relevant documents regarding position chages of the crew.

Case Study on Typical Detentions

Canada, Febuary 23rd, 2017 (non-CCS classed ship)

- **Deficiencies for detention:** multiple deficiencies provide evidence for ISM failure.

- **Deficiencies not for detention**: damaged identifier of the life raft's pressure releaser; insufficient oil quantity on lifeboat; broken evacuation line of lifeboat; oil leakage of windlass (MLC deficiency); damaged not-under-command light; frozen evaporator of fish and meat refrigerating room (MLC deficiency); poor working environment for crew on duty (MLC deficiency); greasy dirt in kitchen (MLC deficiency).

- **Lessons to be learned**: Countries and regions such as Europe, America and Australia pays more attention on inspection and tests on emergency equipment, and also conduct strict inspection regarding MLC issues. All companies and ships shall strengthen the inspection and tests on emergency equipment, pay attention to maintenance of the working and living equipment, make sure of a comfortable working and living environment for crew, and avoid deficiencies or detentions.

Case Study on Typical Detentions

Damaged identifiers of pressure releaser



Damaged not-under-command light



Frozen evaporator



Insufficient oil quantity on lifeboat



Case Study on Typical Detentions

Australia, February 27th , 2017

- **Deficiencies for detention:** malfunctioned ventilation pipe and closing device of ballast tank, with excessive internal rusty corrosion and rusty hatch cover.

- **Other deficiencies:** 1. closing device of ventilator of pipe tunnel failed; 2. shutter of sounding pipes heaveily corrupted; 3. circulated cooling water of the life boat’s engine failed, etc.

- **Cause analysis:** Crew didn’t pay enough attention on AMSA inspection, and did not carry out sufficient inspection before arriving at port; equipment did not receive enough maintenance, and the inspection and tests on items focused by AMASA such as ventilation pipe, air pipe, life-saving equipment and etc. were not thorough and skillful.

- **Lessons to be learned**: hatch cover, ventilation pipe, air pipe, life/rescue boat, and oily water separator are the AMSA’S commonly inspected items; and the inspections are so strict that any deficiency might cause detention of the ship. Therefore all companies shall conduct thorough inspection before arriving ports, and inspect in detail and conduct tests on windtight and watertight equipment, emergency equipment and pollution prevention devices, and strengthen maintenance of the ship. If certain deficiency can not be settled in time, solution shall be discussed and report to department in charge and relative parties, in preventing PSC detention.

Case Study on Typical Detentions

Air pipe ends heavily corrupted (renewed)



Closing device of ventilator of pipe tunnel failed



Shutter of sounding pipes heaveily corrupted (renewd)



Circulated cooling water of the life boat’s engine failed



Case Study on Typical Detentions

Germany, March 9th, 2017

- **Deficiencies for detention:** 1、Fuel analysis from waterways police Hamburg results in more than 0.46% Sulphur content, for the fuel oil in use onboard oil used on board Requirement for SECA North Sea/Baltic max 0.1% Sulphur. 2、Above deficiency marked ISM is objective evidence of a failure, or lack of effectiveness, of the implementation of the ISM Code.

- **Investigation results:** the Chief Engineer did not change to low sulphur fuel oil according to the requirements specified in company's SMS and fuel change procedure before entering into control area of fuel discharge and ports, which led to the sulphur content exceeding 0.43% of the sample taken from the sewage well, and PSCO was informed to inspect onboard for detention. The Chief Engineer took the shift 2 months ago and did perform according to relative procedures, and led to detention.

- **Lessons to be learned**: designated personnel at European ports will conduct test on samples of ship's fuel; once sulphur exceeds standard, the ship will face with detention and huge fine. Therefore, all companies shall remind the ships to strictly follow the procedure of low sulphur fuel transformation; the Master and Chief Engineer shall strictly perform according to relevant procedure before arriving at ports, and make sure that the sulphur content of the fuel conform to international requirements and local standards within control area of fuel discharge.

Case Study on Typical Detentions

Australia, April 10th, 2017

- **Deficiencies for detention:** 1. the suction valve for the sewage pump of oily water separator was closed due to the broken screw rod, which caused the malfunction of the sewage pump, based on which the AMSA declared the ship's failure on OWS function.
- **Other deficiencies:** 1. smoke detector above the main engine released abnormal alarm; 2. fixing board of speedometer of wheelhouse's starboard side main engine heavily rusted; 3. the glass protective case of wheelhouse's port side speedometer and rudder angle indicator was broken; 4. the support bracket for lights of lifeboats on two sides' shell plating was rusted and stuck, and could not rotate; 5. the upright of anchor light was bent from collision; 6. the hatchway lights rusty and fallen; 7. non-return valve of hatchway drain pipe heavily rusted and almost fallen; 8. screws of fresh water tank sounding heavily rusted, with lost cover of sounding hole; 9. terminal box cover of windlass severely corrupted; 10. securing bolt roots of small hatch covers severely rusted; 11. cable pipes through hatchway heavily rusted and broken; 12. hatch covers could not closed entirely and part of rubber sealing lost; 13. oil pipes above auxiliary engine leaked; 14. poor air conditioning in acommodation area, etc.
- **Lessons to be learned**: there is insufficient safety management and maintennace of ship. The ship reported the broken suction valve of OWS to the company before arriving ports, but the company did not take measures immediately. Therefore, all companies shall inspire crew to find and settle deficiencies in time, and conduct inspection to ship's safety and maintenance, in preventing detention caused by PSCO-considered ISM failure.

Case Study on Typical Detentions

Smoke detector above the main engine released abnormal alarm



Glass protective case of wheelhouse’s port side speedometer and rudder angle indicator was broken



Fixing board of speedometer of wheelhouse’s starboard side main engine heavily rusted



Support bracket for lights of lifeboats on two sides’ shell plating was rusted and stuck



Case Study on Typical Detentions

Upright of anchor light was bent from collision



Hatchway lights rusty and fallen



Non-return valve of hatchway drain pipe heavily rusted and almost fallen



Screws of fresh water tank sounding heavily rusted, with lost cover of sounding hole



Case Study on Typical Detentions

Terminal box cover of windlass severely corrupted



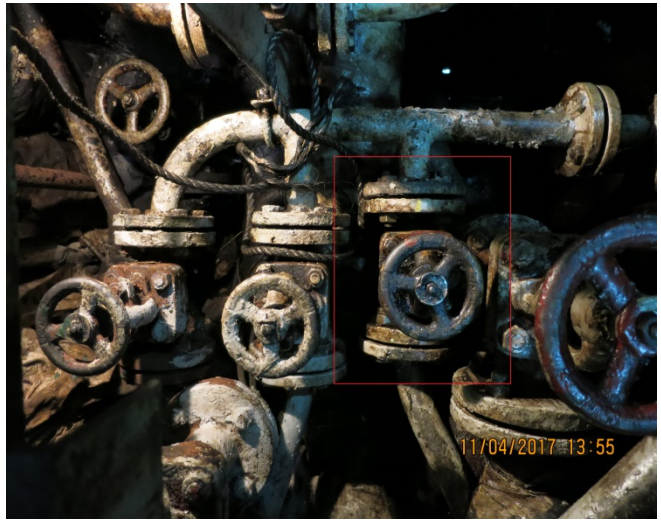
Securing bolt roots of small hatch covers severely rusted



Cable pipes through hatchway heavily rusted and broken



Screw rod of the suction valve for the sewage pump of oily water separator broken



Case Study on Typical Detentions

Australia, April 21st , 2017

- **Deficiencies for detention:** the exhaust pipe of port side lifeboat rusted and holed, causing accumulation of gas inside the lifeboat.

- **Other deficiencies:** 1. the glass level indicator of the auxiliary boiler failed; 2. the drain pipe of boiler’ s water control device was disconnected, and the water was drainned to bucket through rubber tube; 3. the seat of deck fire alarm button was rusted, and button fallen.

- **Cause analysis**: during inspection of the lifeboat, PSCO found accumulated gas inside the port side life boat. They required further inspection after dismantling the heat-insulation of exhaust pipe, and found the pipe was severely rusted and holed.

- **Lessons to be learned:** lifeboat is the item that must be inspected by AMSA with strict standards, and any deficiency might lead to detention. Therefore, all companies and ships shall conduct safety inspection before arriving at ports, and put more efforts and conduct tests on emergency equipment, especially life-saving equipment. Tests on lifeboat shall be thorough, with at least 3 minutes of operation to guarantee the reliability of the engine, and try to detect problems as soon as possible. In addition, companies shall strengthen the maintenance of ships, and solve the problems immediately when detected; hiding of deficiencies is forbidden, and bad habit eliminated. Equipment shall be restored after dismantlement to reduce deficiencies and prevent PSC detention.

Case Study on Typical Detentions

Exhaust pipe of port side lifeboat rusted and holed



Glass level indicator of the auxiliary boiler failed



Drain pipe of boiler’s water control device was disconnected (reconnected)



Seat of deck fire alarm button was rusted, button fallen



Case Study on Typical Detentions

Korea, May 24, 2017

- **Deficiencies for detention:** 1. main engine and crankshaft suffered from oil leakage and oil dirt; 2. too much oil bilge on engine room bottom plate.

- **Deficiencies not for detention**: poor conditon and water leakage of oily water separator; failed quick closing valve of emergency generator oil tank; failed alarm of main engine oil leakage; failed alarm of cargo hold flooding; broken heat insulation material of emergency escape trunk; broken heat insulation material of generator exhaust pipe; part of the emergency lights failed; no records on logbook about weekly inspection of life-saving equipment.

- **Lessons to be learned:**
  - Pay attention to ship’s sanitation and hygiene, establish good working habit, especially cleaning oil dirt in time after inspecting the equipment, and properlly deal with oil disposal;
  - Inspect and test emergency and security equipment carefully, such as quick closing valve, emergency lights, malfunction alarm, etc.;
  - Pollution prevention equipment such as oily water separator is in must list of PSCO, and shall be kept in good condition;
  - Pay enough attention to certain slight deficiencies, strengthen maintenance and repair equipment in time;
  - Strengthen crew’s training on operation to emergency, pollution prevention and other key equipment.

Case Study on Typical Detentions

Oil dirt on main engine



Oil bilge on bottom plate



Poor condition of oily water separator



Failed alarm of oil leakage



Case Study on Typical Detentions

Failed alarm of cargo hold flooding



Malfunctioned emergency light



Failed quick closing valve of oil tank (stuck)



Broken heat insulation material



Case Study on Typical Detentions

Romania, May 26, 2017

- **Deficiencies for detention:** 2 lifeboats on starboard side and their supports damaged due to collision with shore crane while berthing.
- **Deficiencies not for detention**: the Master did not report to local port after collision; waste in kitch was not properlly sorted; the deficiency proved an inadequate ISM, and the company was required to rectify the document within 3 months (internal audit).
- **Requirements specified in article 11, Chapter 1 of SOLAS:** when ship encounters accident or spots deficiencies, which influence the effectiveness or completeness of ship’s safety and life-saving equipment, or other devices, the Master or shipowner shall report to authority in charge of issuing relevant certificates, designated surveyor, or authorized organizations. Authority in charge, designated surveyor, or authorized organization shall investigate immediately and make sure if survey is necessary. If the ship is at port of another contracting state, the Master or shipowner shall report to the authority of the port state, and the designated surveyor or authorized organization shall confirm that such report has been delivered.
- **Investigation results:** though the ship and company report the incident to the authority in charge of the flag state and class society, the local PSCO did not get report before PSC inspection. Therefore PSCO declared that the ship did not conform to SOLAS and issued detention, with invalid negotiation.
- **Lessons to be learned:** authority in charge of the flag state, class society and coastal/local port authority shall be informed with accident immediately after; when encountered with PSC inspection, the relevant documents and evidence, and rectification plan of deficiency shall be provided the first time, in order to earn PSCO’s understanding and prevent detention.

Case Study on Typical Detentions

Spain, Jul. 10, 2017

- **Deficiencies for detention:** additional audit on ISM is necessary before departure, and the ISM relevant deficiencies that already been spoted were considered proof for insufficient implementation of ISM management system.

- **ISM relevant deficiencies**:

1. Wrong code in oil disposal book for barging residuel oily water to receiving device on shore;
2. Great quantity of material moved onboard while reaching port, and the disordered piles blocked off the aisle;
3. The audit report of year 2015 was not shown to the PSC inspector under instruction

- **Investigation results:** this detention is regarding to lots of ISM management deficiencies, and main reason lies in the lack of equipment maintenance, and phenomenon of "isolated managing layers" exists in SMS operation. Ship 's crew did not pay enough attention on port state inspection, and carried poor inspection before arriving at port. In addition, the company's shore-abased support and management also faced with severe problems.
- **Lessons to be learned:**

1. The Master had received company's reminder of PSC inspection before calling port, but he was busy with matters of port replenishement and did not pay much attention on the reminder, which led to insufficient preparation.
2. Other 8 ships managed by the company perform well during PSC and FSC inspection, which led to loose management and poor supervision.
3. The Master and most of the crew in deck department were foreigners, and those in machinery department were Chinese, which caused problematic and inefficient communication between company and the ship, and crew's segmentary understanding toward relevant orders delivered by the company.

Technical Tips

CHINA CLASSIFICATION SOCIETY
中国船级社

NOTICE OF PSC INSPECTION IN MANILA AMENDMENT, 2010 OF STCW CONVENTION

From Jul. 1st, 2017, all crew sail internationally are required to possess certificates of competency according to Manila Amendment 2010 of STCW Convention, and PSC inspection will also pay attention to this requirement; inspection organizations of Tokyo MOU and other port states has announced that the ship might face detention if crew onboard does not have qualified competency certificate. There were ships detained during PSC inspection recently, though manning of the ship conformed to the minimum requirement, PSCO found the electrician who was on the crew list did not possess the certificates according to requirements and declared detention of the ship.

All companies shall pay attention that not only the minimum manning requirements onboard should meet requirements, but all crew members who are in positions clarified in STCW Convention shall possess relevant certificates of competency; especially for crew who are in the crew list or marked in documents such as employment agreement and crew service book as E/E, Electrician, ETO or ETR, shall have relevant certificates of competency.

Pls. refer to CCS Technical Notice No. 45 (No. 293 in total)

Technical Tips

RELEVANT REQUIREMENTS OF PERFORMING MLC FOR CHINA FLAG SHIPS

Since August in 2017, our club has conducted renewal of MLC certificate (permanent/temporary) for 993 China flag ships in total, 993 China flag ships' MLC conformation certificates, Part I, were issued.

For ships that possess onboard the China flag MLC conformation certificate (permanent/temporary) and the old version of the Part I of China flag MLC conformation certificate, pls. contact the certification department of our branch or headquarters as soon as possible and have certificates and conformation certificates re-issued, in preventing problems during inspection at port state.

Compiling requirements for the MLC conformation certificates, Part II:

MLC Convention went into effect to China flag ships on Nov. 12th, 2016, and the MLC Convention, 2014 Amendment on Jan. 18th, 2017. Therfore, the DMLC PART II that is being compiled by companies, shall fulfil the requirements specified in DMLC PART I and MLC Convention, 2014 Amendment.

Most of the flag states (including China) require initial/cetificate renewal inspection after the effect date, to make sure that the MLC conformation certificate, part II shall meet requirements in 2014 Amendment, except for Hong Kong and Panama flag states, who require **regular** inspection on MLC conformation certificate and guarantee its meeting requirements in Amendment after effect date.

Technical Tips

CHINA CLASSIFICATION SOCIETY
中国船级社

SHIP'S NETWORK SECURITY

Following the increase of intelligence of ships during recent years, the control system, communication and navigation system, and information management system and equipment are interconnected through network, and the communication between ships and outside world is also increasingly frequent.

In June, 2017, a shipping company suffered from a hacker attack. Though the ships under management were operating normally, with uninterrupted communication and crew safety secured, the incident proved that ships were becoming more "online", and the potential cyber threats faced by the ships were increasing as well.

Big maritime organizations like the IMO, Baltic Shipping Union, and IACS are paying efforts to increasing defense capability on network security. The 98th security meeting of IMO had passed a Resolution on measures of increasing maritime security, encouraging all goverments to clarify relevant content of network risk management in security management system during companies' annual audit at lease before Jan. 1st, 2021.

Under such circumstances and for reacting to the cyber risk in shipping industry, the <Guide> compiled by CCS aims at specifying ship's network building, guiding the network security assessment, increasing risk awareness and defense capability of network security, in order to provide support and protection to intelligent ships.

Technical Tips

PRINCIPLES ON OPTIMAL OPERATION OF ELECTRONIC CHARTS

Refer to Circular MSC. 1/Circ. 1503/ Rev. 1 issued by IMO on June 16th, 2017.

Main contents include:

A. Relevant requirements on charts specified in SOLAS Convention;
B. Maintenance of ECDIS software;
C. Abnormal operation recognized by ECDIS;
D. Difference between raster scan charts display system and electronic charts system;
E. ECDIS training;
F. Switch from paper charts to electronic charts;
G. Operation training and assessment instruction of charts simulator.

Technical Tips

PRINCIPLES ON OPTIMAL OPERATION OF ELECTRONIC CHARTS

A. Relevant requirements for ECDIS in SOLAS Convention:

1. Recognized by the mode;
2. Update electronic charts in time;
3. Maintain it conformed to latest application standards used by IHO;
4. Possess enough, independent, and proper standby arrangements.

B. Maintenance of ECDIS software:

1. ECDIS has to be updated to latest version under IHO standard to meet with the requirements of SOLAS V/19/2/1/4;
2. Updating list of ECDIS under relevant IHO standard shall be obtained on IHO website (www.iho.int);
3. If ECDIS is not updated in time, charts characteristics might not be displayed normally, and even if relevant characteristics are included in electronic charts, alarm and symbol are still unable to be activated.

Technical Tips

PRINCIPLES ON OPTIMAL OPERATION OF ELECTRONIC CHARTS

C. Abnormal operation recognized by ECDIS:

1. Navigation features are unable to display normally, e.g. navigation area recognized by IMO recently, light beacon that has complex characteristics, underwater features and independent risks;
2. “Course check” cannot be used to detect targets under planned voyage mode;
3. Alarm fails;
4. Quantity of alarms cannot be accurately managed.

D. Difference between raster scan charts display system and electronic charts system:

ECDIS shall choose one of the following modes to operate:

1. ECDIS mode while using electronic charts;
2. RCDS mode while using scan charts when electronic charts is unavailable.

Technical Tips

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PRINCIPLES ON OPTIMAL OPERATION OF ELECTRONIC CHARTS

E. ECDIS training:

1. According to requirements in STCW Convention, all duty crew in charge of navigation onboard ships with GT more than 500MT shall expertly master the knowledge and ability of charts usage, and illustrated in marine publications.
2. The Master and senior crew (including management and operation level) onboard ships equipped with ECDIS, shall take at least the general training of ECDIS, which meets the requirements in Manila Amendments, 2010 of STCW.
3. The Master and senior crew shall be familiar with ECDIS operation;
4. If the ship is equipped with ECDIS, the ship's safety management system shall include requirements of familiarization of equipment, substitute equipment for machine, sensor, and relevant equipment;
5. Company shall keep relevant evidence of training in file, and make sure it's available at any time;
6. Company shall keep relevant evidence of equipment familiarization in file.

F. Switch from paper charts to electronic charts – omited, unconcerned to ship's operation

G. Operation training and assessment instruction of charts simulator – omitted, related to training requirements.

Safety Tips

TRANSPORTATION SAFETY OF BAUXITE

Bauxite is one of the C category cargo classified in IMSBC Regulations. Investigation to marine incidents occurred in recent years showed that the fluidization of bauxite during voyage might cause ship's incidents, thus Masters do not agree with shipping this type of cargo, unless:

1. Water content showed in cargo certificate is less than 10%, and distribution of granule meets with relevant description in IMSBC Regulations;
2. Cargo was declared as A type, and the shipper demonstrated that the TML and water content meets the relevant regulations of Article 4.3.1 in IMSBC Regulations.
3. Authority has evaluated the cargo and confirm that the cargo does not show characteristics of A type cargo, and the shipper shall provide this evaluation to the Master, according to Article 1.2.1 in IMSBC Regulations.

If the Master suspect the conformity of shipped cargo and the shipper's demonstration, he can stop the loading and requre the shipper verify the cargo characteristics. Suggestions can be seeked from authority in charge at loading port, if necessary.

At present, the IMO is taking action to assess the harm and risk of shipping bauxite, and further analyze according to the assessment. IMSBC Regulations can be rectified if necessary. Details refer to IMO CCC.1/Circ.2.

Centralized Inspection on Navigation Safety from Sep. to Nov. 2017

The competent authority of member states in Tokyo MOU and Paris MOU will conduct joint centralized inspection campaign (CIC) on navigation safety.

- Time: from Sep. 1st, 2017 to Nov. 30, 2017
- Purpose: inspect the conformity to the application convention, ship's general operation during course, and qualification regarding ship's operation of relevant crew.
- Focus: PSC inspector would use a question list (12 questions) to verify if the equipment onboard is comform to relevant certificates, if the Master and officer possess relevant qualification and familiar with operation on wheelhouse equipment, especially the electronic chart display information system (ECDIS), and make sure if the navigation equipment is properly maintained and perform normally.
- If deficiencies are spotted, port states will take different measures, from recording the deficiency and informing the Master to rectify in a long period of time, to announcement of detention until the severe deficiency is rectified.
- Suggestion: All companies/ships conduct self-inspection before CIC, to make sure the navigation safety equipment all function well, information data has been updated, and crew are well trained, equipped with qualification and perform skillfully.

Question List For CIC Inspection On Navigation Safety
Sep. – Nov. 2017

Question List for CIC Inspection on Navigation Safety (Chapter 5, SOLAS)

Inspection Organization			
Ship's Name		IMO No.	
Inspection Date		Inspection Port	

No.	Item	Yes	No	N/A
Q.1*	Does the navigation equipment conform to ship's safety certificates (SEC.PSSC,CSSC)?	❒	❒	❒
Q.2*	Does ECDIS include latest electronic charts that suits planned voyage and also the back-ups?	❒	❒	❒
Q.3	Is there evidence to show that duty officer obeys relevant requirements regarding ECDIS specified in STCW Convention ?	❒	❒	❒
Q.4*	Does the duty officer perform skillfully the ECDIS operation?	❒	❒	❒
Q.5*	Does the VDR/SVDR keep complete data?	❒	❒	❒
Q.6*	Can Level 2/Level 3 of the remote hearing alarm of BNWAS be recognized?	❒	❒	❒
Q.7	Can the AIS onboard be sent accurately?	❒	❒	❒
Q.8	Does the voyage plan cover the entire voyage?	❒	❒	
Q.9*	Does every crew understand the working language written on the Logbook onboard and obey?	❒	❒	
Q.10*	Are relevant crew familiar with emergency steering procedure?	❒	❒	
Q.11*	Does the navigation/signal light conform to the requirements in International Regulations for Preventing Collision at Sea, 1972?	❒	❒	
Q.12	Is detention necessary due to failure on above mentioned items?	❒	❒	

Notes：If "No" answered to questions marked with "*", PSCO would consider if detention shall be declared based on his/her expertise and severity of the deficiency. Any detailed description of all deficiencies, including severe deficiencies shall be put into table B of PSC report. For items that do not have "N/A", "Yes" or "No" shall be selected according to real situation.

Advice on PSC Check Preparation

- PSCO's first impression on the ship is highly important. The ship shall be in good style and appearance, and the crew shall be in high morale and spirits when receiving PSC inspections. It is crucial to keep the ship clean and hygienic, especially that of public places and public sanitation facilities. Therefore, it is suggested that all companies/ships strengthen the inspection of the ship's style and appearance and ensure that the crew's working/living facilities and environment are in good condition.
- Ensure that key equipment such as lifeboat, life raft, air pipe, fire/watertight door, fire damper, quick closing valve, ventilation pipe, emergency generator, oily-water separator and hatch cover are in good condition to effectively avoid being detained by PSCO. Strengthen the ship safety inspection and maintenance, earnestly complete the arrival inspection, fully utilize opportunities such as ship repair to thoroughly solve the ship structure and the flaws of equipment.
- Reduce small defects, making sure that there are no obvious evaporating, emitting, dripping or leaking of gas/oil/water, no obvious corrosion, and ensure heat insulation integrity, and tidiness of kitchen and reefer space, and maintain normal functioning of emergency lighting and good condition of cable and brackets, to effectively reduce the number of defects, avoiding more defects that lead to PSCO's detention due to their judging of ISM not meeting the standards.
- Starting from July 1, 2017, the crew of an international sailing ship must hold a new version of the Certificate of Competency required by the STCW Convention 2010 Manila Amendment. All companies/ships shall pay attention to the review of crew's qualifications, ensuring the crew meet the minimum manning and the STCW requirements. Special attention shall be paid to the new or promoted crew and full-time electrical and electronic crews.

Advice on PSC Check Preparation (ctd)

- Strictly implement the reporting system. When ships meet defects or accidents that cannot be solved by itself, they should report to Flag State, Classification Society and local PSCOs to avoid PSC detention.
- Some ships have been defective or even retained by PSC due to the bad habits of their crews, such as: fastening the fire door at open position, keeping the tank sounding hole open, limiting closure actions of quick closing valve, arbitrarily discarding wastes containing oil and domestic wastes, not setting emergency equipment switch at “automatic” mode, and not closing the domestic sewage outlet valve, and so on. Companies shall strengthen publicity and education, to reduce defects and even detention due to crew’s bad habits.
- Currently, all EU member countries conduct fuel sampling tests on ships arriving at ports. Companies shall oversee the ship’s oil-changing operation to prevent the ships from being retained or fined for exceeding the Sulphur content of the fuel oil (0.1% level).
- It is suggested that the on-site monitoring on suppliers’ services shall be strengthened to prevent imperfection of supplier’s monitoring, fraud, inaccurate reset or wrong installation of equipment after reparation, unserious issuance of inspection reports, and other situations, avoiding defection or detention due to suppliers’ substandard services.
- With its entry into force, the Convention on Ship’s Ballast Water will be the emphasis of PSC inspections in the upcoming years. Hopefully that companies shall meet the requirements of the Convention, operating strictly to avoid PSC defects and detention.
- Some flag ships sailing Japan, South Korea, Singapore and Hong Kong have numerous defects, almost detained. Hopefully the companies strengthen management, maintaining the good reputation of the flag ships.

Thank you for your strong supports to CCS!

CCS Headquarters

地址 **Add:** 北京市东直门南大街9号船检大厦

CCS Mansion, 9 Dongzhimen Nan Da Jie, Beijing， China

电话 **Tel: (010) 58112035**

EMAIL: PSC@CCS.ORG.CN