

June 2020

# ClassNK

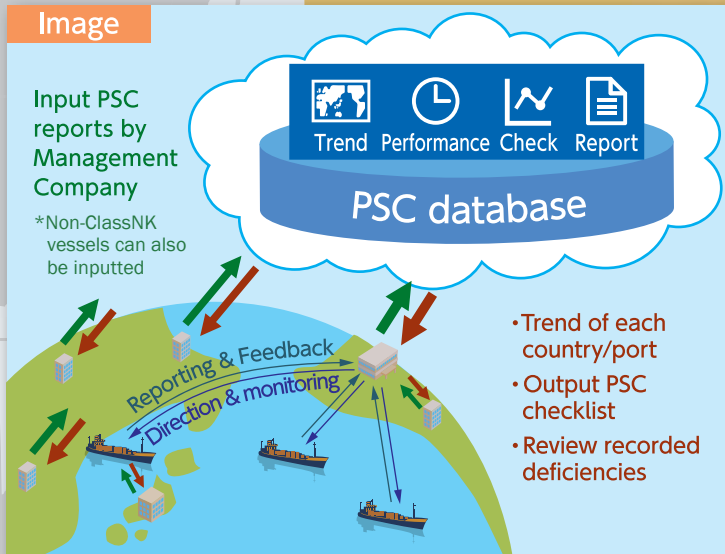
Port State Control Annual Report

[English]



# PSC Intelligence

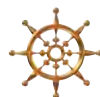
Support System for PSC Performance Improvement



## Key Features

- ◆ Easy visual checking of a trend in the number of detentions and deficiencies at each port or country on world-map with frequent deficiency examples
- ◆ Output 1) PSC checklists for each port or country based on the trend and 2) a summary report for PSC performance of managing ships
- ◆ Analysis of the trend of deficiencies recorded on managing ships on a real-time basis through the managing company's input of PSC reports
- ◆ Easy registration for ships using a data link with NK-SHIPS

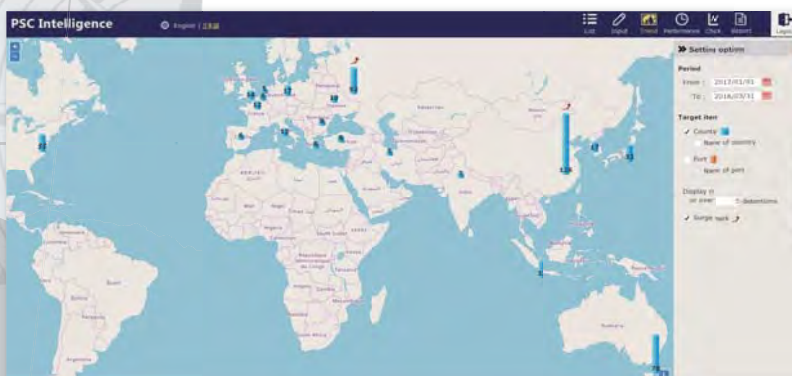
PrimeShip-PSC Intelligence is a support system for improvement of PSC performance as well as a ship management system providing: 1) trend analysis of deficiencies recorded at each port or country 2) output of PSC checklists for each port or country based on the trends 3) clarification and review of frequently recorded deficiencies for managing ships



## Main Functions

### Research on the trends of ports and countries on world-map

- ◇ Perceive a trend of detention numbers and recorded deficiencies
- ◇ Perceive common deficiencies, particular deficiencies of each country/port and newly recorded deficiencies for new conventional requirements



Technical deficiency examples

Not Fixed/CHINA

No.	Deficiency	Count
1	Lifeboats / 11AB1	20
Technical	per reason have not previous page or 1 reason was excessive, entry	20
Technical	All pipe of self-contained air support system of both lifeboat backup capacity	20
Technical	All carrying plates of lifeboat (LS) not 20% photos, its base not indented, protrude shaft cover damaged, device could damage on bottom when start not to launch (20%)	20
Technical	(Lifeboat) without low one fire alarm, pipe corroded/damaged	20
Technical	(Lifeboat) crew seats have been moved, damaged, light damaged, etc.	20
Technical	(Lifeboat) crew seats have been damaged, gas nozzle, gas lines damaged, without pipe that protected, no work etc.	20
Technical	The portable lifeboat stowage cover is suspended and not ready to use due to lack of maintenance and low hydrostatic head tests.	20
Technical	One of lifeboat fire hand rate temporary fixed.	17
Technical	(Lifeboat) fire handrails deformed.	13
Technical	F & S lifeboat grab lines defective.	13
Technical	The surface plate for startboard side (S) were not passed by detection correctly.	11
Technical	paths of safety rail for life boats the fixed - missing (S)	11



## Output PSC checklists for each port/country



- ◇ Checkpoints corresponding with PSC deficiencies
- ◇ Output checklists based on the trends during a user-designated period
- ◇ Output checklists based on trends focused on detainable deficiencies
- ◇ Selectable numbers of checklist items by users

## Analysis of recorded deficiency trends



- ◇ Easy review of ship management systems by checking the sorted deficiencies recorded in frequent order
- ◇ Trend analysis of the combination of deficiency amounts or detention of multiple ships, countries and ports selected by users
- ◇ Trend analysis focused on detainable deficiencies

## Summary report



- ◇ Output a summary report for PSC performance, content of deficiencies frequently recorded on managing ships and in the trends of frequently visited ports or countries

## How to register

All ship managers/owners may use the service regardless of whether their vessel is of the ClassNK fleet. Please refer to our PSC Intelligence website for details.  
(<http://www.classnk.or.jp/hp/ja/activities/portal/psc-intelligence.html>)

## PrimeShip-PSC Intelligence System requirements

Browser	Software
Internet Explorer 10.0 or later Google Chrome, Firefox	Microsoft Excel 2007 or later

Contact address : Ship Management Systems Dept.  
Nippon Kaiji Kyokai Administration Center  
4-7, Kioi-cho, Chiyoda-ku, Tokyo 102-8567, Japan  
E-mail: [psc-intelligence@classnk.or.jp](mailto:psc-intelligence@classnk.or.jp) Tel: +81-3-5226-2173 Fax: +81-3-5226-2174

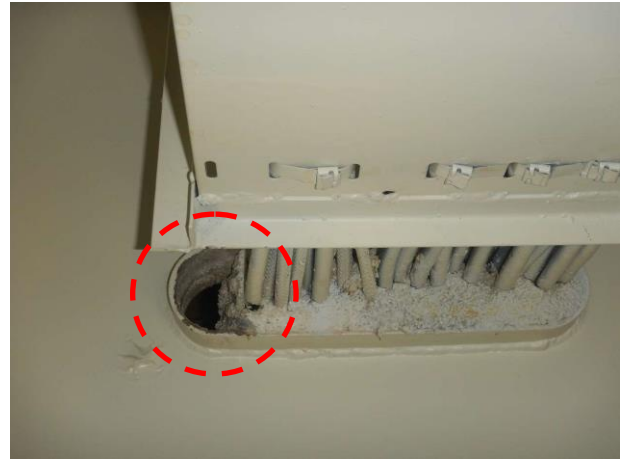
**Photographs of Deficiencies identified during  
Port State Control**

**Fire Safety**



← **Deteriorated insulation**

**Missing compound** →



← **Missing doorknob**

**Missing fire door packing** →

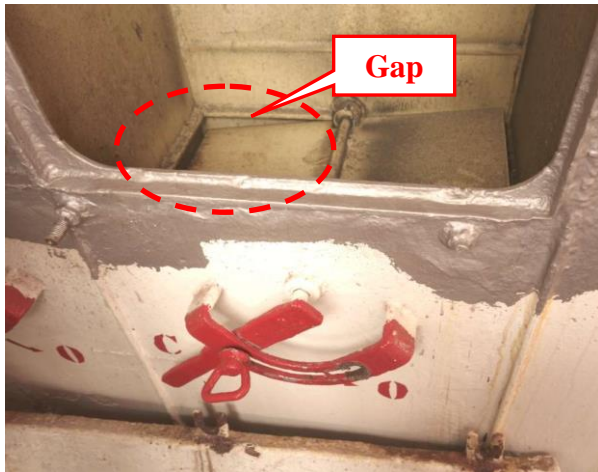


# Fire Safety



Heavy leakage from fire hydrant

Heavy leakage from fire hose



Inappropriate adjustment of damper

Heavy corrosion/hole on CO<sub>2</sub> line

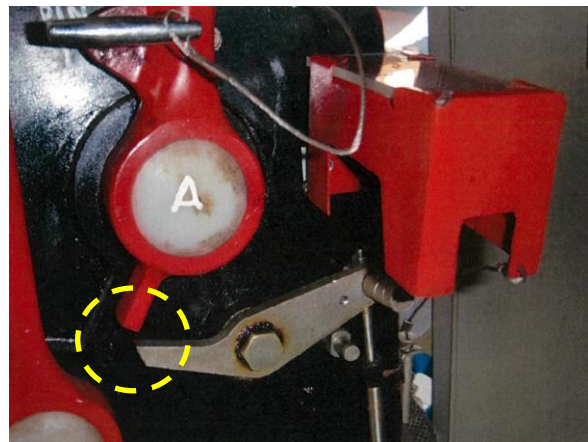


## Life Saving Appliances



Broken mask

Inappropriate reset of  
on-load release gear

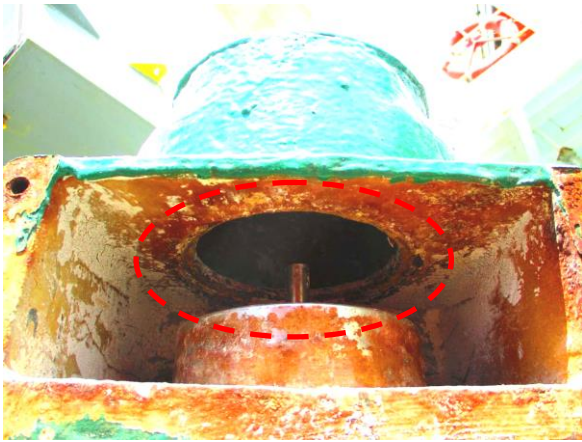


Inappropriate painter securing

Deteriorated grab line

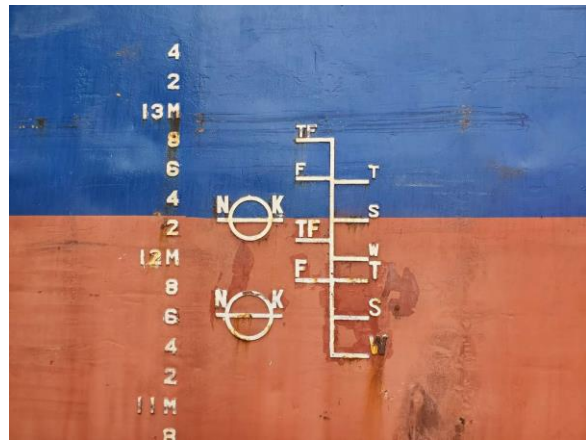


## Load Line



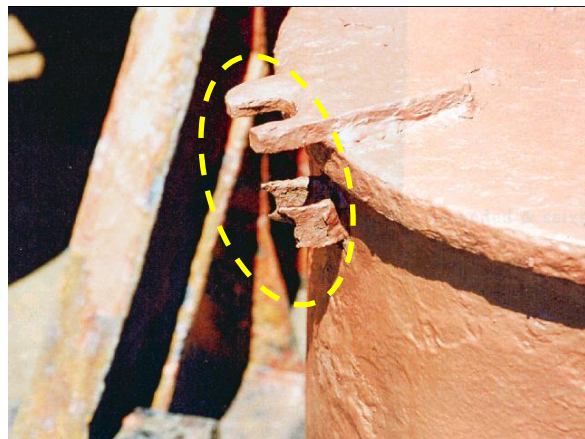
Missing rubber seat for air pipe head

Improper LL marks



Holed ventilator

Missing butterfly nut



## Machinery Space



Dirty pressure gauge

Oil leakage



## MARPOL



Holed oil coaming

A huge amount of garbage



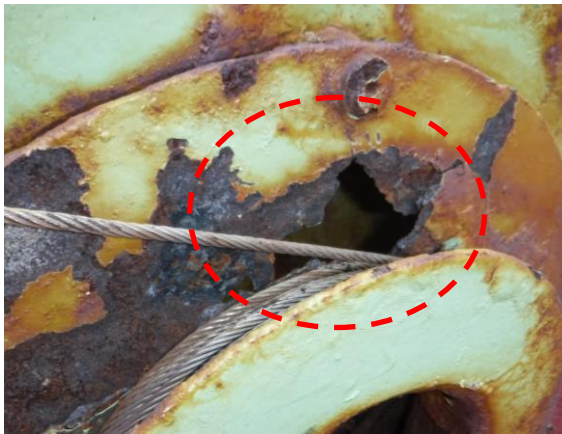


Others



← Partly broken mooring rope

Missing toilet →



← Broken wire drum

Broken fairleader →



## Foreword

This Annual Report on Port State Control (PSC) summarizes deficiencies identified during PSC inspections carried out in various countries around the world. This report is prepared with the objective of building awareness with the present state of PSC and thereby improving future onboard maintenance and inspections, and as well as Safety Management System.

The report consists of the following Chapters.

“**Chapter 1**”: Status of Implementation and Recent Developments in PSC Worldwide

“**Chapter 2**”: Statistical Analysis of Detained Ships Registered with ClassNK

“**Chapter 3**”: Statistical Analysis of NK SMC Ships Detained by PSC (ISM Code)

“**Chapter 4**”: Statistical Analysis of NK MLC Ships Detained by PSC (MLC, 2006)

“**Chapter 5**”: Statistical Data from Tokyo MOU, Paris MoU and USCG

Port State Control has been recognized to be a very direct and effective means to reduce the number of substandard ships as well as to improve safety of ships at sea and to prevent marine pollution. The activity of PSC worldwide has significantly been strengthened along with the increasing number of amendments to the relevant international Conventions.

Further to the above, in order to carry out the effective implementation of port state responsibilities, many countries have signed a Memorandum of Understanding (MOU) for regional cooperation between local PSCs, and have agreed to establish a centralized digitized database system and/or a harmonized approach.

The scope of PSC inspection has been extended from the hardware aspect of the ship to the software aspect such as onboard maintenance or operational procedures ever since the ISM Code was adopted and applied to all ships and is still expanding as more new concept of regulations has been introduced by the adoption of Tier 3 regulation of NOx and SOx, Ship Recycling Convention (the Hong Kong Convention), IMO DCS (EU MRV), etc.

In line with the above progress of PSC, ClassNK has been working hard and will work harder to increase the transparency of information related to PSC and to eliminate substandard vessels.

Further, the spread of COVID-19 has impacted on business operations throughout the industry. In response to the spread of COVID-19, ClassNK has been making every effort to provide support to all those who may miss due dates for surveys/audits due to force majeure.

June 2020

Note: Every effort has been made to ensure the accuracy of the information presented in this report. However, as information is collected from a variety of sources, ClassNK cannot be held responsible for any erroneous data, judgements or conclusions that may appear in this report, in cases where the information available should prove to have been incomplete or incorrect in any respect.

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## Chapter 1

### Status of Implementation and Recent Developments in PSC Worldwide

#### 1.1 Amendments to the relevant conventions

Major amendments to international conventions and to the relevant regulations that came into effect from 2018 through 2020 are summarized as below.

##### 1.1.1 Data collection system for fuel oil consumption of ships

###### Entry into force: 1 March 2018

*[Refer to ClassNK Technical Information TEC-1139, 1187, 1198]*

Data collection system for fuel oil consumption of ships (IMO DCS) is applied to ships of 5,000 gross tonnage and above, for which the Ship Energy Efficiency Management Plan (SEEMP) is required to be retained on board. IMO DCS requires the companies to the followings in accordance with methodology included in the SEEMP Part II.

- A) To collect each ship's fuel consumption data and relevant parameters from the calendar year 2019
- B) To aggregate the collected data, and report to the Administration or RO within three(3) months after the end of each calendar year
- C) In the event of the transfer of a ship from one Administration to another and/or a change from one Company to another, to aggregate the collected data, and report to the Administration or RO on the day of completion of the transfer or the change or as close as practical thereto
- D) To provide Statement of Compliance (SOC) onboard the vessel

Further, EU regulation on monitoring, reporting and verification of carbon dioxide emissions (EU MRV) is also applied to ships of 5,000 gross tonnage and above, which arrive at or depart from ports under the jurisdiction of an EU member state. EU MRV requires the companies to develop the Monitoring Plan and submit the Emmission Report to the RO accredited by the national accreditation body in EU, and provide a Document of Compliance (DOC) onboard the vessel.

A ship which has not carried out any EEA-related voyages during a whole reporting period (calendar year X) will not be required to have a DOC of specific reporting period (year X) on board, when calling at EEA ports between 30 June of year X+1 and 29 June of year X+2.

Meanwhile, it was reported that the reason for not having DOC might be confirmed from port authority when calling at ports under the jufisdiction of an EU member state. Therefore, it is recommended to be prepared to show past voyage record.

(FAQ of EU MRV: [https://ec.europa.eu/clima/policies/transport/shipping\\_en#tab-0-3](https://ec.europa.eu/clima/policies/transport/shipping_en#tab-0-3))

##### 1.1.2 EU Regulation on Ship Recycling

###### Entry into force: 30 December 2013

*[Refer to ClassNK Technical Information TEC-1170, 1185]*

Development of inventory of hazardous materials (IHM) is required for EU flagged ships and non-EU flagged ships by the following date. In addition, ship owners have to ensure that EU flagged ships to be recycled only at the recycling facilities included in the EU List, which list ship recycling facilities authorized in accordance with the Regulation.

[Deadline for development and having on board of an IHM]

- (1) EU flagged new ships: The date of delivery (the building contract on/after 31 December 2018)
- (2) EU flagged existing ships: 31 December 2020 (If a ship is to be recycled before 31 December 2020, IHM shall be prepared prior to recycling)
- (3) Non-EU flagged ships: 31 December 2020

For EU flagged ships, two hazardous materials (PFOS and HBCDD) are added to Hong Kong Convention. Among them, PFOS is compulsory to EU flagged existing ship (EU flagged new ships is prohibited to provide PFOS). Therefore, even if IHM complied with Hong Kong Convention is provided onboard the EU flagged existing ship, checking of PFOS is additionally required to comply with the EU regulation.

### **1.1.3 2020 global cap of sulphur content in fuel oils**

**Entry into force: 1 January 2020**

*[Refer to ClassNK Technical Information TEC-1192]*

In order to reduce emissions of Sulphur Oxides (SOx) and Particulate Matter (PM) from ships, the limit of the sulphur content of any fuel oil used on board ships was tightened to 0.50% m/m outside emission control areas (ECAs) from 1 January 2020. In case any equivalent means as long as the reduction method is evaluated as to be equivalent to the required reduction of SOx are not installed onboard, the loading of non-compliant fuel oil is prohibited except for non-availability of compliant fuel oil.

### **1.1.4 Maintenance for lifeboats etc.**

**Entry into force: 1 January 2020**

*[Refer to ClassNK Technical Information TEC-1183]*

On or after 1 January 2020, thorough examinations, operational tests, overhaul and repair of the lifeboat etc. are to be conducted by certified personnel of either the manufacturer or an authorized service provider. In addition, personnel for the work is to be certified in accordance with IMO Resolution MSC.402(96) for each make and type of the equipment to be worked on.

### **1.1.5 Electronic record books**

**Entry into force: 1 October 2020**

*[Refer to ClassNK Technical Information TEC-1192]*

MARPOL Convention requires that ships are to be provided with several record books for the purpose of management of pollution prevention. On or after 1 October 2020, approval of the electronic record books will be needed for these record books in accordance with Guidelines for the use of electronic record books under MARPOL if the electronic record books are used in spite of paper ones.

*New amendments to conventions are also introduced on the ClassNK Website in the section, 'IMO International Convention Calendar'.*

[\(http://www.classnk.or.jp/hp/en/imo\\_conv\\_schedule/\)](http://www.classnk.or.jp/hp/en/imo_conv_schedule/)

## 1.2 Recent global developments

### 1.2.1 MOUs around the world

In order to carry out PSC effectively, a recommendation concerning regional co-operation in the control of ships and discharges was adopted as a resolution by the IMO. In July 1982, fourteen European countries signed the Paris Memorandum of Understanding on Port State Control (Paris MoU), and today many countries have signed and accepted similar MOUs around the world. Currently, nine MOUs exist around the world and their respective activities in terms of implementing PSC are described below.

<i>European and North Atlantic region</i>	: Paris MoU	<a href="http://www.parismou.org/">(http://www.parismou.org/)</a>
<i>Asia-Pacific region</i>	: Tokyo MOU	<a href="http://www.tokyo-mou.org/">(http://www.tokyo-mou.org/)</a>
<i>Latin American region</i>	: Latin American Agreement	<a href="http://www.acuerdolatino.int.ar/">(http://www.acuerdolatino.int.ar/)</a>
<i>Caribbean region</i>	: Caribbean MOU	<a href="http://caribbeanmou.org/">(http://caribbeanmou.org/)</a>
<i>Mediterranean region</i>	: Mediterranean MoU	<a href="http://www.medmou.org/">(http://www.medmou.org/)</a>
<i>Indian Ocean region</i>	: Indian Ocean MOU	<a href="http://www.iomou.org/">(http://www.iomou.org/)</a>
<i>Black Sea region</i>	: Black Sea MOU	<a href="http://www.bsmou.org/">(http://www.bsmou.org/)</a>
<i>West and Central Africa region</i>	: Abuja MoU	<a href="http://www.abujamou.org/">(http://www.abujamou.org/)</a>
<i>Arab States of the Gulf</i>	: Riyadh MoU	<a href="http://www.riyadh-mou.org/">(http://www.riyadh-mou.org/)</a>

#### (1) European and North Atlantic region (Paris MoU)

Established: 1 July 1982

Members: Belgium, Bulgaria, Canada, Croatia, Cyprus, Denmark, Estonia, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Latvia, Lithuania, Malta, the Netherlands, Norway, Poland, Portugal, Romania, the Russian Federation, Slovenia, Spain, Sweden, and the United Kingdom

-1. The Paris MoU consists of 27 participating maritime Administrations and covers the waters of the European coastal States and the North Atlantic basin from North America to Europe. The Paris MoU states that their aim is to eliminate the operation of sub-standard ships through a harmonized system of PSC.

-2. Press releases have announced the recent activities of the Paris MoU as follows.

##### Press release dated 22 May 2019

- The Committee discussed the issue of access to PSC data by third parties and agreed this would require further consideration at the next Committee meeting.
- Decisions were taken on a new methodology to calculate flag state performance based on the average detention rate and recognised organization (RO) fleet performance based on detainable deficiencies.

##### Press release dated 17 June 2019

- The Paris MoU announced new performance lists for flag and Recognized Organizations. These lists will take effect from 1 July 2019.

##### Press release dated 26 March and 28 May 2020

- Temporary guidance for Member Authorities during the COVID-19 crisis has been developed.

##### Press release dated 16 June 2020

- The CIC on “Stability in general” scheduled to be held from September to November 2020 have been decided to postpone to 2021.

**(2) Asia-Pacific region (Tokyo MOU)**

Established: 1 December 1993

Members: Australia, Canada, Chile, China, Fiji, Hong Kong, Indonesia, Japan, Republic of Korea, Malaysia, Marshall Islands, New Zealand, Panama, Papua New Guinea, Peru, Philippines, the Russian Federation, Singapore, Thailand, Vanuatu, Viet Nam

- 1. The main objectives of the Memorandum have been announced
  1. to establish an effective Port State Control regime in the Asia-Pacific region through the co-operation of its members and the harmonization of their activities,
  2. to eliminate substandard shipping so as to promote maritime safety,
  3. to protect the marine environment, and
  4. to safeguard working and living conditions onboard ships.

- 2. Press releases announced the activities of the Tokyo MOU as follows:

Press release dated 21 October 2019

- The Tokyo MOU announced that the 30th meeting of the PSC Committee of the Tokyo MOU was held in Majuro, Marshall Islands through 14 to 17 October 2019.
- The Committee unanimously agreed to accept Panama as the 21th member Authority.
- The Committee decided to conduct the CIC on Stability in General in 2020. By the agreement with the Paris MOU, the Committee confirmed to carry out a joint CIC on STCW in 2021 and Fire Safety System in 2022.
- The 31th meeting of the PSC Committee will be held in Republic of Korea in November 2020.

Press release dated 2 March 2020

- The Tokyo MOU announced the preliminary results of the Concentrated Inspection Campaign (CIC) on Emergency Systems and Procedures, which was conducted from 1 September to 30 November 2019.
- During the course of the campaign Authorities carried out a total of 7,174 inspections of target ships. Of this quantity, 55 ships were detained as a result of deficiencies found during the CIC.

Press release dated 12 March and 10 April 2020

- Temporary guidance for Member Authorities during the COVID-19 crisis has been developed.

Press release dated 16 June 2020

- The CIC on “Stability in general” scheduled to be held from September to November 2020 have been decided to postpone to 2021.

**(3) Latin-American region (Latin American Agreement)**

Established: 5 November 1992

Members: Argentina, Bolivia, Brazil, Chile, Colombia, Cuba, Ecuador, Guatemala, Honduras, Mexico, Panama, Peru, Republic of Dominica, Uruguay, and Venezuela

**(4) Caribbean region (Caribbean MOU)**

Established: 9 February 1996

Members: Antigua and Barbuda, Aruba, the Bahamas, Barbados, Belize, Bermuda, the Cayman Islands, Cuba, Curacao, France, Grenada, Guyana, Jamaica, the Netherlands, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Suriname, and Trinidad and Tobago

**(5) Mediterranean region (Mediterranean MoU)**

Established: 11 July 1997

Members: Algeria, Cyprus, Egypt, Israel, Jordan, Lebanon, Malta, Morocco, Tunisia, and Turkey



**(6) Indian Ocean region (Indian Ocean MOU)**

Established: 5 June 1998

Members: Australia, Bangladesh, Comoros, Eritrea, France (La Reunion), India, Iran, Kenya, Maldives, Mauritius, Madagascar, Mozambique, Myanmar, Seychelles, South Africa, Sri Lanka, Sudan, Sultanate of Oman, Tanzania, and Yemen

- 1. According to Annual Report 2019 of the Indian Ocean MOU, a total of 5,943 inspections were carried out and 232 vessels were detained in 2019.
- 2. The Indian Ocean MOU announced the preliminary results of the Concentrated Inspection Campaign (CIC) on Emergency System and Procedures, which was conducted from 1 September to 30 November 2019. During the course of the campaign Authorities carried out a total of 1,274 inspections of target ships. Of this quantity, 9 ships were detained as a result of deficiencies found during the CIC.
- 3. CIC on Stability in General is scheduled to be carried out in 2020.
- 4. Temporary guidance for Member Authorities during the COVID-19 crisis has been developed.

**(7) Black Sea region (Black Sea MOU)**

Established: 7 April 2000

Members: Bulgaria, Georgia, Romania, the Russian Federation, Turkey, and Ukraine

- 1. According to Annual Report 2018 of the Black Sea MOU, a total of 5,214 inspections were carried out and 278 vessels were detained in 2018.
- 2. The Black Sea MOU announced the results of the Concentrated Inspection Campaign (CIC) on Emergency System and Procedures, which was conducted from 1 September to 30 November 2019. During the course of the campaign Authorities carried out a total of 1,175 inspections of target ships. Of this quantity, 17 ships were detained as a result of deficiencies found during the CIC.
- 3. CIC on Stability in General is scheduled to be carried out in 2020.

**(8) West and Central Africa region (Abuja MoU)**

Established: 22 October 1999

Members: Angola, Benin, Cape Verde, Republic of Congo, Cote D'Ivoire, Gabon, The Gambia, Ghana, Republic of Guinea, Guinea Bissau, Liberia, Nigeria, Sao Tome and Principe, Senegal, Sierra Leone, South Africa, and Togo

- 1. According to Annual Report 2019 of the Abuja MoU, a total of 2,695 inspections were carried out and 21 vessels were detained in 2019.
- 2. The Abuja MOU announced the results of the Concentrated Inspection Campaign (CIC) on Emergency Systems and Procedures, which was conducted from 1 September to 30 November 2019. During the course of the campaign Authorities carried out a total of 430 inspections of target ships. Of this quantity, 1 non-conformity was recorded as a result of deficiencies found during the CIC.

**(9) Arab States of the Gulf (Riyadh MoU)**

Established: 30 June 2004

Members: Kingdom of Bahrain, Kingdom of Saudi Arabia, State of Kuwait, State of Qatar, State of United Arab Emirates, and Sultanate of Oman

## **1.2.2 Port State Control in the United States (USCG)**

### **(1) Activity**

Although the United States Coast Guard (USCG) is not a member of any MOU, it is an observer at a number of MOUs, and undertakes effective PSC in cooperation with other MOUs. In the 1970's, the U.S. Coast Guard increased its emphasis on the examination of foreign vessels. Although this emphasis was primarily driven by requirements to ensure compliance with the then new U.S. pollution prevention and navigation safety regulations, boarding officers also exercised Port State authority when instances of non-compliance with SOLAS and MARPOL were noted. In 1994, the U.S. introduced risk-management methodologies into the Port State Control program in order to allocate limited inspection resources to where they could do the most good, by identifying those ships, ship owners, classification societies and Flag Administrations that were most often found lacking in meeting their international Convention responsibilities. On 1 January 2001, the USCG implemented an initiative to identify high-quality ships, called QUALSHIP 21, quality shipping for the 21st century. This program has since proven to be very effective in recognizing well operated and maintained ships of good quality and continues in use today. Further, on 1 July 2017, in addition to QUALSHIP 21, the program of E-ZERO (Zero Environmental Deficiencies or Violations) began. E-ZERO designation has been assigned with exemplary vessels that have consistently adhered to environmental compliance.

### **(2) PSC Safety Targeting Matrix**

The USCG uses the Port State Control Safety and Environmental Protection Compliance Targeting Matrix which enables the Coast Guard to rationally and systematically determine the probable risk posed by non-U.S. ships calling at U.S. ports. The matrix is used to decide which ships Port State Control Officers should examine on any given day, in any given port. The numerical score, along with other performance based factors, determines a ship's priority for examination.

(Reference: <http://www.uscg.mil>)

### **(3) Banning of foreign vessels**

All foreign flagged vessels operating in U.S. waters are required to be maintained in compliance with U.S. regulations, international conventions and other required standards. However, when a vessel has been repeatedly detained by the USCG (totaling three detentions within a twelve month period) and it is determined that failure to effectively implement the SMS onboard may be a contributing factor for the substandard conditions that led to the detentions, the USCG Headquarters (USCG-HQ) will issue a Letter of Denial prohibiting the ship from further entering any U.S. port until such time as certain actions have been taken to rectify the situation. However, even if a vessel has less than three detentions in twelve months, a Letter of Denial may be issued to any vessel which, in the option of the USCG;

1. may pose a significant risk to the safety of the vessel, crew or the marine environment; or
2. has a history of accidents, pollution incidents, or serious repair problems which creates reason to believe that such a vessel may be unsafe or create a threat to the marine environment; or
3. has discharged oil or other hazardous material in violation of any law of the United States or in a manner or quantities inconsistent with the provisions of any treaty to which the United States is a party.

### 1.3 Measures adopted by ClassNK

#### 1.3.1 Handling of the Deficiencies Identified by PSC Inspections

##### (1) Cooperative assistance with PSC and treatment of deficiencies

When surveyors of the Society are notified of the detention of a ship classed with ClassNK, the Society actively co-operates with the reporting PSC in a number of ways. The more direct of these steps include the following.

- Surveyors liaise with PSC to ensure that they are called in as soon as appropriate when deficiencies related to class and/or statutory matters are identified.
- Surveyors liaise with PSC officers to ensure uniformity of interpretation of class and statutory requirements.
- Surveyors provide PSC officers with background information, extracts from reports pertinent to the inspection, and details of outstanding recommendations of class and statutory items whenever so requested by the PSC.
- Attending surveyors examine not only the condition of the deficiencies identified by the PSC officers but also expand the scope of the survey for the general condition of the hull, machinery and equipment, or carry out the general examination to the extent of an annual survey if necessary, carefully considering the seriousness of any deficiencies when they attend ships that have been subject to an intervention action by the PSC.

##### (2) Treatment of inspection reports by PSC officers

When a surveyor receives an inspection report from PSC, the report is sent to the ClassNK Head Office. The report is immediately examined by the experienced staff to identify the causes of the deficiencies. This examination is carried out for all ships for which such reports are received, and the results are circulated to all sections concerned, as necessary. The results are also reflected in a ClassNK PSC database that has been developed for the purpose of providing surveyors with PSC related information electronically. The results of this examination are also submitted to the Flag State Administration of the ship, as required. Further, visits may also be made to the management company or others, when deemed appropriate, to advise them of the relevant deficiencies noted and to encourage them to more proactively improve the routine maintenance of their ships and take other measures as necessary to ensure the highest levels of safe and environmentally friendly operation. In cases where the deficiencies pointed out by the PSC are determined to be related to previous surveys conducted by surveyors of the Society, those surveys are treated as a non-conforming service, and appropriate corrective and preventive actions are taken in accordance with the ClassNK quality system.

#### 1.3.2 Minimizing the number of detained ships in order to reduce substandard ships

##### (1) Special training at several in-house meetings

Special training on PSC related issues is conducted at several meetings held regularly for general managers and managers, to ensure that surveyors carry out full and effective surveys with an uncompromising attitude towards ensuring the quality and safety of the ships classed with the Society.

Special re-training is also carried out under the supervision of the Head Office and regional managers, as needed, for those surveyors who have conducted any surveys determined to be a non-conforming service under the quality system of the Society.

##### (2) Meetings and informal gatherings with management companies

###### (a) Visiting Management Companies

When a ship classed with ClassNK is detained by PSC, if deemed necessary, a senior surveyor or manager of the Society visits the company managing the ship to discuss what steps can be taken to improve the routine maintenance of the ships in their fleet, so as to prevent both a recurrence of the deficiencies noted and the occurrence of similar problems in the future.

**(b) Meetings and seminars**

PSC related issues are regularly discussed at informal gatherings and technical committee meetings held with management companies. At such times, explanations are given and documents presented, with emphasis placed on the importance of proactively ensuring the proper maintenance of ships and education of crew in order to prevent the detention of ships.

**(c) Software**

Mobile application “ARRIVAL CHECKLIST for PSC” and software “PrimeShip-PSC Intelligence” have been prepared in order to support an improvement of PSC performance and ship management system.

**i) ARRIVAL CHECKLIST for PSC** ([http://www.classnk.or.jp/hp/en/info\\_service/psc/](http://www.classnk.or.jp/hp/en/info_service/psc/))

It is the preparatory checklist mobile app to help minimize the risk of PSC detentions and deficiencies.

[Main Functions]

- The items frequently pointed out by PSCO can be checked in each area onboard
- Check results can be input the system along with notes and photos
- Check results can be forwarded to company easily
- The statistics and tendency of detentions in major ports can be confirmed
- Checklists and statistics are updated automatically as needed

**ii) PrimeShip-PSC Intelligence** (<http://www.classnk.or.jp/hp/en/activities/portal/psc-intelligence.html>)

This system provides users with various functions to help improve fleet PSC performance and ship management systems.

[Main Functions]

- Easy visual checking of a trend in the number of detentions and deficiencies at each port or country on world-map with frequent deficiency examples
- Output 1) PSC checklists for each port or country based on the trend and 2) a summary report for PSC performance of managing ships
- Analysis on the trend of deficiencies recorded on managing ships on a real-time basis through the managing company’s input of PSC reports
- Easy registration for ships using a data link with NK-SHIPS

**(d) Publications**

The “ClassNK Annual Report on Port State Control” and a checklist entitled “Good Maintenance on board Ships which can be used by the ship’s crew for quick and easy inspection of a ship before entering port are distributed to all registered management companies or others in the ClassNK fleet and also posted on NK website as below. ([http://www.classnk.or.jp/hp/en/info\\_service/psc/](http://www.classnk.or.jp/hp/en/info_service/psc/))

“Monthly PSC Information”, which indicates the cases of PSC inspection including detainable deficiency or ISM related deficiency, was also posted on the same page, however, as of 1 April 2019, all monthly PSC information downloads have been no longer available. Beginning on 1 April 2019, past and current monthly PSC information can be downloaded from “PrimeShip-PSC Intelligence”.

Twenty “ClassNK PSC Bulletin” were sent to Company managed ClassNK fleet as of June 2020 by e-mail. This bulletin provides timely information on particularly notable deficiencies pointed out during PSC inspections of NK classed ships, and will be continuously served to management companies.

### 1.3.3 Visits to PSC authorities

Deginated persons from the ClassNK Head Office as well as local survey offices are assigned to visit the headquarters or offices of various PSC authorities with the aim of introducing ClassNK and exchanging views on matters of mutual concern. In 2019, persons from the ClassNK Head Office visited the following PSC authorities for the above-mentioned purpose.

- |             |   |
|-------------|---|
| - Australia | Australian Maritime Safety Authority (AMSA) |
| - China     | Maritime Safety Administration (MSA)        |
| - U.S.A.    | United States Coast Guard (USCG)            |
| - Indonesia | The Indonesia Maritime Authority            |
| - Russia    | Black Sea Maritime Ports Administration     |

## Chapter 2

### Statistical Analysis of Detained Ships Registered with ClassNK

#### 2.1 General

The data in this chapter, on ships detained due to deficiencies identified during PSC inspections, is based on the following sources:

- (1) Notifications from Port States issued in accordance with IMO Resolution A.1052(27) “Procedure for Port State Control, and
- (2) Publications related to detained ships issued by the USCG, the Paris MoU, and the Tokyo MOU.

From January to December 2019, 394 PSC detentions were reported relating to 371 ships classed by NK. This included cases of detention for reasons not related to class or to NK itself. The total number of NK-registered ships (500 GT or over) was 8,501 at the end of December 2019. Therefore, the 371 ships detained represent about 4.4 % of the total number of ships in the NK fleet. Further, detention ratio (Detentions/Registered number in 2019) of the NK fleet in 2019 is about 4.6%.

#### 2.2 Data on Detentions

##### 2.2.1 Detentions per Flag State

**Table 2.2.1 Detentions per Flag State**

Country	Number of Registered Ships in 2019 (500GT or over)			Number of Detentions			Detention Ratio (%) (= Detentions / Registered Number in each year)		
	2017	2018	2019	2017	2018	2019	2017	2018	2019
Panama	3,119	3,053	3,058	222	183	211	7.1	6.0	6.9
Liberia	564	601	663	27	33	42	4.8	5.5	6.3
Marshall Islands	576	606	679	31	31	28	5.4	5.1	4.1
Malta	210	188	179	20	16	13	9.5	8.5	7.3
Hong Kong, China	449	439	422	12	15	12	2.7	3.4	2.8
Singapore	758	707	719	12	12	11	1.6	1.7	1.5
Belize	46	49	52	19	8	8	41.3	16.3	15.4
Bahamas	157	158	169	9	3	7	5.7	1.9	4.1
Viet Nam	90	89	90	2	5	7	2.2	5.6	7.8
Thailand	79	78	75	6	3	5	7.6	3.8	6.7
Cyprus	82	73	68	7	11	5	8.5	15.1	7.4
Japan	952	965	983	1	4	4	0.1	0.4	0.4
Indonesia	181	205	224	2	4	3	1.1	2.0	1.3
Malaysia	272	268	256	0	0	1	0.0	0.0	0.4
Cayman Islands	56	59	57	1	0	1	1.8	0.0	1.8
Others	854	827	807	64	56	36	4.7	6.2	4.5
Total	8,445	8,365	8,501	426	384	394	5.0	4.6	4.6

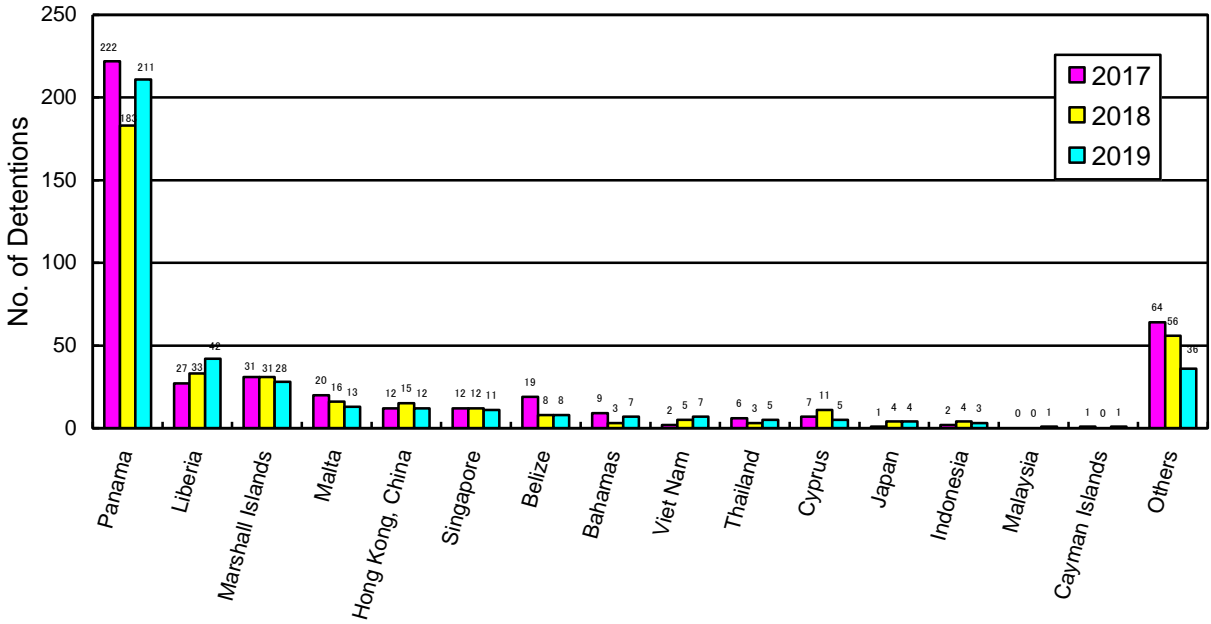


Fig. 2.2.1-1 No. of Detentions per Flag

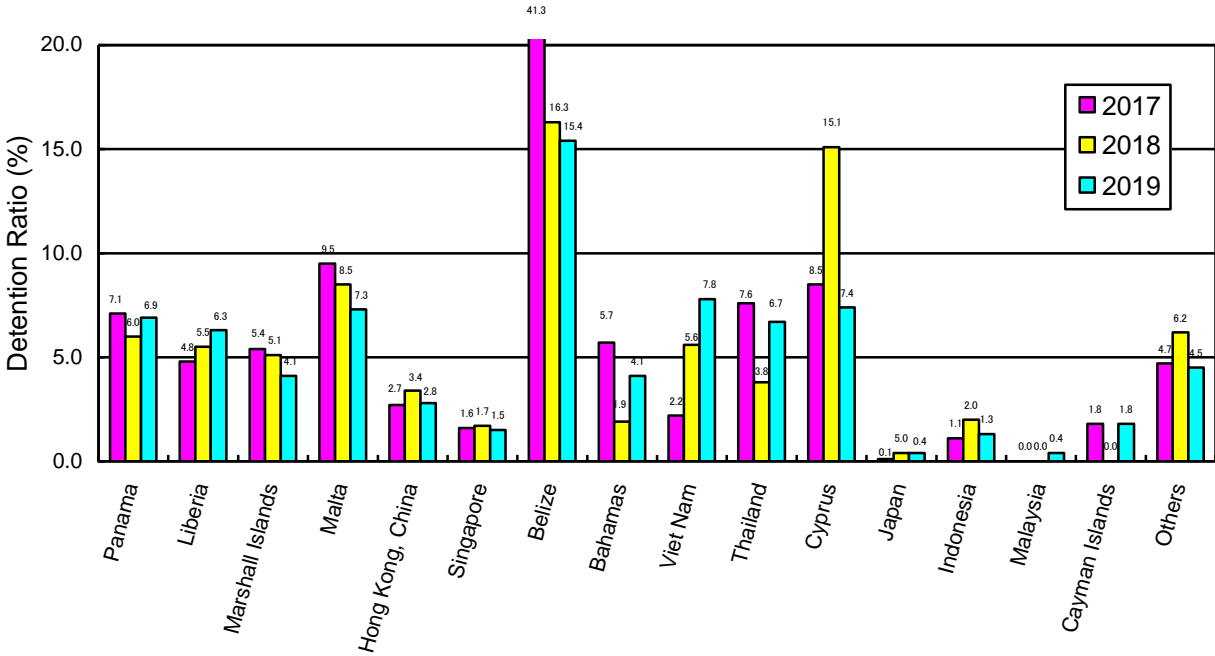


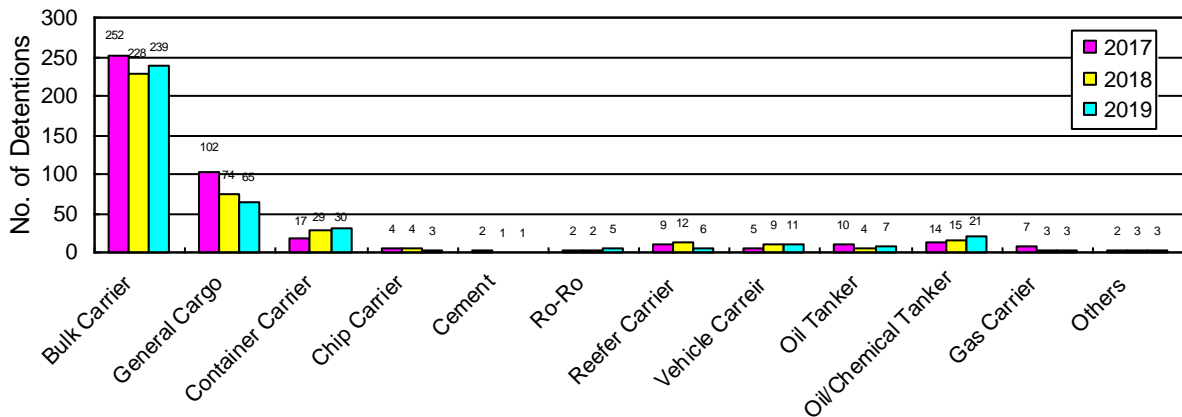
Fig 2.2.1-2 Detention Ratio per Flag (%)

### 2.2.2 Detentions per Ship Type

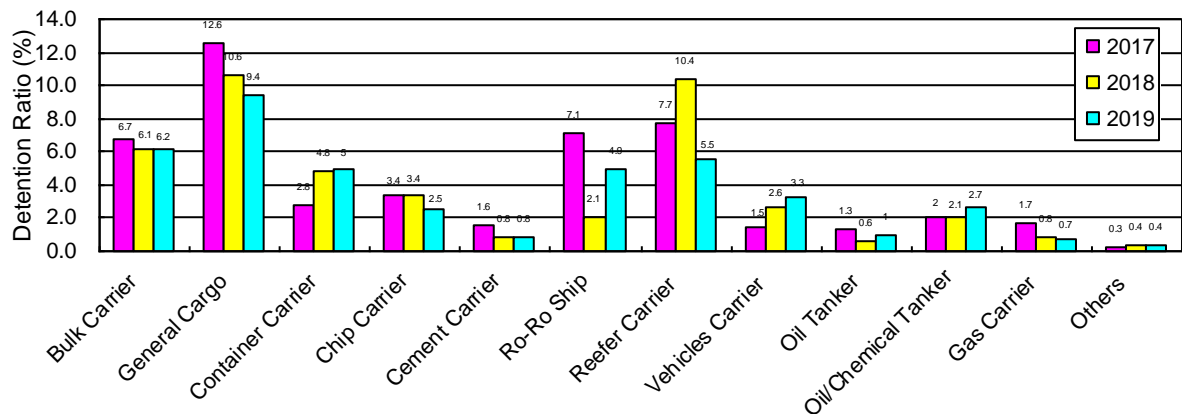
**Table 2.2.2 Detentions per Ship Type**

Ship Type	Number of Registered Ships in 2019 (500GT or over)	Number of Detentions			Detention Ratio (%) (= Detentions / Registered Number in each year)		
		2017	2018	2019	2017	2018	2019
Bulk Carrier	3,826	252	228	239	6.7	6.1	6.2
General Cargo	689	102	74	65	12.6	10.6	9.4
Container Carrier	605	17	29	30	2.8	4.8	5.0
Chip Carrier	118	4	4	3	3.4	3.4	2.5
Cement	125	2	1	1	1.6	0.8	0.8
Ro-Ro	103	2	2	5	7.1	2.1	4.9
Reefer Carrier	109	9	12	6	7.7	10.4	5.5
Vehicle Carreir	337	5	9	11	1.5	2.6	3.3
Oil Tanker	707	10	4	7	1.3	0.6	1.0
Oil/Chemical Tanker	766	14	15	21	2.0	2.1	2.7
Gas Carrier	401	7	3	3	1.7	0.8	0.7
Others	715	2	3	3	0.3	0.4	0.4
<b>Total</b>	<b>8,501</b>	<b>426</b>	<b>384</b>	<b>394</b>			

Among the dry cargo ships with the large numbers, a detention ratio of General cargo ships was identified as having a higher detention ratio than other ship types noted. ('Detention ratio' was determined by dividing the number of detentions by the number of ships of each respective ship type in the NK fleet.)



**Fig. 2.2.2-1 No. of Detentions per Ship Type**



**Fig. 2.2.2-2 Detention Ratio per Ship Type (%)**

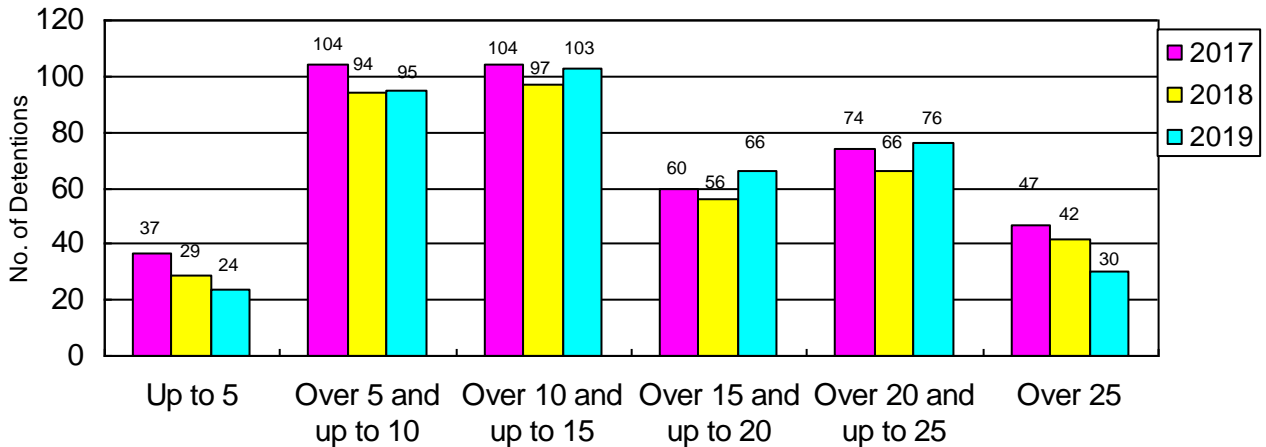


### 2.2.3 Detentions per Ship's Age

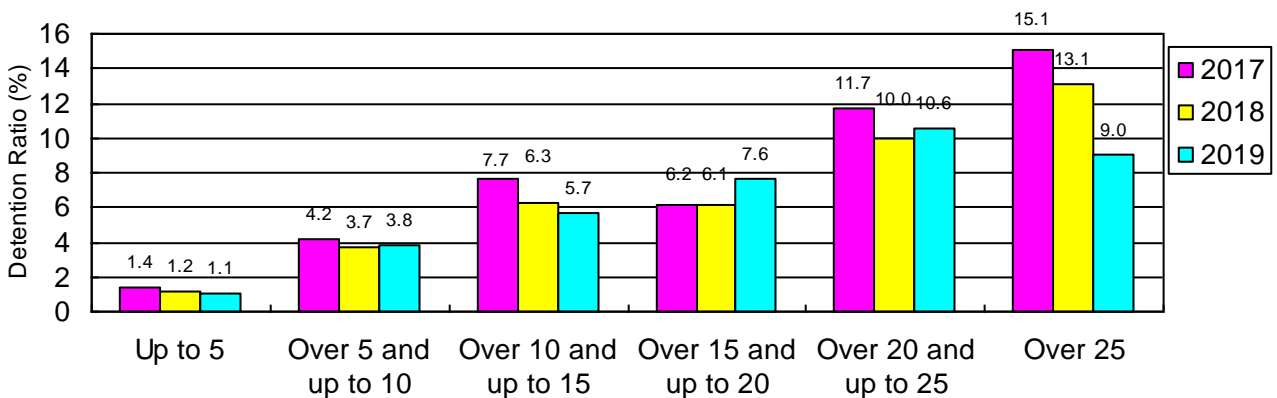
**Table 2.2.3 Detentions per Ship's Age**

Ship's age	Number of Registered Ships in 2019 (500GT or over)	Number of Detentions			Detention Ratio (%) (= Detentions / Registered Number in each year)		
		2017	2018	2019	2017	2018	2019
Up to 5 years old	2,271	37	29	24	1.4	1.2	1.1
Over 5 and up to 10	2,515	104	94	95	4.2	3.7	3.8
Over 10 and up to 15	1,794	104	97	103	7.7	6.3	5.7
Over 15 and up to 20	870	60	56	66	6.2	6.1	7.6
Over 20 and up to 25	716	74	66	76	11.7	10.0	10.6
Over 25	335	47	42	30	15.1	13.1	9.0
<b>Total</b>	<b>8,501</b>	<b>426</b>	<b>384</b>	<b>394</b>			

Aged ships tend to increase the detention ratio.



**Fig. 2.2.3-1 No. of Detentions per Ship's Age**



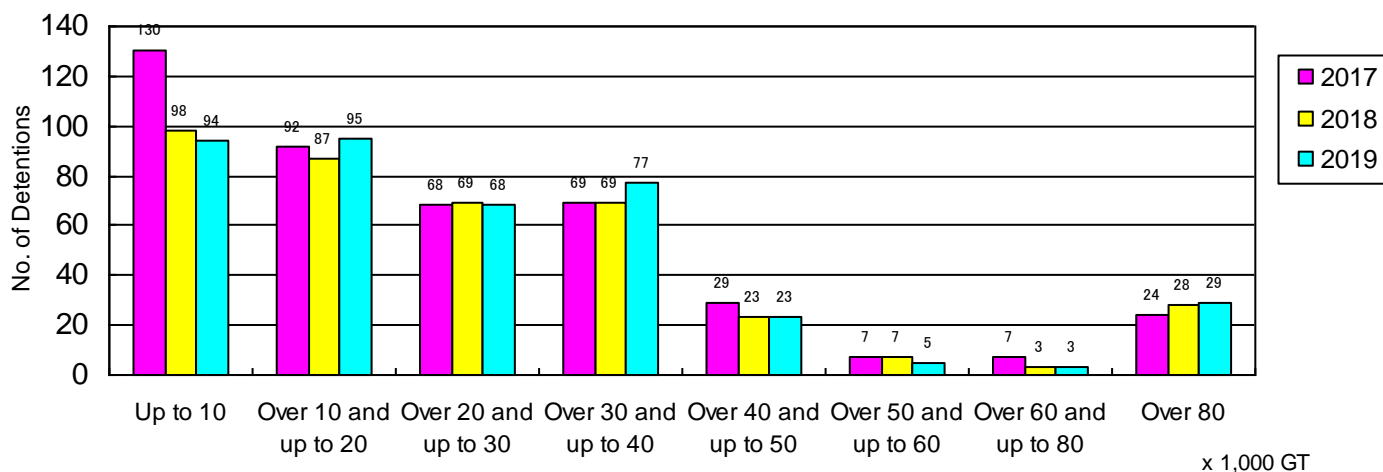
**Fig. 2.2.3-2 Detention Ratio per Ship's Age (%)**

### 2.2.4 Detentions per Ship Size (Gross Tonnage)

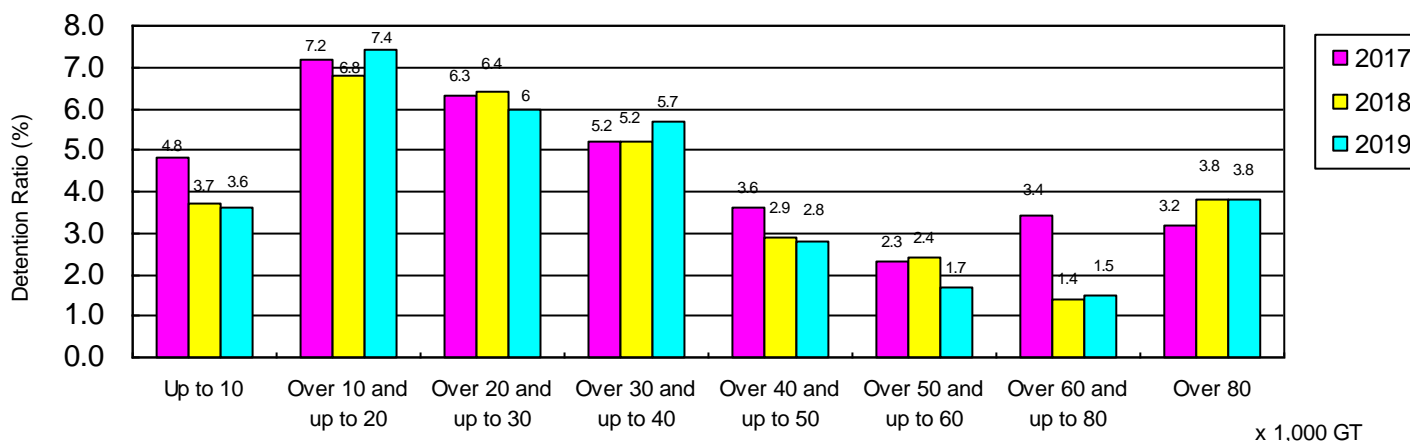
**Table 2.2.4 Detentions per Ship Size (Gross Tonnage)**

Gross Ton (x 1,000)	Number of Registered Ships in 2019 (500GT or over)	Number of Detentions			Detention Ratio (%) (= Detentions / Registered Number in each year)		
		2017	2018	2019	2017	2018	2019
Up to 10	2,637	130	98	94	4.8	3.7	3.6
Over 10 and up to 20	1,283	92	87	95	7.2	6.8	7.4
Over 20 and up to 30	1,131	68	69	68	6.3	6.4	6.0
Over 30 and up to 40	1,358	69	69	77	5.2	5.2	5.7
Over 40 and up to 50	822	29	23	23	3.6	2.9	2.8
Over 50 and up to 60	298	7	7	5	2.3	2.4	1.7
Over 60 and up to 80	200	7	3	3	3.4	1.4	1.5
Over 80	772	24	28	29	3.2	3.8	3.8
<b>Total</b>	<b>8,501</b>	<b>426</b>	<b>384</b>	<b>394</b>			

A detention ratio of vessels with GT up to 40,000 tends to be higher than that of vessels with GT over 40,000.



**Fig.2.2.4-1 No. of Detentions per Ship Size (Gross Tonnage)**



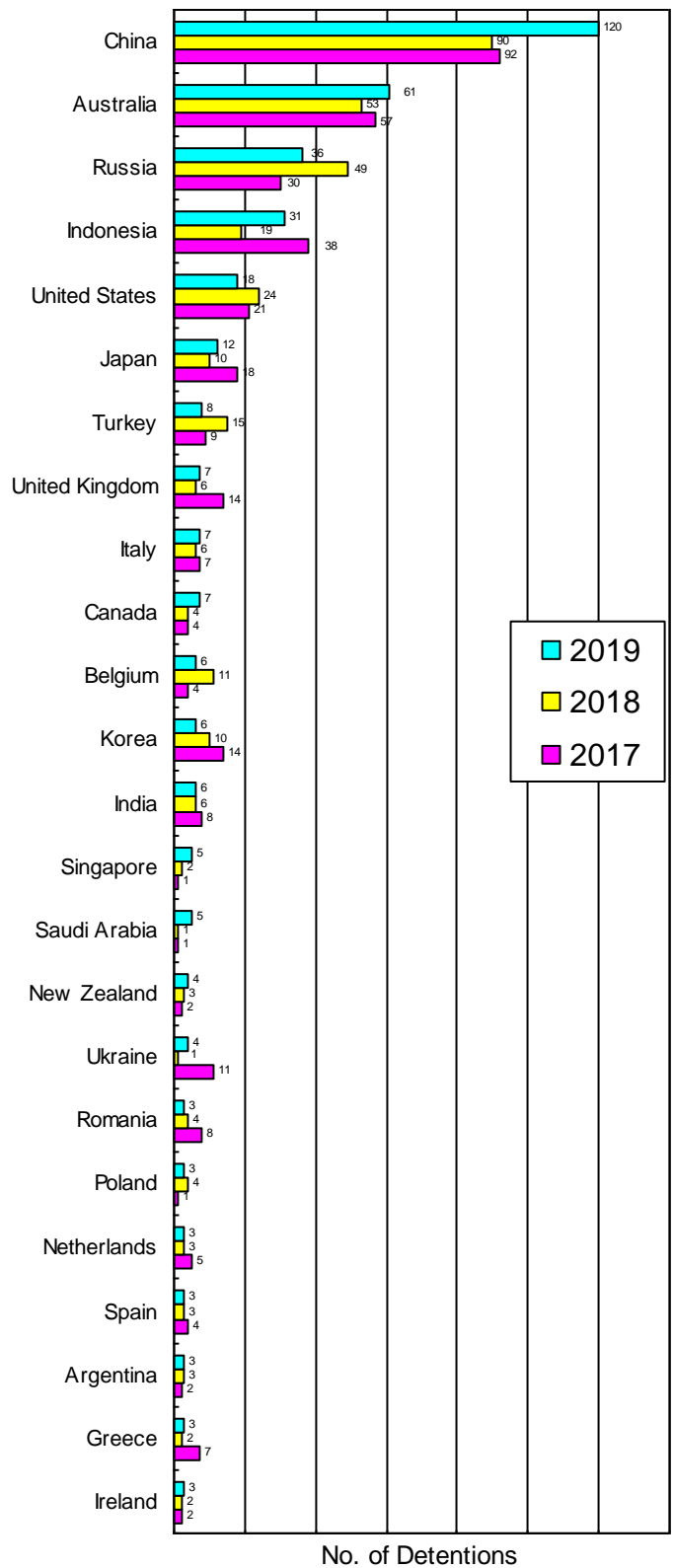
**Fig. 2.2.4-2 Detention Ratio per Ship Size (Gross Tonnage) (%)**

2.2.5 Detentions per PSC Country

**Table 2.2.5**  
**No. of Detentions per PSC Country**

Country	2017	2018	2019
China	92	90	120
Australia	57	53	61
Russia	30	49	36
Indonesia	38	19	31
United States*	23	25	18
Japan	18	10	12
Turkey	9	15	8
United Kingdom	14	6	7
Italy	7	6	7
Canada	4	4	7
Belgium	4	11	6
Korea	14	10	6
India	8	6	6
Singapore	1	2	5
Saudi Arabia	1	1	5
New Zealand	2	3	4
Ukraine	11	1	4
Romania	8	4	3
Poland	1	4	3
Netherlands	5	3	3
Spain	4	3	3
Argentina	2	3	3
Greece	7	2	3
Ireland	2	2	3
Others	66	53	30
<b>Total</b>	<b>426</b>	<b>384</b>	<b>394</b>

(\*) Including Guam, Puerto Rico, and Pago Pago



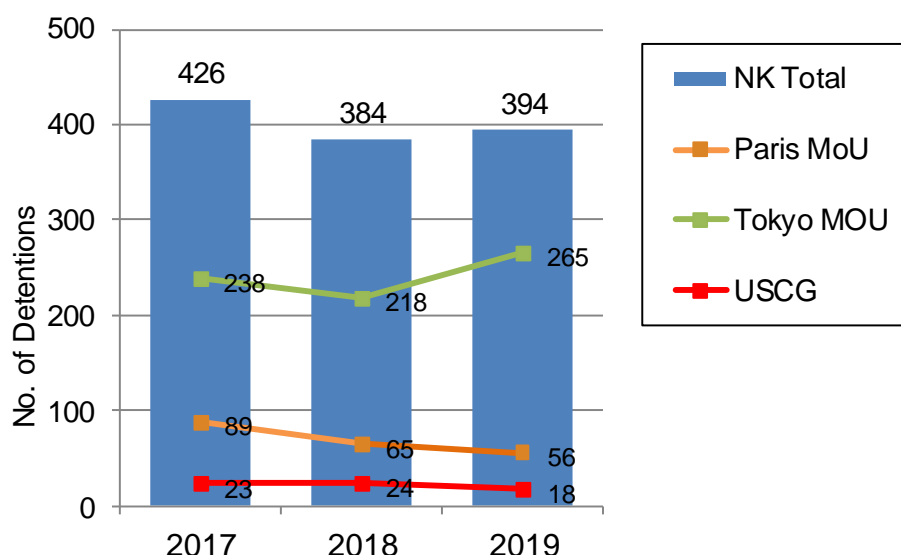
**Fig. 2.2.5 No. of Detentions per PSC Country**

Number of ships detained by China in 2019 dramatically increased compared with that of 2018.

## 2.2.6 Detentions per MOUs and USCG

**Table 2.2.6 No. of Detentions per MOUs and USCG**

Region	2017	2018	2019
Tokyo MOU	238	218	265
Paris MoU	89	65	56
USCG	23	24	18
Others	76	77	55
Total	426	384	394



**Fig. 2.2.6 No. of Detentions per MOUs and USCG**

Compared with number of 2018, the number of detention at Paris MoU and USCG decreased but the number of detention at Tokyo MOU increased 22% in 2019.

### 2.3 Analysis of Detainable Deficiencies

#### 2.3.1 Detainable Deficiencies per Category

In 2019 a total of 1,112 detainable deficiencies were reported relating to 394 detentions, i.e., deficiencies which were serious enough to jeopardise the ship’s seaworthiness, safety of the crew onboard, or to present a threat of harm to the environment and therefore warranted the detention of the ship. The deficiencies are categorized as shown in Figure 2.3.1 and categories in this figure are based on those of the Tokyo MOU. Deficiencies related to fire safety and life-saving appliances combined accounted for about one-third of the total in 2019.

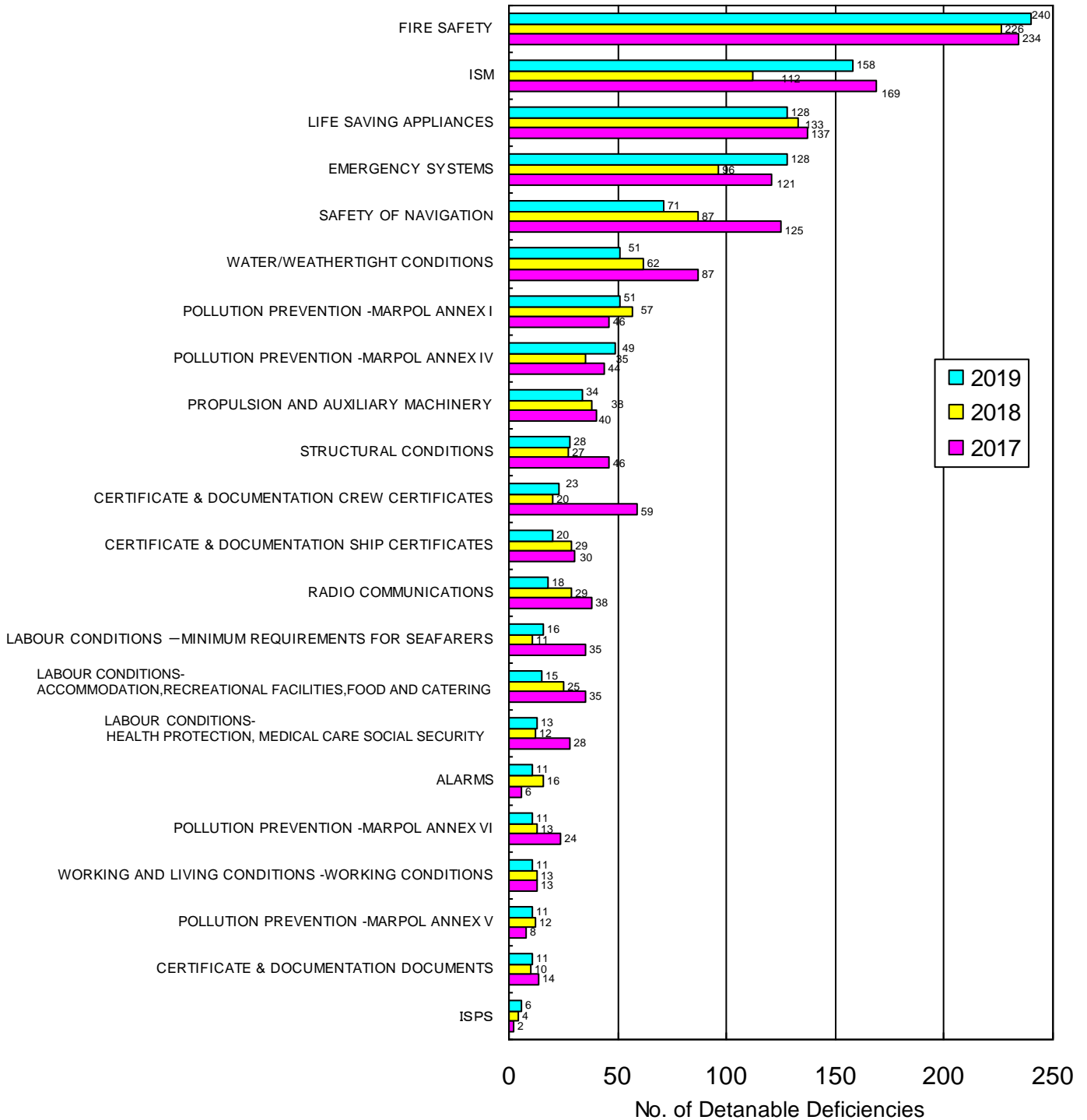


Fig. 2.3.1 No. of Detainable Deficiencies per Category

### 2.3.2 Detainable Deficiencies per Defective item

Figure 2.3.2 shows those items of detainable deficiencies that were reported frequently, in conjunction with the actual detention of ships in the NK fleet. Lifeboats, ISM, fire damper continue to be the major items where most detainable deficiencies were found. The items reported from 2017 to 2019 are explained in detail in paragraphs (1) to (15) below. (Regarding details of deficiencies related to ISM and MLC, refer to Chapter 3 and Chapter 4.)

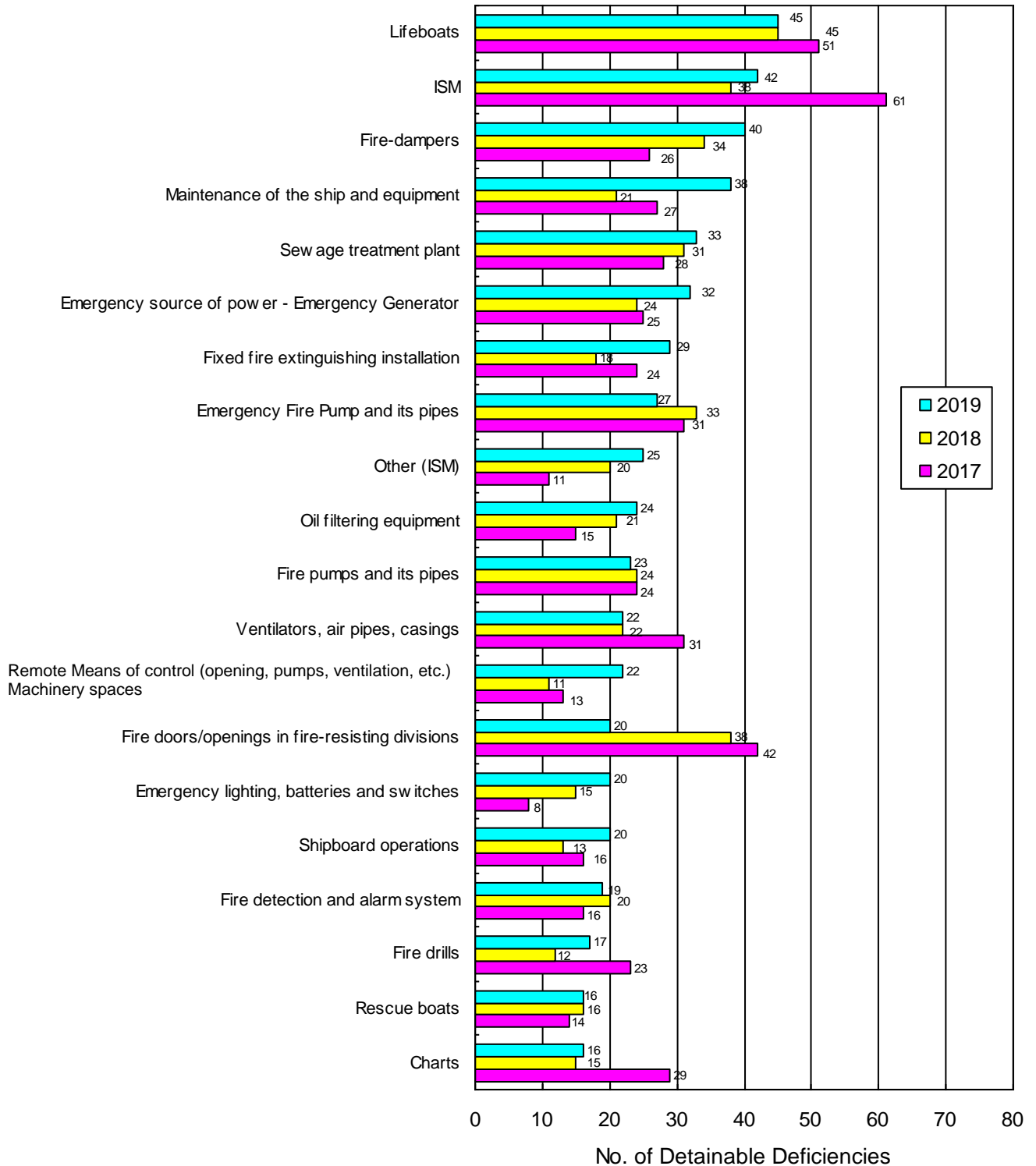


Fig. 2.3.2 No. of Detainable Deficiencies per Defective item

**(1) Fire Safety**

Major types and details of deficiencies noted under the category of “Fire Safety” are shown in Table 2.3.2-(1) below.

**Table 2.3.2-(1) Fire Safety**

Item	2017	2018	2019	Noted Deficiencies
Fire-dampers	26	34	40	Wasted and holed fire-dampers Inoperable fire-dampers
Fixed fire extinguishing installation	24	18	29	Wasted and holed CO <sub>2</sub> pipes
Fire pumps and its pipes	24	24	23	Malfunction of fire pump(incl. for emergency) Wasted and holed fire main line
Remote Means of control (opening, pumps, ventilation, etc.) Machinery spaces	13	11	22	Inoperable quick closing valve / isolation valve
Fire doors/openings in fire-resisting divisions	42	38	20	Malfunction of self-closing devices Poor closing condition of fire door
Fire detection and alarm system	16	20	19	Inoperable fire detection units
Ventilation	11	9	13	Corroded and holed ventilator casings Malfunction of mechanical ventilators
Oil accumulation in engine room	5	5	12	Fire hazard due to oil leakage from equipment in Engine Room
Other (fire safety)	11	9	10	Malfunction of oil level gauge

**(2) ISM Related Deficiencies**

For details of deficiencies, refer to Chapter 3.

**(3) Life Saving Appliances**

Major types and details of deficiencies noted under the category of “Life Saving Appliances” are shown in Table 2.3.2-(3) below.

**Table 2.3.2-(3) Life Saving Appliances**

Item	2017	2018	2019	Noted Deficiencies
Lifeboats	51	45	45	Lifeboat engine not started Poor maintenance of rechargeable batteries Inadequate resetting of on-load release gears
Rescue boats	14	16	16	Rescue boat engine not started Poor maintenance of rechargeable batteries
Embarkation arrangement survival craft	11	7	12	Heavily corroded and broken embarkation ladder
Launching arrangements for survival craft	10	8	11	Corroded boat falls
Launching arrangements for rescue boats	13	20	8	Inoperative davit (Components seized, etc.)
Operational readiness of lifesaving appliances	4	4	8	Inoperable on-load release gear

**(4) Emergency Systems**

Major types and details of deficiencies noted under the category of “Emergency Systems” are shown in Table 2.3.2-(4) below.

**Table 2.3.2-(4) Emergency Systems**

Item	2017	2018	2019	Noted Deficiencies
Emergency source of power - Emergency Generator	25	24	32	Emergency generator unable to start automatically or manually
Emergency Fire Pump and its pipes	31	33	27	Inoperable and unable to pressure the fire main
Emergency lighting, batteries and switches	8	15	20	Deficient batteries/emergency generator Inoperable emergency lighting
Fire drills	23	12	17	Fire drill failed
Abandon ship drills	18	4	12	Abandon ship drill failed Drill not conducted
Crew familiarisation with Emergency Systems	0	0	8	Insufficient familiarisation

**(5) Safety of Navigation**

Major types and details of deficiencies noted under the category of “Safety of Navigation” are shown in Table 2.3.2-(5) below.

**Table 2.3.2-(5) Safety of Navigation**

Item	2017	2018	2019	Noted Deficiencies
Charts	29	15	16	Navigation charts not updated Navigation charts for intended voyage not available
Nautical publications	16	16	10	Nautical publications (tide table, list of lights, list of radio signals, etc.) not updated
Voyage data recorder (VDR / S-VDR)	15	13	10	Defective VDR / S-VDR Alarm panel showing “system error”
Electronic charts (ECDIS)	3	7	6	ENC not updated
Echo sounder	3	6	6	Malfunction of echo sounder

**(6) Water/ Weathertight conditions**

Major types and details of deficiencies noted under the category of “Water/ Weathertight conditions” are shown in Table 2.3.2-(6) below.

**Table 2.3.2-(6) Water/ Weathertight conditions**

Item	2017	2018	2019	Noted Deficiencies
Ventilators, air pipes, casings	31	22	22	Waster/Holed ventilators and pipes Damaged float of air pipe heads Damaged closing devices
Hatch Covers	25	10	10	Wasted/Holed hatch covers Wasted hatch cover cleats and its spacers Deteriorated rubber packing
Doors	5	4	6	Doors not closed tightly



**(7) MARPOL Annex I**

Major types and details of deficiencies noted under the category of “MARPOL Annex I” are shown in Table 2.3.2-(7) below.

**Table 2.3.2-(7) MARPOL Annex I**

Item	2017	2018	2019	Noted Deficiencies
Oil filtering equipment	15	21	24	Inoperable oily water separator / bilge pump Oily water inside overboard discharging line Ship's crew not familiar with operation
15 PPM Alarm arrangements	8	15	8	Failure of 15PPM alarm
Oil and oily mixtures from machinery spaces	8	4	6	Oil spot beneath M/E and A/E

**(8) MARPOL Annex IV**

Major types and details of deficiencies noted under the category of “MARPOL Annex IV” are shown in Table 2.3.2-(8) below.

**Table 2.3.2-(8) MARPOL Annex IV**

Item	2017	2018	2019	Noted Deficiencies
Sewage treatment plant	28	31	33	Malfunction of sewage treatment plant
Sewage discharge connection	5	0	5	Directly discharged untreated sewage

**(9) Propulsion and auxiliary machinery**

Major types and details of deficiencies noted under the category of “Propulsion and auxiliary machinery” are shown in the Table 2.3.2-(9) below.

**Table 2.3.2-(9) Propulsion and auxiliary machinery**

Item	2017	2018	2019	Noted Deficiencies
Auxiliary engine	12	14	14	Inoperable Auxiliary engines Uncleanliness due to leakage of oil
Propulsion main engine	12	4	10	Defective oil mist detectors Uncleanliness due to leakage of oil and cooling water
Other (machinery)	9	11	4	Malfunction of safety valve

**(10) Structural Conditions**

Major types and details of deficiencies noted under the category of “Structural Conditions” are shown in Table 2.3.2-(10) below.

**Table 2.3.2-(10) Structural Conditions**

Item	2017	2018	2019	Noted Deficiencies
Steering gear	4	8	9	Alarm failed
Other (Structure condition)	2	1	4	Unapproved temporary repair
Electrical installations in general	4	2	3	Wasted mast light seat

**(11) Crew Certificate**

Major types and details of deficiencies noted under the category of “Crew Certificate” are shown in Table 2.3.2-(11) below.

**Table 2.3.2-(11) Crew Certificate**

Item	2017	2018	2019	Noted Deficiencies
Seafarers' employment agreement (SEA)	18	9	8	Expired
Endorsement by flag State	16	3	3	No endorsement
Certificates for master and officers	11	4	2	Missing

**(12) Ship Certificates**

Major types and details of deficiencies noted under the category of “Ship Certificates” are shown in the Table 2.3.2-(12) below.

**Table 2.3.2-(12) Ship Certificates**

Item	2017	2018	2019	Noted Deficiencies
Cargo Ship Safety Construction (including Exemption)	3	4	3	Expired
Other (certificates)	2	4	3	Missing the test certificate
Maritime Labour Certificate	3	2	2	Missing DMLC Part I and II
Minimum Safe Manning Document	2	1	2	Missing

**(13) Radio Communications**

Major types and details of deficiencies noted under the category of “Radio Communications” are shown in Table 2.3.2-(13) below.

**Table 2.3.2-(13) Radio Communications**

Item	2017	2018	2019	Noted Deficiencies
MF/HF radio installation	11	8	3	Malfunction of radio devices
Facilities for reception of marine safety information	2	4	2	Malfunction of NAVTEX printer
Reserve source of energy	11	3	2	GMDSS reserve source of energy failed
INMARSAT ship earth station	3	2	2	Malfunction of INMARSAT
Performance standards for radio equipment	2	1	2	Malfunction of MF/HF
VHF radio installation	0	0	2	Malfunction of VHF

**(14) Labour Conditions — Minimum requirements for seafarers**

Major types and details of deficiencies noted under the category of “Labour Conditions — Minimum requirements for seafarers” are shown in Table 2.3.2-(14) below.

**Table 2.3.2-(14) Minimum requirements for seafarers**

Item	2017	2018	2019	Noted Deficiencies
Wages	22	3	13	Non payment Wage reduced without consent
Calculation and payment of wages	9	7	2	Not fully paid wage

**(15) Labour Conditions-Accommodation, recreational facilities, food and catering**

Major types and details of deficiencies noted under the category of “Labour Conditions-Accommodation, recreational facilities, food and catering ” are shown in Table 2.3.2-(15) below.

**Table 2.3.2-(15) Labour Conditions-Accommodation, recreational facilities, food and catering**

Item	2017	2018	2019	Noted Deficiencies
Sanitary facilities	7	7	5	Toilet/bath room defective/dirty
Galley, handling room (maintenance)	3	2	2	Galley dirty
Provisions quality and nutritional value	0	0	2	Rotten foods

## 2.4 Analysis of Detainable Deficiencies per PSC Country

Most frequent detainable deficiencies per PSC country are shown in Tables 2.4.1 to 2.4.12 according to number of detentions reported from 2017 to 2019. (Regarding details of deficiencies related to ISM and MLC, refer to Chapter 3 and Chapter 4.)

### 2.4.1 China

**Table 2.4.1 China**

Category of Detainable Deficiency	2017	2018	2019
Fire safety	56	46	90
Life saving appliances	43	37	52
Emergency Systems	15	24	40
ISM	38	25	37
Pollution prevention -MARPOL Annex I	13	21	24
Water/Weathertight conditions	23	18	19
Pollution prevention -MARPOL Annex IV	9	12	18
Safety of Navigation	20	13	14
Structural Conditions	8	4	10
Propulsion And Auxiliary Machinery	8	3	8
Pollution Prevention -MARPOL Annex VI	1	3	7

Defective Items	2017	2018	2019
Lifeboats	22	17	22
Oil filtering equipment	6	14	15
Remote Means of control (opening, pumps, ventilation, etc.) Machinery spaces	4	7	15
Fixed fire extinguishing installation	4	4	14
Sewage treatment plant	6	12	13
Other (ISM)	1	1	12
Fire pumps and its pipes	2	6	11
Maintenance of the ship and equipment	17	14	10
Ventilators, air pipes, casings	14	11	10
Emergency Fire Pump and its pipes	5	11	10
Embarkation arrangement survival craft	8	4	9
Shipboard operations	3	4	9
Other (fire safety)	1	2	8

A total of 347 detainable deficiencies relating to 120 detentions were noted in 2019. (2.9 detainable deficiencies/detention)

## 2.4.2 Australia

**Table 2.4.2 Australia**

Category of Detainable Deficiency	2017	2018	2019
ISM <sup>(*)</sup>	22	14	20
Emergency Systems	11	13	17
Life saving appliances	7	11	15
Fire safety	5	11	12
Pollution prevention -MARPOL Annex I	1	7	7
Water/Weathertight conditions	8	7	4

Defective Items	2017	2018	2019
Emergency source of power - Emergency Generator	7	8	11
Fire-dampers	4	7	11
Other (ISM)	8	6	8
Lifeboats	22	17	6
Emergency Fire Pump and its pipes	4	5	5
Emergency preparedness	7	3	5
Operational readiness of lifesaving appliances	0	1	5
Shipboard operations	11	5	4

(\*) In Australia, deficiency relating to Safety of Navigation is not directly judged as detainable deficiency but as ISM detainable deficiency since it is regarded as ISM related.

A total of 88 detainable deficiencies relating to 61 detentions were noted in 2019.  
(1.3 detainable deficiencies/detention)

## 2.4.3 Russia

**Table 2.4.3 Russia**

Category of Detainable Deficiency	2017	2018	2019
Fire safety	9	25	20
Safety of Navigation	11	23	22
Emergency Systems	9	17	13
ISM	1	15	8
Water/Weathertight Conditions	2	5	5
Life saving appliances	7	15	3

Defective Items	2017	2018	2019
Fire detection and alarm system	3	2	8
Charts	2	3	7
Emergency lighting, batteries and switches	2	11	6
Emergency Fire Pump and its pipes	5	4	5
Ventilation	1	2	5
Other (ISM)	0	13	4
Nautical publications	2	7	4

A total of 89 detainable deficiencies relating to 36 detentions were noted in 2019.  
(2.5 detainable deficiencies/detention)

## 2.4.4 Indonesia

**Table 2.4.4 Indonesia**

Category of Detainable Deficiency	2017	2018	2019
Fire safety	37	22	16
Pollution prevention -MARPOL AnnexIV	17	8	12
Emergency systems	9	1	10
Life saving appliances	7	6	8
ISM	18	1	6
Pollution prevention -MARPOL AnnexV	16	4	4
Water/Weathertight conditions	11	1	4

Defective Items	2017	2018	2019
Fire-dampers	8	6	11
Sewage treatment plant	11	8	10
Safety and environmental policy	6	1	6
Emergency source of power – Emergency Generator	5	0	5
Garbage	1	0	4
On board training and instructions	1	0	4
Ventilation	2	0	3

A total of 72 detainable deficiencies relating to 31 detentions were noted in 2019. (2.3 detainable deficiencies/detention)

## 2.4.5 U.S.A.

**Table 2.4.5 U.S.A.**

Category of Detainable Deficiency	2017	2018	2019
ISM	10	6	21
Fire safety	11	11	12
Pollution prevention -MARPOL Annex I	10	2	8
Life saving appliances	4	6	6
Structural Conditions	2	2	3
Certification and documentation - documents	4	1	3

Defective Items	2017	2018	2019
Maintenance of the ship and equipment	0	1	13
Oil accumulation in engine room	0	1	3
Oil and oily mixtures from machinery spaces	0	0	3
Safety and environmental policy	0	0	3
Readily availability of fire fighting equipment	1	2	2
Oil record book	4	1	2
Fire pumps and its pipes	2	1	2
Access control to ship	0	1	2

A total of 58 detainable deficiencies relating to 18 detentions were noted in 2019. (3.2 detainable deficiencies/detention)

## 2.4.6 Japan

**Table 2.4.6 Japan**

Category of Detainable Deficiency	2017	2018	2019
Fire safety	5	2	5
Life Saving Appliances	4	0	3
ISM	10	4	3
Emergency Systems	7	6	2
Labour Conditions – Minimum Requirements For Seafarers	0	0	2
Water/Weathertight Conditions	0	0	2

Defective Items	2017	2018	2019
Fixed fire extinguishing installation	1	2	3
Fire drills	6	4	2
Lifeboats	1	0	2
Wages	0	0	2
Resources and personnel	10	4	1

A total of 19 detainable deficiencies relating to 12 detentions were noted in 2019.

(1.6 detainable deficiencies/detention)

## 2.4.7 Turkey

**Table 2.4.7 Turkey**

Category of Detainable Deficiency	2017	2018	2019
Fire safety	2	15	7
Life saving appliances	5	4	6
Emergency Systems	3	2	5
Safety of Navigation	5	5	2
Certificate & Documentation Crew Certificates	2	2	2
Radio Communications	3	0	2

Defective Items	2017	2018	2019
Emergency lighting, batteries and switches	0	1	5
Fixed fire extinguishing installation	0	1	3
Endorsement by flag State	2	2	2
Fire detection and alarm system	0	2	2
Rescue boats	0	1	2
Launching arrangements for survival craft	0	0	2

A total of 27 detainable deficiencies relating to 8 detentions were noted in 2019.

(3.4 detainable deficiencies/detention)

## 2.4.8 United Kingdom

**Table 2.4.8 United Kingdom**

Category of Detainable Deficiency	2017	2018	2019
ISM	9	3	6
Fire Safety	5	5	3
Safety of Navigation	8	1	3
Emergency Systems	7	1	2
Life Saving Appliances	5	1	2

Defective Items	2017	2018	2019
ISM	9	3	6
Emergency source of power – Emergency Generator	2	1	1
Fire drills	3	0	1
Charts	2	0	1
Fire pumps and its pipes	1	0	1
Fire-dampers	0	0	1
Fire fighting equipment and appliances	0	0	1

A total of 16 detainable deficiencies relating to 7 detentions were noted in 2019. (2.3 detainable deficiencies/detention)

## 2.4.9 Italy

**Table 2.4.9 Italy**

Category of Detainable Deficiency	2017	2018	2019
Fire Safety	10	11	12
Emergency Systems	8	5	10
Labour Conditions – Health Protection, Medical Care ,Social Security	0	1	7
ISM	5	6	6
Certificate & Documentation - Ship Certificates	0	0	6

Defective Items	2017	2018	2019
Fire doors/openings in fire-resisting divisions	0	0	6
ISM	5	6	6
Cleanliness of engine room	0	1	4
Fire drills	3	1	3
Enclosed space entry and rescue drills	1	2	2
Sanitary facilities	0	1	2
Emergency source of power – Emergency Generator	0	0	2
Enhanced survey programme (ESP)	0	0	2
Records of rest	0	0	2
Sewage treatment plant	0	0	2

A total of 68 detainable deficiencies relating to 7 detentions were noted in 2019. (9.7 detainable deficiencies/detention)



## 2.4.10 Canada

**Table 2.4.10 Canada**

Category of Detainable Deficiency	2017	2018	2019
Fire Safety	0	0	3
Emergency Systems	1	1	2
ISM	1	0	2
Propulsion and Auxiliary Machinery	0	0	2

Defective Items	2017	2018	2019
ISM	1	0	2
Propulsion main engine	0	0	2

A total of 12 detainable deficiencies relating to 7 detentions were noted in 2019.  
(1.7 detainable deficiencies/detention)

## 2.4.11 Belgium

**Table 2.4.11 Belgium**

Category of Detainable Deficiency	2017	2018	2019
Fire Safety	1	10	9
Life Saving Appliances	1	8	8
ISM	4	9	5
Certificate & Documentation - Crew Certificates	1	6	5
Water/Weathertight Conditions	3	6	3
Emergency Systems	0	2	3

Defective Items	2017	2018	2019
Seafarer' employment agreement (SEA)	0	6	5
ISM	2	9	5
Launching arrangements for rescue boats	0	3	3
Evaluation of Crew Performance (fire drill)	0	1	2
Lifeboats	0	1	2

A total of 42 detainable deficiencies relating to 6 detentions were noted in 2019.  
(7.0 detainable deficiencies/detention)

## 2.4.12 Republic of Korea

**Table 2.4.12 Republic of Korea**

Category of Detainable Deficiency	2017	2018	2019
ISM	6	4	4
Life saving appliances	3	2	2
Fire safety	7	5	1
Pollution Prevention -MARPOL Annex I	3	1	1

Defective Items	2017	2018	2019
Shipboard operations	2	1	2
Maintenance of the ship and equipment	3	1	1
Lifeboats	2	1	1
Launching arrangements for survival craft	1	0	1

A total of 8 detainable deficiencies relating to 6 detentions were noted in 2019.  
(1.3 detainable deficiencies/detention)

## Chapter 3

### Statistical Analysis of NK SMC Ships Detained by PSC (ISM Code)

#### 3.1 General

This chapter presents statistical analysis from the viewpoints of ISM Code, on the ships holding Safety Management Certificate (hereafter, “SMC”) issued by the Society (hereafter, “NK SMC ships”) based on PSC Inspection Reports NK has obtained.

Table 3.1 shows the registered number of the NK SMC ships. The NK class ships account for 90% of the NK SMC ships.

**Table 3.1 Number of NK SMC Ships (per Class)**

Classification	2017		2018		2019	
	Count	Ratio	Count	Ratio	Count	Ratio
NK class	4,980	90.1%	4,968	90.0%	5,116	90.0%
Other class	550	9.9%	549	10.0%	569	10.0%
Total	5,530		5,517		5,685	

#### 3.2 Statistics of Detentions of NK SMC Ships

In 2019, the total number of the detentions of NK SMC ships was 253, which was 4.5% of the all NK SMC ships, or 5,685(hereafter, “Detention Ratio”).

Tables 3.2.1 and Table 3.2.2 show the number of detentions and the Detention Ratio per flag and ship type, respectively.

**Table 3.2.1 Number of Detentions and Detention Ratio of NK SMC Ships per Flag**

Country	2017			2018			2019		
	(I)	(II)	(III)	(I)	(II)	(III)	(I)	(II)	(III)
Panama	167	2,623	6.4%	131	2,519	5.2%	135	2,548	5.3%
Singapore	6	589	1.0%	11	549	2.0%	8	590	1.4%
Marshall Islands	25	440	5.7%	21	494	4.3%	28	564	5.0%
Hong Kong	10	362	2.8%	14	393	3.6%	13	382	3.4%
Liberia	16	365	4.4%	24	400	6.0%	27	434	6.2%
Japan	1	283	0.4%	3	302	1.0%	4	320	1.3%
Malta	15	179	8.4%	13	163	8.0%	8	151	5.3%
Bahamas	7	109	6.4%	2	110	1.8%	4	116	3.4%
Turkey	3	73	4.1%	0	65	0.0%	1	57	1.8%
Thailand	6	80	7.5%	3	78	3.8%	3	75	4.0%
Cyprus	5	71	7.0%	10	66	15.2%	5	61	8.2%
Malaysia	0	64	0.0%	0	50	0.0%	0	54	0.0%
Other Flag	24	292	8.2%	27	328	8.2%	17	333	5.1%
Total	285	5,530	5.2%	259	5,517	4.7%	253	5,685	4.5%

Note: ( I ): No. of Detentions, ( II ): No. of NK SMC Ships, ( III ): Detention Ratio = ( I ) / ( II ) %

**Table 3.2.2 Number of Detentions and Detention Ratio of NK SMC Ships per Ship Type (SOLAS IX)**

Type of Ship	2017			2018			2019		
	( I )	( II )	( III )	( I )	( II )	( III )	( I )	( II )	( III )
Bulk Carrier	167	2,451	6.8%	160	2,435	6.6%	162	2,500	6.5%
Other Cargo Ship	101	1,958	5.2%	88	1,980	4.4%	72	2,002	3.6%
*Chemical Tanker	10	459	2.2%	1	506	0.2%	12	544	2.2%
Oil Tanker	4	396	1.0%	8	346	2.3%	6	370	1.6%
Gas Carrier	3	263	1.1%	2	249	0.8%	1	268	0.4%
MODU	0	2	0.0%	0	1	0.0%	0	1	0.0%
Passenger Ship	0	1	0.0%	0	0	0.0%	0	0	0.0%
High Speed Craft	0	0	0.0%	0	0	0.0%	0	0	0.0%
<b>Total</b>	<b>285</b>	<b>5,530</b>	<b>5.2%</b>	<b>259</b>	<b>5,517</b>	<b>4.7%</b>	<b>253</b>	<b>5,685</b>	<b>4.5%</b>

Note: 1. ( I ): No. of Detentions, ( II ): No. of NK SMC Ships, ( III ): Detention Ratio = ( I ) / ( II ) %  
 2. \* Chemical Tanker includes Oil/ Chemical Tanker.

Table 3.2.3 shows “the number of detentions” and “the number of ISM detention cases” where ships were detained due to detainable deficiencies related to ISM Code (hereafter “ISM detainable deficiency”). Also, “ISM detainable deficiencies ratio per PSC country” is shown.

**Table 3.2.3 Number of Detentions and Detention Ratio of ISM Detention Cases per PSC Country**

Country	2017			2018			2019			
	( I )	( II )	( III )	( I )	( II )	( III )	( I )	( II )	( III )	
China	15	63	23.8%	20	64	31.3%	23	70	32.9%	
Australia	16	48	33.3%	13	47	27.7%	15	53	28.3%	
Russia	1	16	6.3%	12	32	37.5%	6	21	28.6%	
EU	UK	6	9	66.7%	2	3	66.7%	5	5	100%
	Belgium	0	1	0.0%	6	7	85.7%	4	4	100%
	Italy	5	8	62.5%	4	4	100%	4	4	100%
	Other EU Members	21	37	56.8%	10	19	52.6%	12	17	70.6%
USA	5	16	31.3%	5	16	31.3%	9	14	64.3%	
Other Countries	20	87	23.0%	13	67	19.4%	18	65	27.7%	
<b>Total</b>	<b>89</b>	<b>285</b>	<b>31.2%</b>	<b>85</b>	<b>259</b>	<b>32.8%</b>	<b>96</b>	<b>253</b>	<b>37.9%</b>	

Note: ( I ): No. of the ISM detention case  
 ( II ): No. of detentions of NK SMC ships. (Notwithstanding the reason of detention)  
 ( III ): ISM detainable deficiencies ratio = ( I ) / ( II ) %

### 3.3 Analysis of ISM Detainable Deficiencies

This clause introduces a study of ISM detainable deficiencies recorded in China, Australia, and USA which are top 3 countries of the number of ISM detention cases in 2019 and a part of objective evidences of the ISM detention by each country.

Deficiency Codes of ISM deficiencies specified by Tokyo MOU these countries participating in are as following table 3.3.

**Table 3.3 Deficiency Code per ISM Code Element (Tokyo MOU, USCG)**

Def. Code	ISM Code Element	Defective Item
15101	2	Safety and Environmental Policy
15102	3	Company Responsibility and Authority
15103	4	Designated Person(s)
15104	5	Masters Responsibility and Authority
15105	6	Resources and Personnel
15106	7	Shipboard Operations
15107	8	Emergency Preparedness
15108	9	Reports of Non-conf., accidents & hazardous occur.
15109	10	Maintenance of the ship and equipment
15110	11	Documentation- ISM
15111	12	Company Verification, Review and Evaluation
15112	13	Certification, Verification and Control
15199	-	Other (ISM)

### 3.3.1 China

Table 3.3.1(a) shows the number of ISM detainable deficiencies per Deficiency Code. Table 3.3.1(b) shows the number of deficiencies regarded as the evidences of ISM detainable deficiencies per Deficiency Code. In 2019, “15199 - Other (ISM)” was most frequently recorded as ISM detainable deficiencies. For the case where plural ISM code elements corresponding to the objective evidences of ISM detention were found, “15199 - Other (ISM)” was recorded. Typical objective evidences of the ISM detainable deficiency are mainly as follows.

- Malfunction of self-closing device for fire doors
- The engine of life boat and/or rescue boat not start
- Leakage of fuel oil from main engine and auxiliary engine or oil leakage from the line
- Malfunction of self-close sounding pipes for fuel oil tank
- Malfunction of fuel oil shut-off valves
- Corrosions of CO2 pipes

**Table 3.3.1(a) Number of ISM Detainable Deficiencies per Deficiency Code**

Code	DEF_ITEM	2017	2018	2019
15101	Safety and environmental policy	0	1	0
15102	Company responsibility and authority	0	2	1
15104	Masters responsibility and authority	0	1	0
15105	Resources and personnel	5	1	1
15106	Shipboard operations	3	7	9
15107	Emergency preparedness	6	4	3
15108	Reports of NCs, accidents and hazardous occur.	1	0	1
15109	Maintenance of the ship and equipment	16	15	9
15110	Documentation - ISM	0	0	1
15199	Other (ISM)	1	1	13
Total		32	32	38

**Table 3.3.1(b) Number of deficiencies regarded as objective evidences of ISM Detainable Deficiencies per Deficiency Code**

Code	Item	No.	Remarks
03103	Railing, gangway, walkway and means for safe passage	6	
03105	Covers (hatchway-, portable-, tarpaulins, etc.)	7	
04110	Abandon ship drills	7	
07105	Fire doors/openings in fire-resisting divisions	7	
07109	Fixed fire extinguishing installation	11	
07114	Remote Means of control (opening, pumps, ventilation, etc.) Machinery spaces	9	
07199	Other (fire safety)	14	E.g.) Automatic closing device of sounding pipe(E/R) broken
11101	Lifeboats	14	
13101	Propulsion main engine	12	
14402	Sewage treatment plant	7	
Others		202	

### 3.3.2 Australia

Table 3.3.2(a) shows the number of the ISM detainable deficiencies per Deficiency Code. Table 3.3.2(b) shows the number of deficiencies regarded as objective evidences of ISM detainable deficiencies per Deficiency Code. In Australia, just like China, “15199 - Other (ISM)” was most frequently recorded as ISM detainable deficiencies. Typical objective evidences of the ISM detainable deficiency are mainly as follows.

- Exceeding the limits of work time
- Damage and/or wastage of securing devices (cleats) or cleat crutches of cargo hatch covers
- Malfunction of fire damper’s operations
- Emergency generator is unable to automatically connect to emergency switchboard
- Inadequate resetting of on-load release gears of lifeboat
- Low pressure of cylinders for breathing apparatus of fireman’s outfit
- Crews are unfamiliar with an operation of ECDIS
- Malfunction of sewage treatment plant

**Table 3.3.2(a) Number of ISM Detainable Deficiencies per Deficiency Code**

Code	Item	2017	2018	2019
15105	Resources and personnel	1	1	9
15106	Shipboard operations	11	5	4
15107	Emergency preparedness	2	1	5
15109	Maintenance of the ship and equipment	0	2	3
15199	Other (ISM)	9	8	8
Total		23	17	20

**Table 3.3.2(b) Number of Deficiencies Regarded as the Evidences of ISM Detainable Deficiencies per Deficiency Code**

Code	Item	No.	Remark
01308	Records of rest	5	
03105	Covers (hatchway-, portable-, tarpaulins, etc.)	7	
03108	Ventilators, air pipes, casings	5	
04103	Emergency lighting, batteries and switches	5	
04114	Emergency source of power - Emergency Generator	8	
07109	Fixed fire extinguishing installation	5	
07110	Fire fighting equipment and appliances	6	
07115	Fire-dampers	12	
07199	Other (fire safety)	10	E.g.)High temperature surface not insulated
11101	Lifeboats	11	
11129	Operational readiness of lifesaving appliances	7	
10112	Electronic charts (ECDIS)	4	
14402	Sewage treatment plant	4	
Others		142	

### 3.3.3 USA

Table 3.3.3(a) shows the number of ISM detainable deficiencies per Deficiency Code. Table 3.3.3(b) shows the number of deficiencies regarded as the evidences of ISM detainable deficiencies per Deficiency Code. In USA where the number of ISM detentions is increasing, “15109 – Maintenance of the ship and equipment” was most frequently recorded. Typical objective evidences of the ISM detainable deficiency are mainly as follows.

- Inappropriate entries in oil record book
- Low pressure of cylinders for breathing apparatus of fireman’s outfit
- Leakage from fire lines
- There are excessive oils or garbage in engine room and engine room is not kept clean
- Inadequate resetting of on-load release gears of lifeboat
- Leakage of fuel oil from main engine and auxiliary engine or oil leakage from the line

**Table 3.3.3(a) Number of ISM Detainable Deficiencies per Deficiency Code**

Code	Item	2017	2018	2019
15100	ISM	0	1	0
15101	Safety and environmental policy	4	0	2
15102	Company responsibility and authority	1	1	0
15105	Resources and personnel	3	0	0
15106	Shipboard operations	0	1	2
15108	Reports of NCs, accidents and hazardous occur.	0	2	0
15109	Maintenance of the ship and equipment	1	1	13
15110	Documentation - ISM	2	0	0
15111	Company verification, review and evaluation	0	0	1
15112	Certification, verification and control	0	0	1
15150	ISM	0	1	0
Total		11	7	19

**Table 3.3.3(b) Number of Deficiency Regarded as the Evidences of ISM Detainable Deficiency per Deficiency Code**

Code	Item	No.	Remarks
01315	Oil record book	3	
07108	Readily availability of fire fighting equipment	3	
07113	Fire pumps and its pipes	3	
07126	Oil accumulation in engine room	5	
09209	Electrical	3	
11112	Launching arrangements for survival craft	5	
13101	Propulsion main engine	6	
13199	Other (machinery)	5	E.g.) Leakage from pipes
14107	Oil discharge Monitoring and control system	4	
Others		129	

## Chapter 4

### Statistical Analysis of NK MLC Ships Detained by PSC (MLC, 2006)

#### 4.1 General

This chapter presents statistical analysis from the viewpoints of MLC, 2006 on the ships holding Maritime Labour Certificate issued by the Society (hereafter, “NK MLC ships”) based on the PSC Inspection Reports having been obtained. Table 4.1 shows the registered number of the NK MLC ships. About 88% of the NK MLC ships are classed with this Society.

**Table 4.1 Number of NK MLC Ships (per Class)**

Classification	2017		2018		2019	
NK class	4,629	87.9%	4,588	88.3%	4,847	88.6%
Other class	635	12.1%	603	11.6%	623	11.4%
Total	5,264		5,191		5,470	

#### 4.2 Statistics of Detentions of NK MLC Ships

As of the end of April 2020, 96 countries have ratified MLC, 2006 and many countries have been carrying out PSC inspections based on the convention. For detailed situations of the enforcement by the countries, please refer to the following website of ILO.

[http://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:11300:0::NO:11300:P11300\\_INSTRUMENT\\_ID:312331:NO](http://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:11300:0::NO:11300:P11300_INSTRUMENT_ID:312331:NO)

The table 4.2 shows the number of detention cases due to deficiencies related to MLC, 2006 (hereafter, “MLC deficiencies”) for NK MLC ships in the last 3 years.

**Table 4.2 Number of Detention Cases due to MLC Deficiencies (per PSC country)**

Country		2017	2018	2019
Australia		6	2	4
Canada		1	2	1
China		3	2	0
Russia		2	2	2
EU	Italy	0	2	4
	Belgium	1	4	2
	Sweden	2	0	1
	Other EU Members	18	5	0
Other Countries		3	4	4
Total		36	23	18



### 4.3 Analysis of MLC Detainable Deficiencies

This clause introduces the analysis of detainable deficiencies related to MLC, 2006 (hereafter, “MLC detainable deficiencies”) and MLC deficiencies recorded as objective evidences of ISM detainable deficiencies for NK MLC ships in 2019. In this Chapter, the deficiencies with Codes listed in Table 4.3.1 are defined as MLC deficiencies.

The number of MLC detainable deficiencies per the deficiency code is shown in Table 4.3.2. Also, top 10 MLC deficiencies regarded as objective evidences of ISM detainable deficiencies are shown in Table 4.3.3. As for the MLC detainable deficiencies, “18203 - Wages ” was most frequently recorded on NK MLC ships in 2019. And “01220 - Seafarers' employment agreement (SEA)” and “18302 - Sanitary facilities” followed it.

On the other hand, the following deficiencies were recorded more than 4 as objective evidences of ISM detainable deficiencies.

- “01220 - Seafarers' employment agreement (SEA)”
- “18302 – Sanitary facilities”
- “18313 - Cleanliness”
- “18324 - Cold room, cold room cleanliness, cold room temperature”
- “18408 - Electrical”
- “18412 - Personal equipment”
- “18418 - Winches and capstans”

**Table 4.3.1 Deficiency Codes of MLC Deficiencies - Paris MOU and Tokyo MOU**

Deficiency Code		Category / Item (Description in the List of Tokyo MOU Def. Codes)
<b>01xxx</b>		<b>Certificates &amp; Documentation</b>
012	--	Crew Certificate
	01218	Medical Certificate
	01219	Training and Qualification MLC- Personal Safety Training
	01220	Seafarers` Employment Agreement (SEA)
	01221	Record of Employment
013	--	Document
	01307	Max. Hours of Work or Min, Hours of Rest (Table of Working Hours)
	01308	Records of Seafarer's Daily Hours of Work or Rest (Records of Rest)
	01330	Procedure for Complaint under MLC, 2006
	01331	Collective Bargaining Agreement
<b>18xxx</b>		<b>MLC, 2006 (Labour Conditions)</b>
181	01-04 & 99	Minimum Requirements to Work on a Ship (Minimum Requirements for Seafarers)
182	01-05 & 99	Conditions of Employment
183	01-28 & 99	Accommodation, Recreational Facilities, Food and Catering
184	01-32 & 99	Health Protection, Medical Care, Social Security

**Table 4.3.2 Number of MLC Detainable Deficiencies per Deficiency Code**

Code	Item	No.	Country (*ISO des.)
<b>01xxx</b>	<b>Certificates &amp; Documentation</b>		
01220	Seafarer' employment agreement (SEA)	3	BEL, ITA, SWE
01308	Records of rest	2	BEL, ITA
<b>18xxx</b>	<b>Labour Conditions (MLC, 2006)</b>		
18203	Wages	5	AUS, BEL, NZL, RUS
18204	Calculation and payment of wages	1	AUS
18302	Sanitary Facilities	3	AUS, CAN, ITA
18306	Sleeping room, additional spaces	1	IND
18312	Galley, handling room (maintenance)	1	ITA
18314	Provisions quantity	1	IDN
18316	Water, pipes, tanks	1	BEL
18321	Heating, air conditioning and ventilation	1	ITA
18326	Laundry, Adequate Locker	1	ITA
18401	Medical Equipment, medical chest, medical guide	1	ITA
18408	Electrical	1	RUS
18416	Ropes and wires	1	ITA
18417	Anchoring devices	1	ITA
18418	Winches and capstans	1	ITA
18420	Cleanliness of engine room	3	DZA, ITA
Total		29	-

**\*ISO description of the country**

ISO des.	Country	ISO des.	Country	ISO des.	Country
AUS	Australia	BEL	Belgium	CAN	Canada
DZA	Algeria	IDN	Indonesia	IND	India
ITA	Italy	NZL	New Zealand	RUS	Russia
SWE	Sweden				

**Table 4.3.3 Top 10 MLC Deficiencies Regarded as the Evidences of ISM Detainable Deficiencies**

Code	Item	No.
<b>01xxx</b>	<b>Certificates &amp; Documentation</b>	
01220	Seafarer' employment agreement (SEA)	7
01308	Records of rest	4
-	Other Deficiencies with 01xxx	3
<b>18xxx</b>	<b>Labour Conditions (MLC, 2006)</b>	
18302	Sanitary Facilities	7
18313	Cleanliness	6
18324	Cold room, cold room cleanliness, cold room temperature	6
18407	Lighting (Working spaces)	4
18408	Electrical	9
18412	Personal equipment	5
18416	Ropes and wires	4
18418	Winches and capstans	7
-	Other Deficiencies with 18xxx	45
Total		107

**(Reference) PSC Inspections on Working and Living Conditions in Countries not ratifying MLC, 2006**

Regarding the matters of ILO, Tokyo MOU, Paris MOU and other MOUs had been carrying out PSC inspections using deficiency codes 09000 series “Working and Living Conditions” since the time before implementation of MLC, 2006. These codes are still used by the countries in which MLC, 2006 has not yet come into force. Table 4.3.4 shows the number of detainable deficiencies with the Code pointed out in 2019.

**Table 4.3.4 Number of ILO Detainable Deficiencies (per Deficiency Code)**

Code	Item	No.
<b>092xx</b>	<b>Working Conditions</b>	
09210	Machinery	1
09219	Pipes, wires (insulation)	1
09232	Cleanliness of engine room	2
	Total	4

## Chapter 5

### Statistical Data from Tokyo MOU, Paris MoU and USCG

Several regional MOUs and Port States publicly announce their PSC data on their websites and publish Annual Reports every year. Based on these public data available, this Chapter introduces abstracts of the recent results of detentions by the Tokyo MOU, the Paris MoU and the USCG in 2019.

The full text of each respective Annual Report can be obtained from the following websites.

Tokyo MOU

<http://www.tokyo-mou.org>

Paris MoU

<http://www.parismou.org>

USCG

<http://www.uscg.mil/>

## 5.1 Tokyo MOU

In 2019, 31,372 inspections were carried out in the Tokyo MOU region, and 983 ships were detained due to serious deficiencies found onboard.

### 5.1.1 Port State Inspections carried out by Authorities

Table 5.1.1 shows the numbers of Port State inspections carried out by each Port State from 2017 through 2019.

**Table 5.1.1 Port State Inspections carried out by Port Authorities (Tokyo MOU)**

Country	No. of Inspection			No. of Detentions			Detention ratio (%)		
	2017	2018	2019	2017	2018	2019	2017	2018	2019
Australia <sup>1)</sup>	3,128	2,922	3,222	165	161	163	5.27	5.51	5.06
Canada <sup>2)</sup>	615	511	703	5	3	12	0.81	0.59	1.71
Chile	888	831	759	13	12	7	1.46	1.44	0.92
China	7,242	7,549	7,756	372	360	434	5.14	4.77	5.60
Fiji	42	64	36	2	0	1	4.76	0.00	2.78
Hong Kong, China	664	716	710	27	24	20	4.07	3.35	2.82
Indonesia	1,920	1,803	1,766	66	60	73	3.44	3.33	4.13
Japan	5,439	5,173	5,023	107	100	93	1.97	1.93	1.85
Republic of Korea	1,947	1,925	1,950	66	67	59	3.39	3.48	3.03
Malaysia	1,544	1,567	1,413	24	13	11	1.55	0.83	0.78
Marshall Islands	20	21	11	1	3	2	5.00	14.29	18.18
New Zealand	241	288	228	6	16	6	2.49	5.56	2.63
Panama <sup>3)</sup>	0	0	0	0	0	0	0	0	0
Papua New Guinea	143	154	187	7	5	3	4.90	3.25	1.60
Peru	502	544	462	2	4	1	0.40	0.74	0.22
Philippines	2,714	2,976	2,302	2	1	7	0.07	0.03	0.30
Russia <sup>2)</sup>	1,101	1,162	1,171	54	90	65	4.90	7.75	5.55
Singapore	1,027	1,097	1,199	15	15	21	1.46	1.37	1.75
Thailand	607	669	760	0	0	0	0	0.00	0
Vanuatu	5	4	8	0	0	0	0	0.00	0
Vietnam	1,526	1,613	1,706	7	0	5	0.46	0.00	0.29
<b>Total</b>	<b>31,315</b>	<b>31,589</b>	<b>31,372</b>	<b>941</b>	<b>934</b>	<b>983</b>	<b>3.00%</b>	<b>2.96%</b>	<b>3.13%</b>

1) Data is also provided to Indian Ocean MOU.

2) Data is only for the Pacific ports.

3) Data for Panama in 2019 is not provided in Tokyo MOU

### 5.1.2 Black List of Flag States

Table 5.1.2 shows the Black List of Flag State announced in the Tokyo MOU Annual Report.

**Table 5.1.2 Black List of Flag States (Tokyo MOU)**

Flag State	No. of Inspections 2017-2019	No. of Detentions 2017-2019	Grey to White limit	Black to Grey limit
Tanzania	44	15		6.20
Togo	1,201	174		2.95
Mongolia	261	37		2.28
Korea, Democratic People's Republic	315	43		2.21
Sierra Leone	1,202	126		1.69
Palau	239	29		1.64
Niue	127	17		1.62
Saint Kitts and Nevis	34	6		1.46
Barbados	71	10		1.36
Micronesia, Federated States of <sup>1)</sup>	70	9		1.03

1) Fraudulently registered vessels are involved.

### 5.1.3 Recognized Organization Performance

Table 5.1.3 shows the detention data of IACS affiliated Recognized Organization in the Tokyo MOU Annual Report.

**Table 5.1.3 Inspections and Detentions per Recognized Organization (Tokyo MOU) (\*)**

Recognized Organization	No. of Inspections 2017-2019	No. of Detentions 2017-2019	Detention ratio (%)
ABS	11,754	203	1.73
BV	12,000	394	3.28
CCS	7,589	57	0.75
CRS	135	8	5.93
DNV GL	25,444	531	2.09
IRS	254	15	5.91
KR	9,399	156	1.66
LR	14,604	331	2.27
<b>NK</b>	<b>32,871</b>	<b>816</b>	<b>2.48</b>
PRS	174	7	4.02
RINA	3,407	113	3.32
RS	1,350	47	3.48

(\*) According to the Tokyo MOU annual report, in cases where a ship's certificates were issued by more than one recognized organization (RO), the number of inspections would be counted towards both of organizations, while the number of detentions would be counted only towards the RO that issued the certificate relating to the detainable deficiency or deficiencies.

### 5.1.4 Deficiencies per Category

Figure 5.1.4 shows the number of deficiencies by category for the three years from 2017 through 2019.

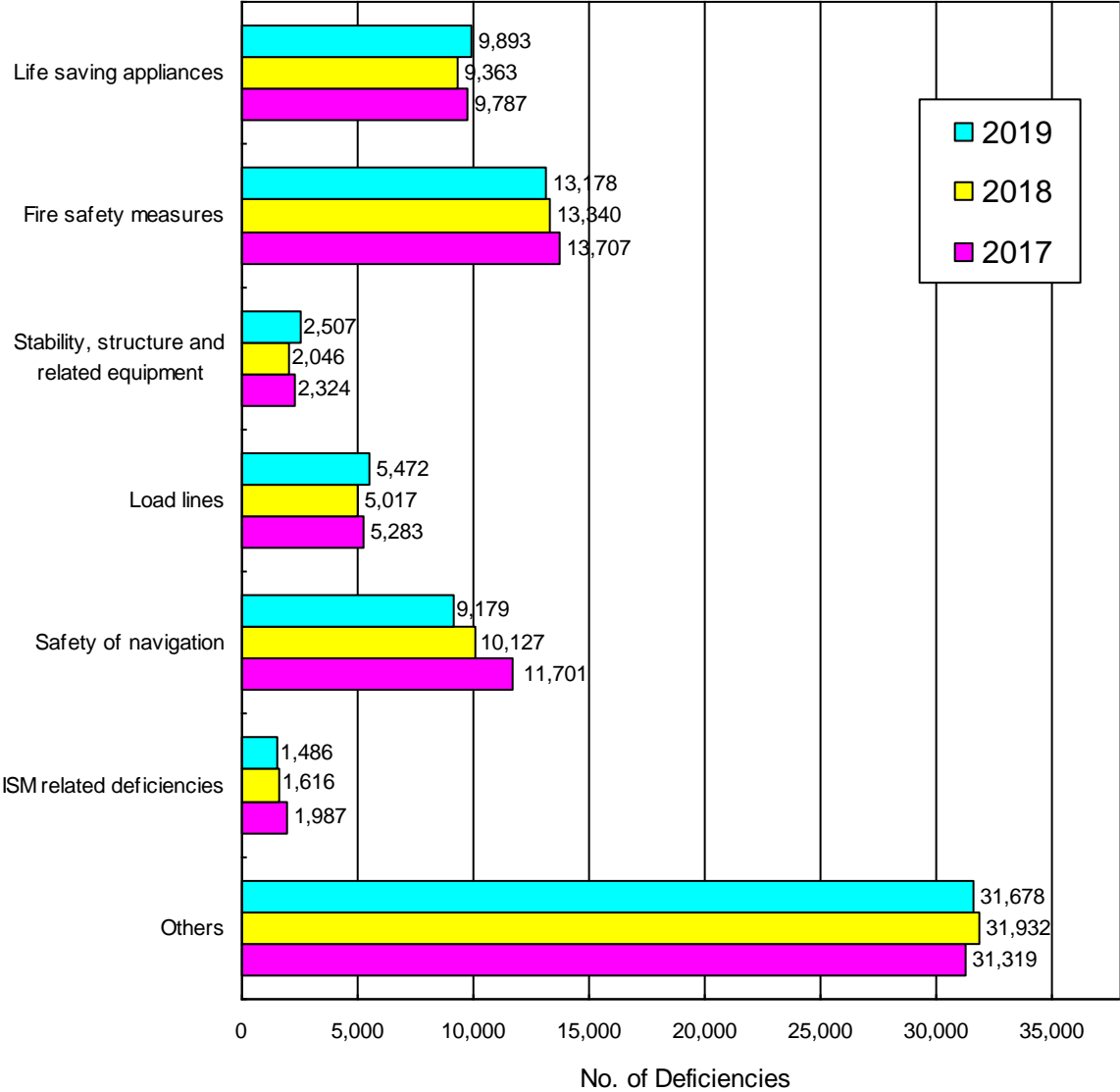


Fig. 5.1.4 Deficiencies per Category (Tokyo MOU)

## 5.2 Paris MoU

As the 2019 Annual Report has not been published yet, the data for 2018 are referred in this annual report. As soon as the 2019 Annual Report is published, the report will be updated and available in our website ([http://www.classnk.or.jp/hp/en/info\\_service/psc/](http://www.classnk.or.jp/hp/en/info_service/psc/)).

In 2018, 17,954 inspections were carried out in the Paris MoU region, and 566 ships were detained due to serious deficiencies found onboard.

### 5.2.1 Port State Inspections carried out by Authorities

Table 5.2.1 shows the numbers of Port State Inspections carried out by each respective Port State from 2016 through 2018.

**Table 5.2.1 Port State Inspections carried out by Authorities (Paris MoU) <sup>1)</sup>**

Country	No. of Inspections			No. of Detentions			Detention ratio (%)		
	2016	2017	2018	2016	2017	2018	2016	2017	2018
Belgium	942	961	990	23	23	28	2.44	2.39	2.83
Bulgaria	350	288	329	14	9	16	4.00	3.13	4.86
Canada	1,061	1,150	1,022	16	21	19	1.51	1.83	1.86
Croatia	315	323	341	4	11	11	1.27	3.41	3.23
Cyprus	147	122	114	13	11	7	8.84	9.02	6.14
Denmark	452	471	493	2	0	6	0.44	0.00	1.22
Estonia	199	202	210	2	0	0	1.01	0.00	0.00
Finland	274	282	282	1	1	0	0.36	0.35	0.00
France	1,132	1,140	1,072	24	32	35	2.12	2.81	3.26
Germany	1,149	1,121	1,134	51	48	36	4.44	4.28	3.17
Greece	1,016	1,016	982	63	66	42	6.20	6.50	4.28
Iceland	65	60	63	0	2	1	0.00	3.33	1.59
Ireland	300	288	285	7	8	9	2.33	2.78	3.16
Italy	1,430	1,464	1,381	65	93	60	4.55	6.35	4.34
Latvia	326	290	303	2	4	3	0.61	1.38	0.99
Lithuania	226	239	231	2	2	0	0.88	0.84	0.00
Malta	232	211	196	5	5	6	2.16	2.37	3.06
Netherlands	1,263	1,264	1,278	34	32	28	2.69	2.53	2.19
Norway	560	557	569	7	6	8	1.25	1.08	1.41
Poland	501	502	507	21	18	26	4.19	3.59	5.13
Portugal	499	499	514	13	7	9	2.61	1.40	1.75
Romania	502	510	533	59	58	28	11.75	11.37	5.25
Russia <sup>2)</sup>	1,186	1,337	1,360	128	126	103	10.79	9.42	7.57
Slovenia	131	132	136	1	2	1	0.76	1.52	0.74
Spain	1,673	1,562	1,557	68	39	33	4.06	2.50	2.12
Sweden	556	562	573	8	10	11	1.44	1.78	1.92
United Kingdom	1,353	1,363	1,499	50	51	40	3.70	3.74	2.67
<b>Total</b>	<b>17,840</b>	<b>17,916</b>	<b>17,954</b>	<b>683</b>	<b>685</b>	<b>566</b>	<b>3.83%</b>	<b>3.82%</b>	<b>3.15%</b>

1) This list is based on Paris MoU database "THETIS". If necessary, it might be updated after publishing of 2018 Paris MoU Annual Report.

2) Only movements to the Russian ports in the Baltic Azov, Caspian and Barents Sea are included.



### 5.2.2 Black List of Flag States

Table 5.2.2 shows the Black List of Flag States announced by the Paris MoU.

**Table 5.2.2 Black List of Flag States (Paris MoU)**

Flag State	Inspections 2016-2018	Detentions 2016-2018	Grey to White Limit	Black to Grey Limit
Congo, Republic of the	98	26	<b>Very High Risk</b>	12
Togo	486	92		44
Coromos	351	67	<b>High Risk</b>	33
Palau	210	41		21
Cambodia	44	11		6
Tanzania, United Republic of	326	58		31
Moldova, Republic of	409	69		38
Ukraine	82	17		10
Sierra Leone	333	55		31
Mongolia	36	8	<b>Medium to High Risk</b>	6
Albania	69	12		9
Saint Kitts and Nevis	233	31	<b>Medium Risk</b>	23
Belize	361	44		34
Cook Islands	424	46		39

### 5.2.3 Recognized Organization Performance

Table 5.2.3 shows the PSC performance of IACS affiliated Recognized Organizations among those announced by the Paris MoU for the three years from 2016 through 2018.

**Table 5.2.3 Recognized Organization Performance Table (Paris MoU)**

Recognized Organization	Inspections 2016-2018	RO-responsible Detentions 2016-2018	Performance Level
ABS	6,009	2	<b>High</b>
DNVGL	18,192	18	
CCS	869	0	
LR	12,505	14	
BV	11,450	25	
<b>NK</b>	<b>8,393</b>	<b>23</b>	
KRS	1,233	2	
RINA	4,427	13	
RS	2,926	15	
PRS	531	3	
CRS	153	1	<b>Medium</b>
IRS	155	3	

### 5.3 USCG

In 2019, a total of 10,394 individual vessels visited U.S. ports, and a total of 8,622 SOLAS based safety examinations were conducted by the USCG during the year.

#### 5.3.1 USCG Statistics

Table 5.3.1 shows the number of safety related detentions for the three years from 2017 through 2019. The three-year average detention ratio increased slightly for the second year in a row from 1.06% to 1.08%.

**Table 5.3.1 Detentions by Year (Safety)**

Year	Distinct Vessel Arrivals*	SOLAS Safety		
		Detentions	Annual Detention Ratio	3 Year Average Detention Ratio
2017	10,190	91	0.98%	1.39%
2018	10,418	103	1.14%	1.06%
2019	10,394	97	1.12%	1.08%

\* Distinct Vessel Arrivals: Number of ships greater than or equal to 500 GT, calling upon at least one U.S. port.

#### 5.3.2 Targeted Flag States (Safety)

The USCG publicly announced targeted flag states. The following flag states having a detention ratio higher than the overall average were listed as targeted flag states.

**Table 5.3.2 USCG Targeted Flag States (Safety)**

Flag State	2017-2019 Detention Ratio	Points of Targeting Matrix
Barbados	5.43%	7 points
Belgium*	2.82%	
Cook islands	4.65%	
Israel*	15.79%	
Mexico	5.81%	
Philippines	2.24%	
Portugal	2.24%	
St. Kitts and Nevis	21.43%	
Saint Vincent and the Grenadines	3.87%	
Tanzania	19.35%	
Togo	6.59%	
Vanuatu	4.23%	2 points
Antigua and Barbuda	1.77%	
Greece	1.28%	
Liberia*	1.27%	
Malta	1.30%	
Panama	1.10%	

\* Administration not targeted last year.

### 5.3.3 Recognized Organization Performance (Safety)

The table 5.3.3 shows the PSC performance of IACS affiliated Recognized Organizations among those announced by the USCG.

**Table 5.3.3 Recognized Organization Performance Table (USCG)**

Class	Vessel Examinations				Class-Related Detentions				Detention Ratio	Targeted Points
	2017	2018	2019	Total	2017	2018	2019	Total		
ABS	1,685	1,936	1,833	5,454	-	-	-	0	0.00%	0 points
BV	1,166	1,191	1,150	3,507	-	2	2	4	0.11%	0 points
CCS	194	240	204	638	-	-	-	0	0.00%	0 points
CRS	14	20	16	50	-	-	-	0	0.00%	0 points
DNV GL	3,271	3,658	2,577	9,506	-	3	3	6	0.06%	0 points
IRS	13	22	23	58	-	-	-	0	0.00%	0 points
KR	314	269	296	879	-	-	-	0	0.00%	0 points
LR	2,405	2,684	2,457	7,546	1	-	5	6	0.08%	0 points
<b>NK</b>	<b>2,282</b>	<b>2,478</b>	<b>2,456</b>	<b>7,216</b>	<b>-</b>	<b>2</b>	<b>2</b>	<b>4</b>	<b>0.05%</b>	<b>0 points</b>
PRS	22	32	18	72	-	-	-	0	0.00%	0 points
RINA	320	431	420	1,171	-	-	-	0	0.00%	0 points
RS	29	32	30	91	-	1	-	1	1.09%	5 points

In accordance with the Boarding Priority Matrix, Recognized Organizations are evaluated on their PSC performance over the previous three years. The evaluation for 2019 was based on the records for 2017, 2018, and 2019.

The level of performance required to be in the 0 point category is a three year average class-related detention ratio less than 0.5%. A classification society that has a class-related detention ratio between 0.5% and 1.0% will be assigned 3 points; those societies with a detention ratio of between 1.0% and 2.0% will be assigned 5 points and class-related detention ratios above 2.0% will be assigned a Priority I status.

**NIPPON KAIJI KYOKAI**

**Survey Department**

3-3 Kioi-cho, Chiyoda-ku, Tokyo 102-0094 Japan

Tel : +81-3-5226-2027,2028

Fax : +81-3-5226-2029

E-mail: [svd@classnk.or.jp](mailto:svd@classnk.or.jp)

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**[www.classnk.com](http://www.classnk.com)**