

June 2021

ClassNK

Port State Control Annual Report

[English]



-- Introduction of ClassNK software for PSC measures --

Research on PSC trends of ports and countries

AI technology makes it possible to research trends of typical deficiencies, deficiency items or deficiency categories. You can also confirm actual deficiencies recorded by PSC and graphically illustrate trends.



Output of PSC checklists

Output a pinpoint checklist based on the PSC's past records of selected ports or countries. The check items recorded as detainable deficiencies are displayed in red.



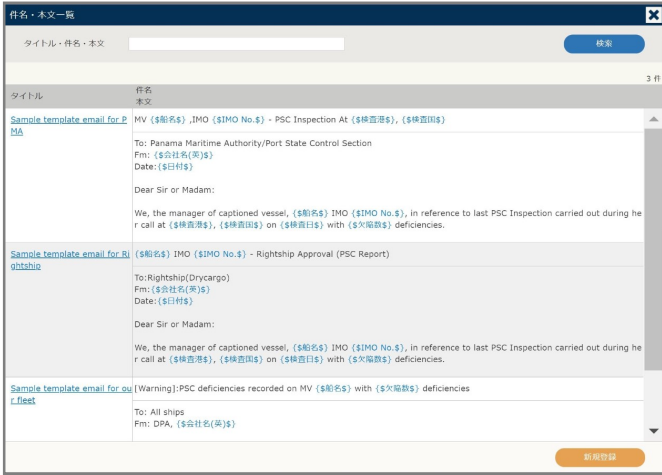
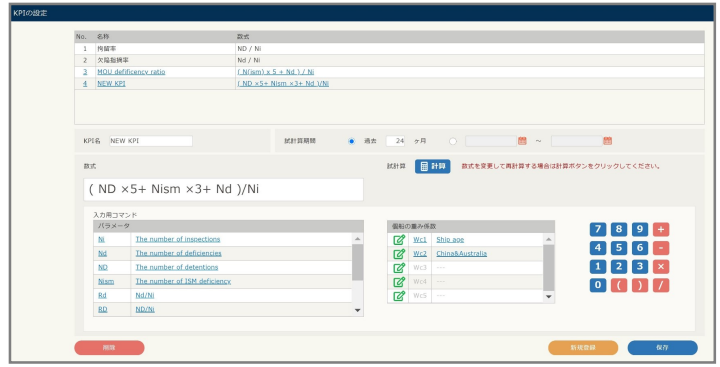
Graphic display function

Your fleet PSC performance and frequently reported deficiency items on your fleet are shown graphically to support with monitoring, measuring, analysis and evaluation of the performance.



Free setting of KPIs and ship groups

Freely set KPIs and ship groups in order to monitor, measure and evaluate them.



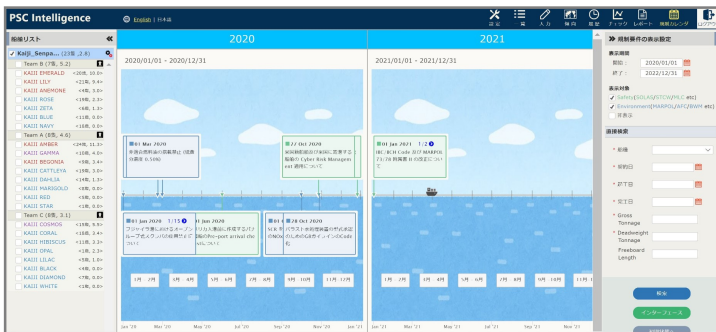
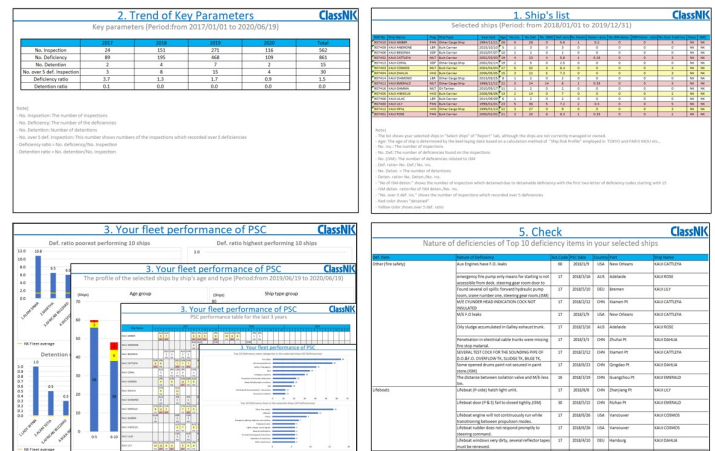
Reporting

Automatically create e-mails attaching PSC rectification reports designated by the Panama administration and Rightship and manage them.



Summary report

Output a summary report for PSC performance, deficiency items frequently recorded on your fleet and in the trends of frequently visited ports or countries.



Regulation calendar

Display requirements of the IMO international convention from our site and local regulations informed by our technical information applied on your managing ships in a calendar format.



Photographs of Deficiencies

Fire Safety



Fire hazard
due to oil leakage
in engine room

Leakage from fire main



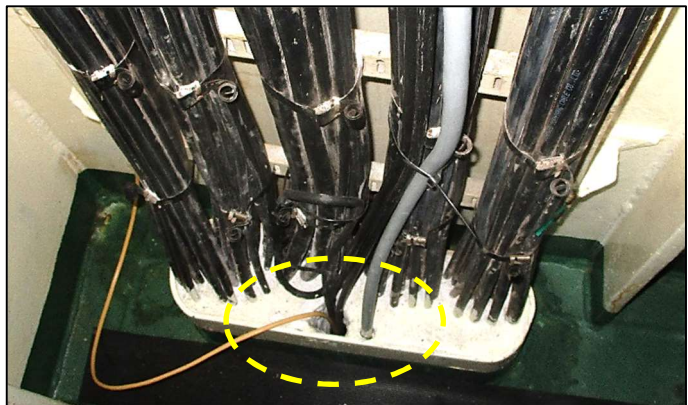
Fire door packing
deteriorated
and detached

Fire Safety



Broken fire door frame

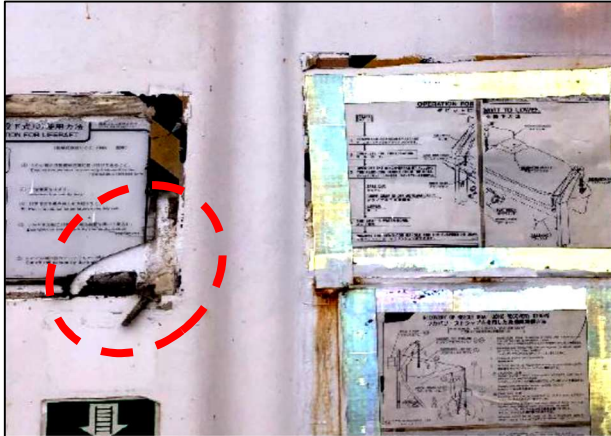
**Elec. cables penetration
compound missing**



**Heavy corrosion
on CO2 pipes**

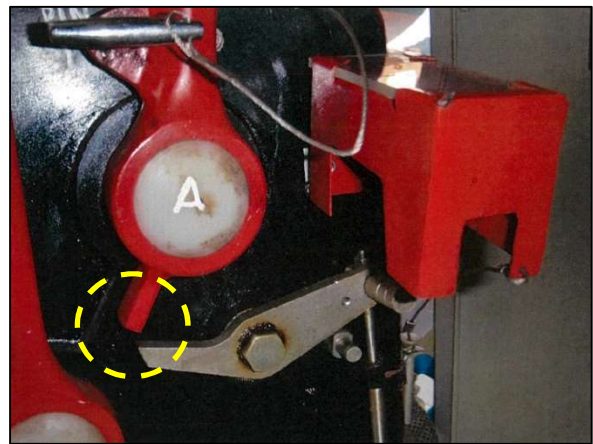


Life Saving Appliances



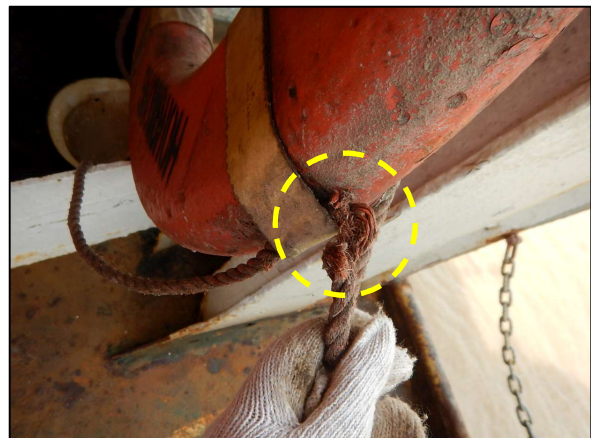
**Broken instruction plate
for inflatable liferaft**

**Inappropriate reset of
on-load release gear**



Inappropriate painter securing

**Deteriorated grab line
of lifebuoy**



Load Line

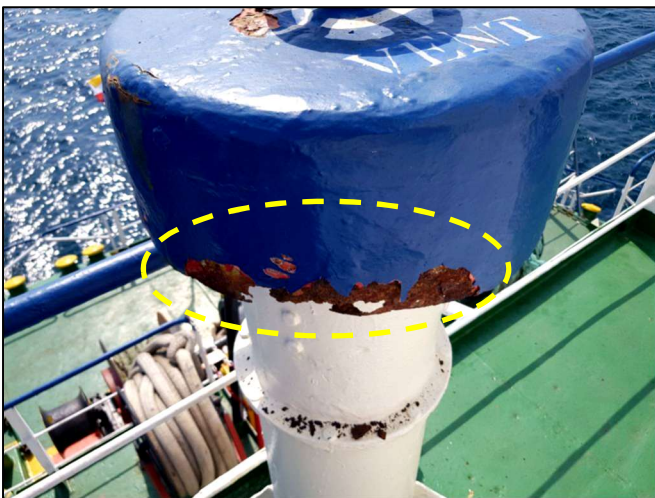


Broken float disc of air pipe head

Improper freeboard marks



Wasted ventilator



Machinery Space



Temporary repair on piping without reporting to PSC

Dirty condition in engine room



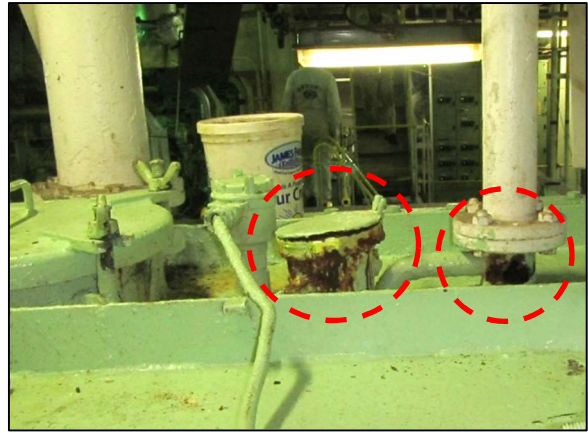
Dirty condition in engine room

MARPOL



Dirty condition
in oily bilge water
discharge line

Wasted and holed
on sewage
treatment plant



Others



Partly broken mooring rope

Missing toilet



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 of the present state of PSC and thereby improving future onboard maintenance and inspections as well as Safety Management Systems.

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 as a very direct and effective means to reduce the number of substandard ships as well as to improve the 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 among 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 it is still expanding as more new concepts of regulations have been introduced by the adoption of NOx Tier III regulation, 2020 global cap of sulphur content in fuel oils, 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.

June 2021

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 2019 through 2021 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 do the following 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 Emission 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 jurisdiction of an EU member state. Therefore, it is recommended to be prepared to show past voyage records.

(FAQ of EU MRV: 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, -1224, -1225]

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 are recycled only at the recycling facilities included in the EU List, which list ship recycling facilities authorized in accordance with the Regulation.

[Deadline for developing and having an IHM onboard]

- (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 the Hong Kong Convention. Among them, PFOS is compulsory to EU flagged existing ships (EU flagged new ships are prohibited to carry PFOS). Therefore, even if an IHM complying with the Hong Kong Convention is provided onboard the EU flagged existing ship, checking of PFOS is additionally required to comply with the EU regulation.

On the other hand, considering the estimated disruptions that several thousand ships are likely to be unable to comply with the IHM obligations and have the required certification by the deadline on 31 December 2020 due to COVID-19 restrictions, the EC has published a Commission Notice suggesting EU member States apply a harmonized approach towards enforcement during ship inspections for a limited period of 6 months from 31 December 2020 to 30 June 2021.

When a vessel not carrying a valid IHM and/or accompanying certificate on board calls at a port in an EU member state after December 31 2020, the shipowner or the master should provide "a service contract for sampling or a survey (quoted from the Commission Notice)" as evidence that all possible steps have been taken to obtain an IHM (including a "semi-completed IHM") certification, and documents showing why the semi-completed IHM could not be obtained.

(Information on Ship Recycling:

<https://www.classnk.or.jp/hp/en/activities/statutory/shiprecycle/index.html>)

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 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 accordance with IMO Resolution MSC.402(96). In addition, personnel for the work is to be certified for each manufacturer and type of 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 provided with several record books for the purpose of management of pollution prevention. On and after 1 October 2020, approval of the electronic record books is 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.

1.1.6 Application of Cyber Risk Management

Entry into force: 27 October 2020

[Refer to ClassNK Technical Information TEC-1217]

The USCG expects all companies with U.S. flagged vessels and foreign flagged vessels that call at ports in the U.S. to ensure that cyber risk management is appropriately addressed in their SMS.

If objective evidence indicating that the foreign flagged vessel that calls at ports in the U.S. failed to implement its SMS with respect to cyber risk management is identified, the following actions should be directed by the PSCO:

- (1) If cyber risk management has not been incorporated into the vessel's SMS by the company's first annual verification of the DOC after 1 January 2021, a deficiency should be issued with action code 30 - Ship Detained.
- (2) When objective evidence indicates that the vessel failed to implement its SMS with respect to cyber risk management, a deficiency for both an operation and an ISM should be issued with an action code 17 - Rectify Prior to Departure or an action code 30 – Ship Detained depending on its seriousness.

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

(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 releases dated 26 March and 8 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 postponed until 2021.

Press release dated 1 July 2020

- The Paris MoU announced new performance lists for flag and Recognized Organizations. These lists take effect from 1 July 2020.

Press release dated 9 October 2020

- The Paris MoU held its 53rd Committee meeting by virtual means from 28 September to 2 October 2020.

Press release dated 4 June 2021

- The Paris MoU held its 54th Committee meeting by virtual means from 17 to 21 May 2021.

Press release dated 15 June 2021

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

- 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 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 releases 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 postponed until 2021.

Press release dated 26 January 2021

- The Tokyo MOU held its 31st meeting remotely via virtual means from 21 to 22 January 2021.
- The Committee unanimously agreed to grant observer status to Cambodia.
- The Committee took note of the amended schedule for future joint CICs due to the COVID-19 pandemic, i.e., CIC on STCW in 2022, CIC on Fire Safety in 2023 and CIC on Crew Wages and Seafarer Employment Agreement under MLC in 2024. The Committee considered and agreed to accept the proposal by the Paris MoU to carry out a CIC on Ballast Water Management (BWM) in 2025.

Press release dated 1 March 2021

- Interim guidance relating to COVID-19 circumstances has been developed.

Press release dated 9 March 2021

- The guidance on remote PSC inspection has been developed and Remote PSC inspection has been launched from 1 April 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, Sint Maarten, 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 2020 of the Indian Ocean MOU, a total of 4,762 inspections were carried out and 218 vessels were detained in 2020.
- 2. 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

According to Annual Report 2020 of the Black Sea MOU, a total of 5,721 inspections were carried out and 241 vessels were detained in 2020.

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

Established: 22 October 1999

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

According to Annual Report 2020 of the Abuja MoU, a total of 2,337 inspections were carried out and 9 vessels were detained in 2020.

(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.

(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.

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

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 cooperates 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 conditions 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 are 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

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

i) 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 trends of typical deficiencies, deficiency items or deficiency categories at each port or country on world-map with AI technologies
- Output a pinpoint checklist based on the PSC's past records of selected ports or countries
- Analysis on the trend of deficiencies recorded on managing ships on a real-time basis through the managing company's input of PSC reports
- Freely set KPIs and ship groups in order to monitor, measure and evaluate them
- Output a summary report for PSC performance of managing ships
- Display requirements of the IMO international convention and local regulations applied on managing ships in a calendar format

ii) ARRIVAL CHECKLIST for PSC (http://www.classnk.or.jp/hp/en/info_service/psc/)

A 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 in the system along with notes and photos
- Check results can be forwarded to companies easily
- The statistics and tendency of detentions in major ports can be confirmed
- Checklists and statistics are updated automatically as needed

(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/)

Twenty-two “ClassNK PSC Bulletin” were released as of June 2021. This bulletin provides timely information on particularly notable deficiencies pointed out during PSC inspections of NK classed ships and will be continuously provided to management companies.

1.3.3 Visits to PSC authorities

Designated 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. However, considering the circumstances due to the COVID-19 pandemic, ClassNK refrained from visiting PSC authorities in 2020.

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.1138(31) “Procedure for Port State Control, and
- (2) Publications related to detained ships issued by the Tokyo MOU, the Paris MoU, and the USCG.

From January to December 2020, 250 PSC detentions were reported relating to 242 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 8,546 at the end of December 2020. Therefore, detention ratio (Detentions/Registered number in 2020) of the NK fleet in 2020 was about 2.9%.

2.2 Data on Detentions

2.2.1 Detentions per Flag State

Table 2.2.1 Detentions per Flag State

Flag State	Number of Registered Ships (500GT or over)			Number of Detentions			Detention Ratio (%)		
	2018	2019	2020	2018	2019	2020	2018	2019	2020
Panama	3,053	3,058	3,052	183	211	127	6.0	6.9	4.2
Liberia	601	663	729	33	42	21	5.5	6.3	2.9
Marshall Islands	606	679	717	31	28	29	5.1	4.1	4.0
Malta	188	179	168	16	13	0	8.5	7.3	0.0
Hong Kong, China	439	422	427	15	12	19	3.4	2.8	4.4
Singapore	707	719	710	12	11	13	1.7	1.5	1.8
Belize	49	52	52	8	8	7	16.3	15.4	13.5
Bahamas	158	169	165	3	7	5	1.9	4.1	3.0
Viet Nam	89	90	91	5	7	1	5.6	7.8	1.1
Thailand	78	75	65	3	5	2	3.8	6.7	3.1
Cyprus	73	68	63	11	5	0	15.1	7.4	0.0
Japan	965	983	967	4	4	2	0.4	0.4	0.2
Indonesia	205	224	218	4	3	3	2.0	1.3	1.4
Malaysia	268	256	253	0	1	1	0.0	0.4	0.4
Cayman Islands	59	57	59	0	1	1	0.0	1.8	1.7
Others	827	807	810	56	36	19	4.7	6.2	2.3
Total	8,365	8,501	8,546	384	394	250	4.6	4.6	2.9

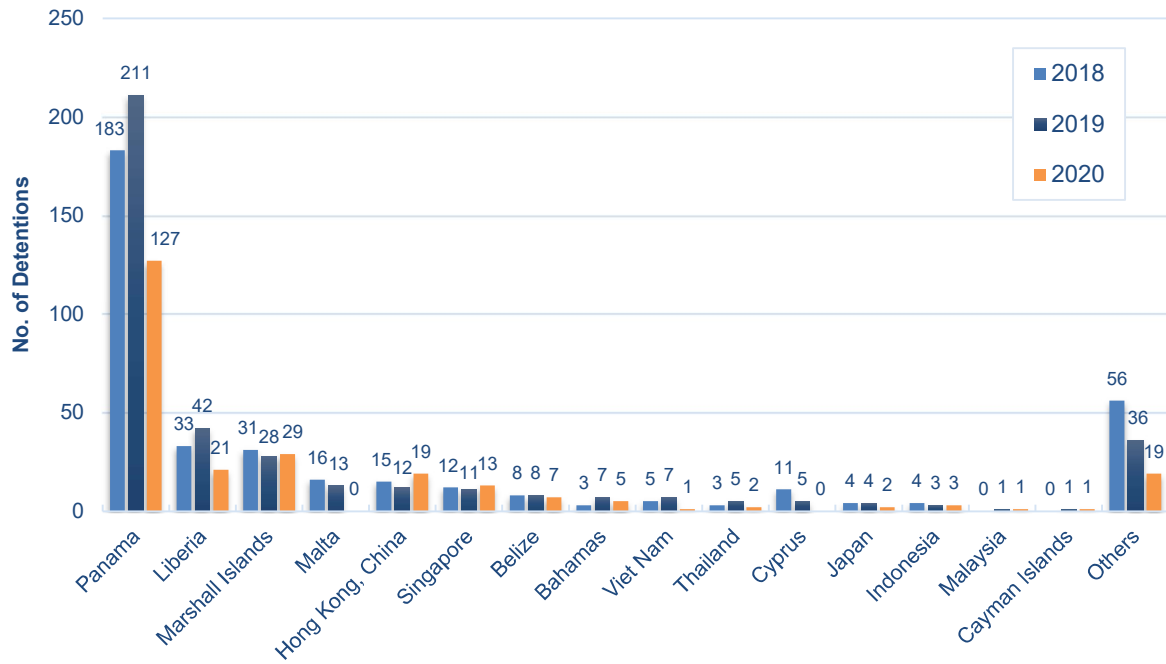


Fig. 2.2.1-1 No. of Detentions per Flag State

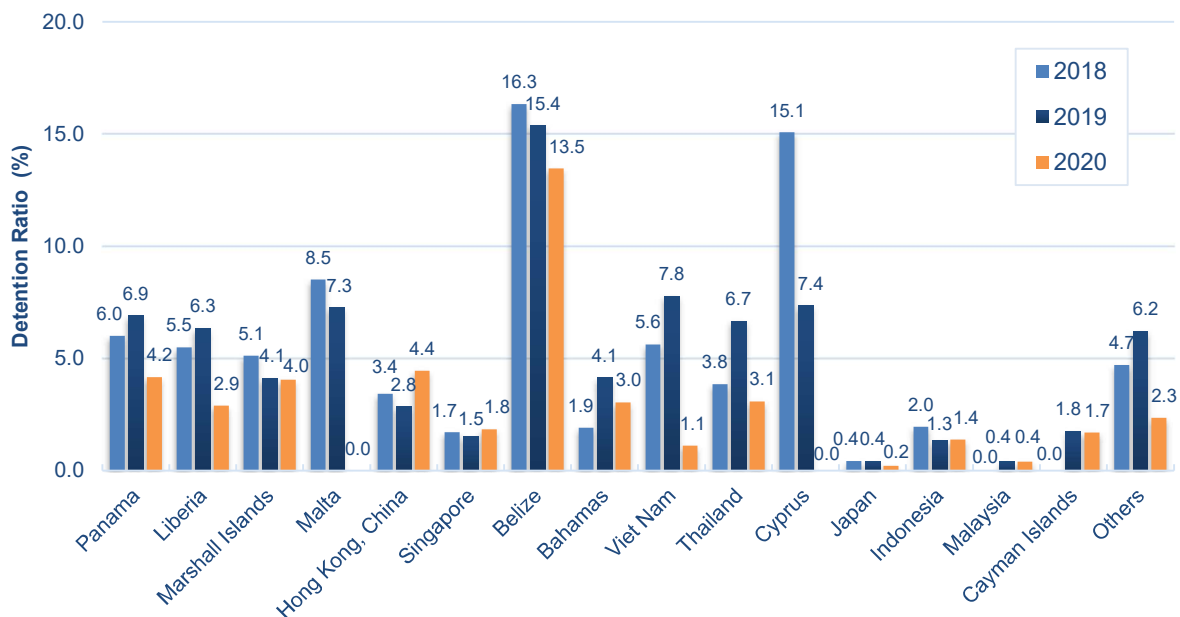


Fig. 2.2.1-2 Detention Ratio per Flag State (%)

2.2.2 Detentions per Ship Type

Table 2.2.2 Detentions per Ship Type

Ship Type	Number of Registered Ships (500GT or over)			Number of Detentions			Detention Ratio (%)		
	2018	2019	2020	2018	2019	2020	2018	2019	2020
Bulk Carrier	3,722	3,826	3,946	228	239	170	6.1	6.2	4.3
General Cargo	699	689	661	74	65	40	10.6	9.4	6.1
Container Carrier	609	605	607	29	30	9	4.8	5.0	1.5
Chip Carrier	119	118	117	4	3	4	3.4	2.5	3.4
Cement Carrier	124	125	123	1	1	1	0.8	0.8	0.8
Ro-Ro Ship	97	103	101	2	5	0	2.1	4.9	0.0
Reefer Carrier	115	109	108	12	6	0	10.4	5.5	0.0
Vehicles Carrier	345	337	316	9	11	7	2.6	3.3	2.2
Oil Tanker	718	707	696	4	7	1	0.6	1.0	0.1
Oil/Chemical Tanker	726	766	783	15	21	13	2.1	2.7	1.7
Gas Carrier	393	401	405	3	3	3	0.8	0.7	0.7
Others	698	715	683	3	3	2	0.4	0.4	0.3
Total	8,365	8,501	8,546	384	394	250			

Among the dry cargo ships with 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.)

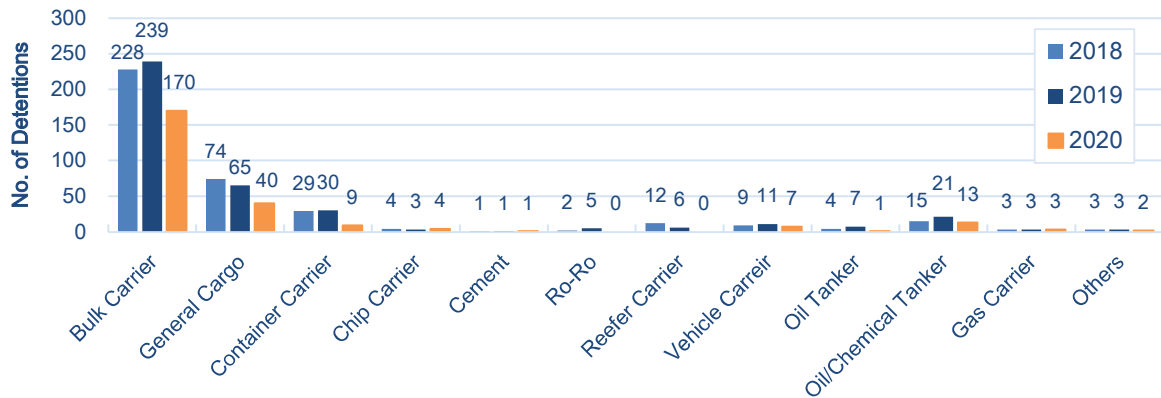


Fig. 2.2.2-1 No. of Detentions per Ship Type

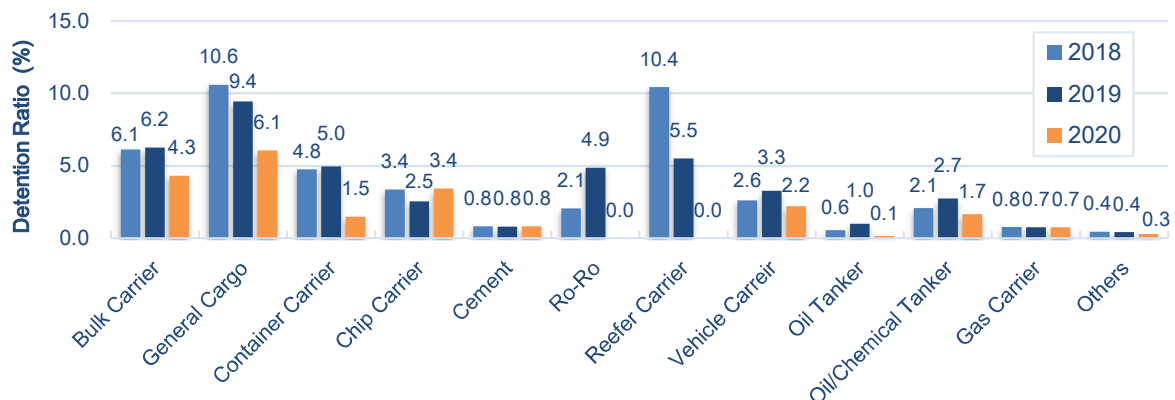


Fig. 2.2.2-2 Detention Ratio per Ship Type (%)

2.2.3 Detentions per Ship's Age

Table 2.2.3 Detentions per Ship's Age

Ship's Age	Number of Registered Ships (500GT or over)			Number of Detentions			Detention Ratio (%)		
	2018	2019	2020	2018	2019	2020	2018	2019	2020
Up to 5 years old	2,386	2,271	2,157	29	24	18	1.2	1.1	0.8
Over 5 and up to 10	2,554	2,515	2,476	94	95	65	3.7	3.8	2.6
Over 10 and up to 15	1,529	1,794	2,004	97	103	79	6.3	5.7	3.9
Over 15 and up to 20	914	870	877	56	66	42	6.1	7.6	4.8
Over 20 and up to 25	661	716	693	66	76	33	10.0	10.6	4.8
Over 25	321	335	339	42	30	13	13.1	9.0	3.8
Total	8,365	8,501	8,546	384	394	250			

The detention ratio of aged ships tends to be higher.

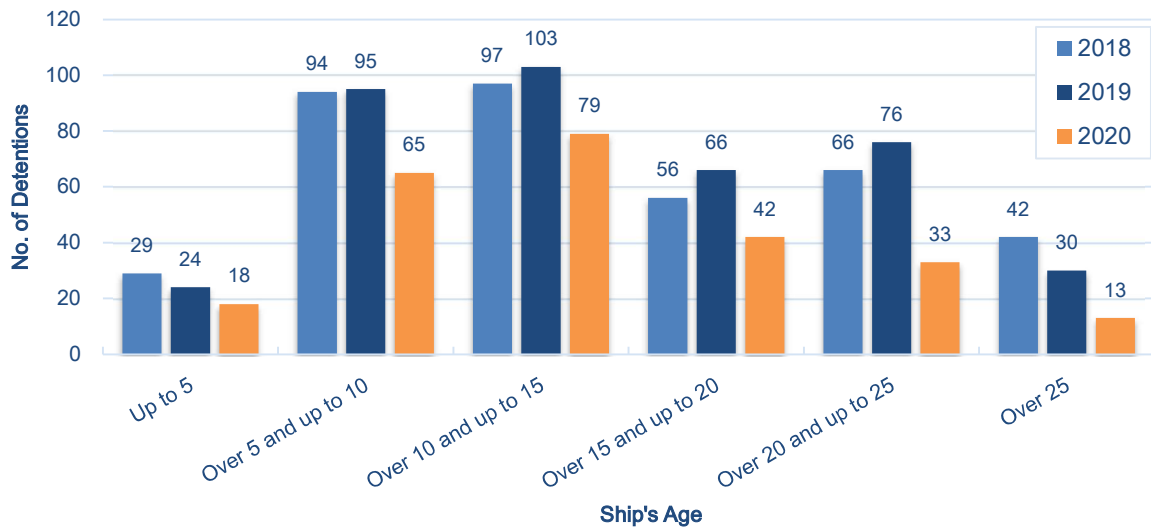


Fig. 2.2.3-1 No. of Detentions per Ship's Age

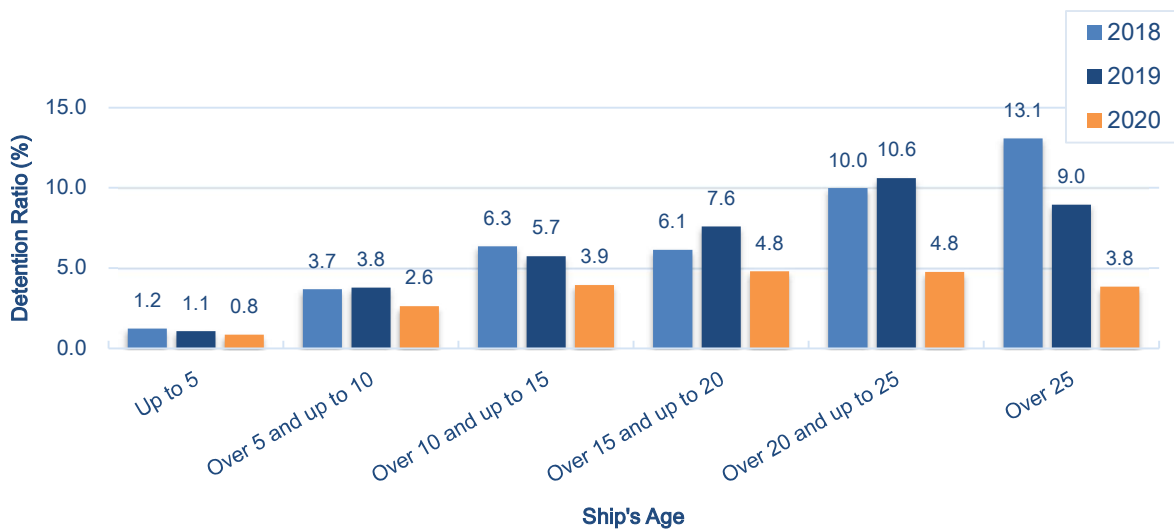


Fig. 2.2.3-2 Detention Ratio per Ship's Age (%)

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 (500GT or over)			Number of Detentions			Detention Ratio (%)		
	2018	2019	2020	2018	2019	2020	2018	2019	2020
Up to 10	2,649	2637	2556	98	94	53	3.7	3.6	2.1
Over 10 and up to 20	1,272	1283	1263	87	95	50	6.8	7.4	4.0
Over 20 and up to 30	1,084	1131	1150	69	68	42	6.4	6.0	3.7
Over 30 and up to 40	1,320	1358	1412	69	77	49	5.2	5.7	3.5
Over 40 and up to 50	798	822	884	23	23	26	2.9	2.8	2.9
Over 50 and up to 60	291	298	297	7	5	9	2.4	1.7	3.0
Over 60 and up to 80	207	200	199	3	3	0	1.4	1.5	0.0
Over 80	744	772	785	28	29	21	3.8	3.8	2.7
Total	8,365	8501	8546	384	394	250			

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

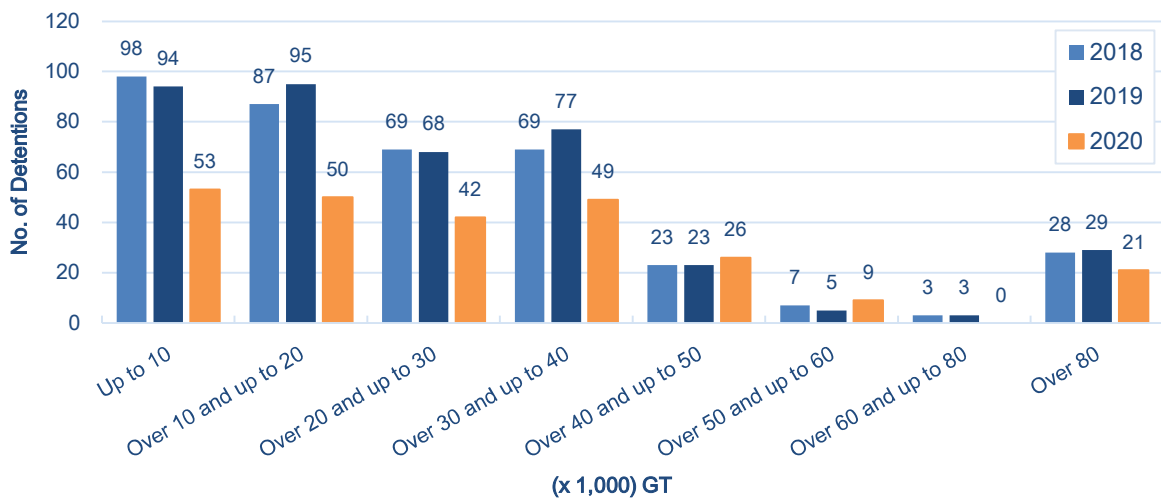


Fig. 2.2.4-1 No. of Detentions per Ship Size (Gross Tonnage)

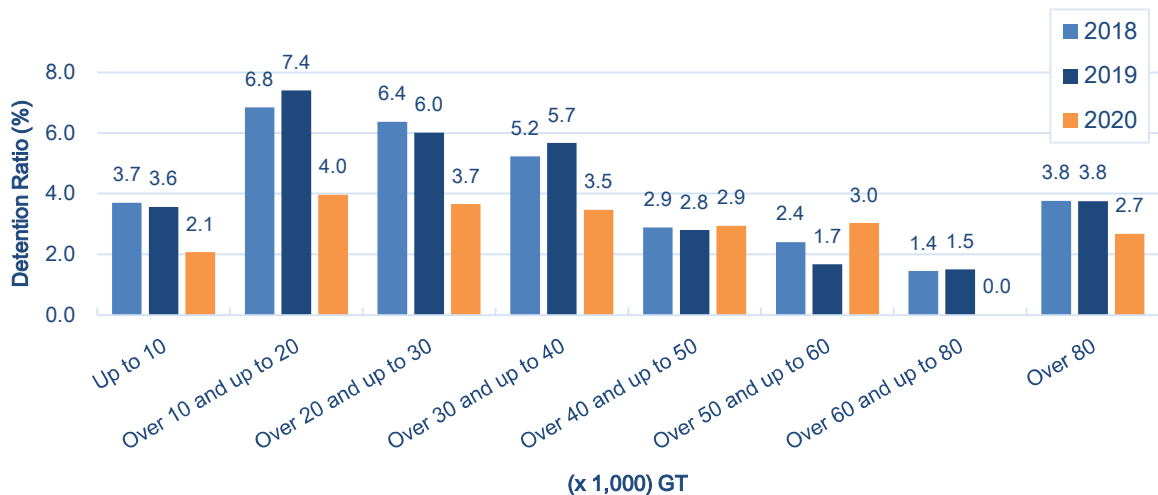


Fig. 2.2.4-2 Detention Ratio per Ship Size (Gross Tonnage) (%)

2.2.5 Detentions per PSC Country

Table 2.2.5 No. of Detentions per PSC Country

Country	2018	2019	2020
Australia	53	61	66
Russia	49	36	35
Ukraine	1	4	18
Indonesia	19	31	17
Belgium	11	6	11
Korea	10	6	11
United States*	25	18	10
Japan	10	12	10
Canada	4	7	10
China	90	120	9
Saudi Arabia	1	5	6
Germany	3	2	6
Turkey	15	8	4
Italy	6	7	3
Greece	2	3	3
France	9	2	3
Ireland	2	3	2
Hong Kong, China	3	2	2
Viet Nam	1	1	2
Philippines	0	1	2
Jordan	2	0	2
United Kingdom	6	7	1
New Zealand	3	4	1
Romania	4	3	1
Argentina	3	3	1
Others	52	42	14
Total	384	394	250

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

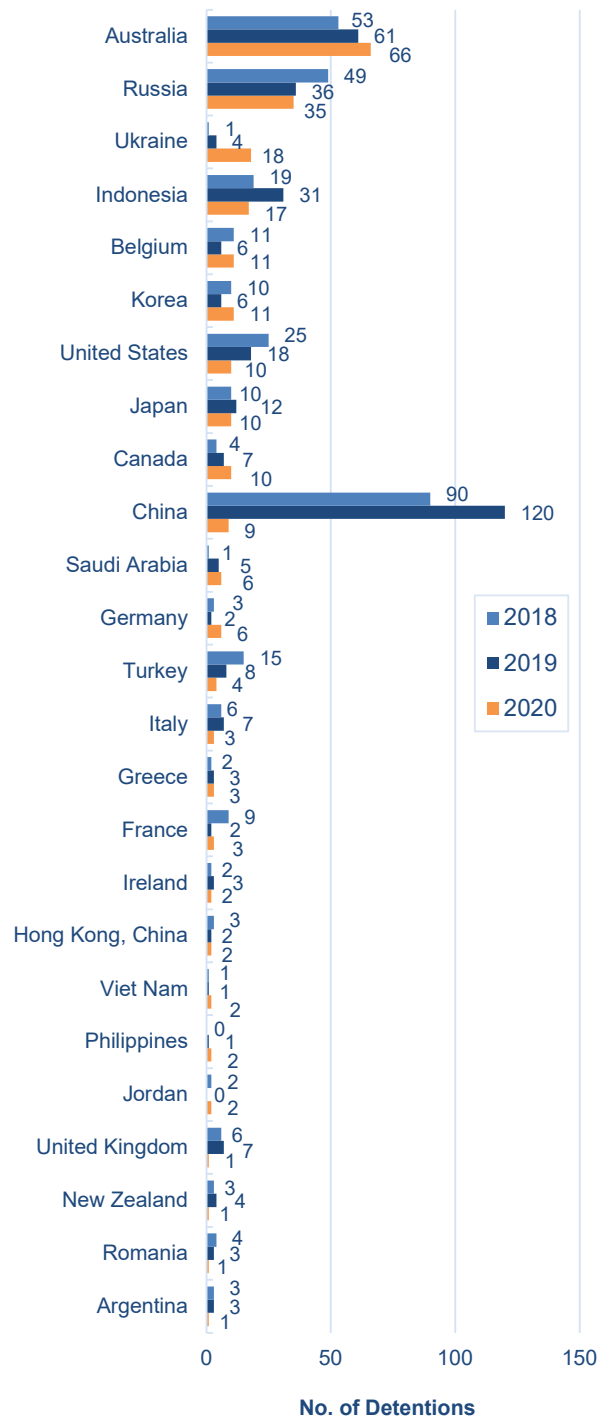


Fig. 2.2.5 No. of Detentions per PSC Country

Number of ships detained in China in 2020 significantly decreased compared with that of 2019.

2.2.6 Detentions per MOUs and USCG

Table 2.2.6 No. of Detentions per MOUs and USCG

Region	2018	2019	2020
Tokyo MOU	218	265	142
Paris MoU	65	56	44
USCG	24	18	10
Others	77	55	54
Total	384	394	250

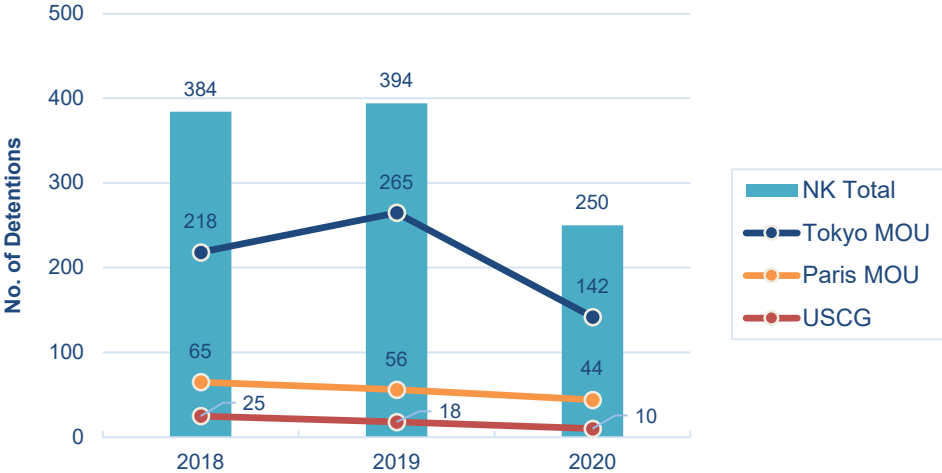


Fig. 2.2.6 No. of Detentions per MOUs and USCG

Compared with number of 2019, the number of detentions at Tokyo MoU, Paris MoU and USCG in 2020 all decreased.

2.3 Analysis of Detainable Deficiencies

2.3.1 Detainable Deficiencies per Category

In 2020 a total of 658 detainable deficiencies were reported relating to 250 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, Life-saving appliances, and Emergency systems combined accounted for about one-third of the total in 2020.

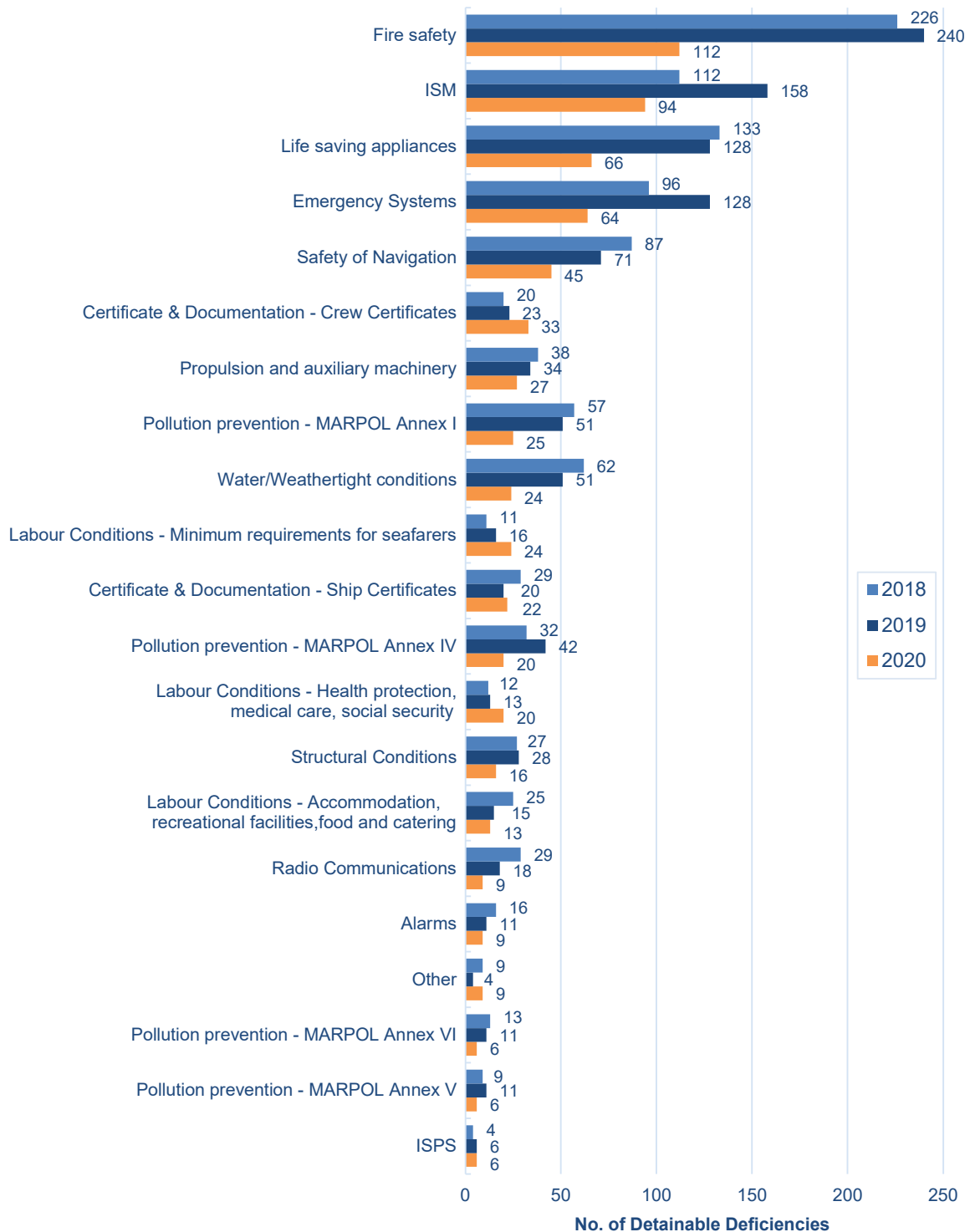


Fig. 2.3.1 No. of Detainable Deficiencies per Category

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. ISM, Emergency generators, and Emergency fire pumps continue to be the major items where most detainable deficiencies were found. The items reported from 2018 to 2020 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.)

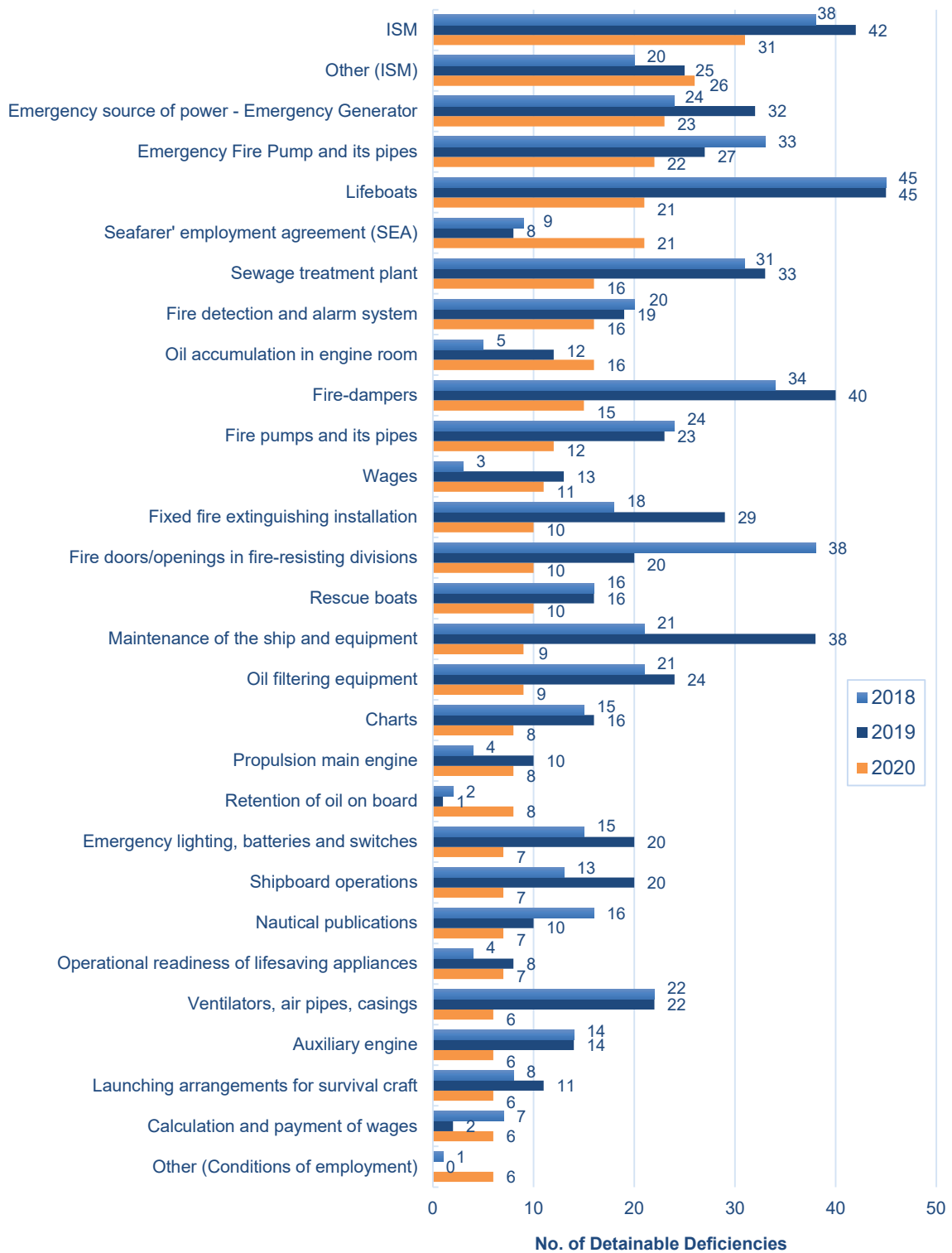


Fig. 2.3.2 No. of Detainable Deficiencies per defective item

(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	2018	2019	2020	Noted Deficiencies
Fire detection and alarm system	20	19	16	Inoperable
Oil accumulation in engine room	5	12	16	Fire hazard due to oil leakage from equipment in Engine Room
Fire-dampers	34	40	15	Wasted/Inoperable fire-dampers
Fire pumps and its pipes	24	23	12	Malfunction of fire pump (incl. for emergency) Wasted and holed fire main line
Fire doors/openings in fire-resisting divisions	38	20	10	Poor closing condition of fire door
Fixed fire extinguishing installation	18	29	10	Wasted and holed CO ₂ pipes

(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	2018	2019	2020	Noted Deficiencies
Lifeboats	45	45	21	Lifeboat engine not started Poor maintenance of rechargeable batteries Inoperable on-load release gears
Rescue boats	16	16	10	Rescue boat engine not started Poor maintenance of rechargeable batteries
Operational readiness of lifesaving appliances	4	8	7	Inoperable on-load release gear
Launching arrangements for survival craft	8	11	6	Inoperative davit
Launching arrangements for rescue boats	20	8	4	Inoperative davit
Immersion suits	3	1	4	Unsuitable size

(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	2018	2019	2020	Noted Deficiencies
Emergency source of power - emergency generator	24	32	23	Emergency generator unable to start automatically or manually Emergency generator unable to automatically connect Emergency Switchboard
Emergency fire pump and its pipes	33	27	22	Inoperable Insufficient discharge pressure
Emergency lighting, batteries and switches	15	20	7	Deficient batteries Inoperable/wasted/damaged emergency lights

(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	2018	2019	2020	Noted Deficiencies
Charts	15	16	8	Not updated Navigation charts for intended voyage not available
Nautical publications	16	10	7	Nautical publications (Sailing Directions, Notice to Mariners, etc.) for intended voyage not updated/not available
Voyage data recorder (VDR / S-VDR)	13	10	5	Malfunction Alarm panel showing “system error”
Electronic charts (ECDIS)	7	6	5	ENC not updated
Lights, shapes, sound-signals	7	5	5	Navigation lights damaged (Glass cracked, cover wasted, etc.)
Echo sounder	6	6	4	Malfunction
Voyage or passage plan	3	4	4	Not available

(6) Crew Certificate

Major types and details of deficiencies noted under the category of “Crew Certificate” are shown in Table 2.3.2-(6) below.

Table 2.3.2-(6) Crew Certificates

Item	2018	2019	2020	Noted Deficiencies
Seafarers’ employment agreement (SEA)	9	8	21	Expired

(7) Propulsion and auxiliary machinery

Major types and details of deficiencies noted under the category of “Propulsion and auxiliary machinery” are shown in Table 2.3.2-(7) below.

Table 2.3.2-(7) Propulsion and auxiliary machinery

Item	2018	2019	2020	Noted Deficiencies
Propulsion main engine	4	10	8	Uncleanliness due to oil/cooling water leakage
Auxiliary engine	14	14	6	Inoperable Auxiliary engines Uncleanliness due to oil leakage
Operation of machinery	0	2	3	Uncleanliness due to oil/cooling water leakage
Bilge pumping arrangements	7	1	3	Suction valve seized, Educator temporary repaired
Gauges, thermometers, etc.	1	0	3	Numerous instruments inoperable

(8) MARPOL Annex I

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

Table 2.3.2-(8) MARPOL Annex I

Item	2018	2019	2020	Noted Deficiencies
Oil filtering equipment	21	24	9	Inoperable Ship’s crew not familiar with operation
Retention of oil on board	2	1	7	Oily bilge tank/sludge tank full Oily bilge retained in cofferdam of E/R Sludge oil stored in drum cans

(9) Water/Weathertight conditions

Major types and details of deficiencies noted under the category of “Water/Weathertight conditions” are shown in Table 2.3.2-(9) below.

Table 2.3.2-(9) Water/Weathertight conditions

Item	2018	2019	2020	Noted Deficiencies
Ventilators, air pipes, casings	22	22	6	Damaged/Seized ventilators and float of air pipe heads
Hatch covers	10	10	4	Wasted/Holed Wasted cleats and its spacers Rubber packing missing
Cargo and other hatchways	8	5	4	Weather-tightness not ensured Wasted hatch cover cleats and its spacers

(10) 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-(10) below.

Table 2.3.2-(10) Minimum requirements for seafarers

Item	2018	2019	2020	Noted Deficiencies
Wages	3	13	11	No payment Monthly accounts of payments not provided
Calculation and payment of wages	7	2	6	Not fully paid wages
Other (conditions of employment)	1	0	6	SEA expired

(11) Ship Certificates

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

Table 2.3.2-(11) Ship Certificates

Item	2018	2019	2020	Noted Deficiencies
Minimum safe manning document	1	2	4	Inappropriate description
International sewage pollution prevention certificate	1	1	4	Inappropriate description
Cargo ship safety construction (including exemption)	4	3	2	Expired
Maritime labour certificate	2	2	2	Missing

(12) MARPOL Annex IV

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

Table 2.3.2-(12) MARPOL Annex IV

Item	2018	2019	2020	Noted Deficiencies
Sewage treatment plant	31	33	16	Inoperative (including holes or corrosion)

(13) Labour Conditions - Health protection, medical care, social security

Major types and details of deficiencies noted under the category of “Labour Conditions - Health protection, medical care, social security” are shown in Table 2.3.2-(13) below.

Table 2.3.2-(13) Labour Conditions - Health protection, medical care, social security

Item	2018	2019	2020	Noted Deficiencies
Steam pipes, pressure pipes, wires (insulation)	1	1	4	Insulation on steam pipes missing/damaged
Cleanliness of engine room	0	5	3	Oil/water leakage from machinery
Winches and capstans	2	2	3	Leakage from hydraulic oil pipes Mooring rollers cover corroded

(14) Structural Conditions

Major types and details of deficiencies noted under the category of “Structural Conditions” are shown in Table 2.3.2-(14) below.

Table 2.3.2-(14) Structural Conditions

Item	2018	2019	2020	Noted Deficiencies
Ballast, fuel and other tanks	5	2	4	Emergency shut off valves of oil tanks inoperative
Electrical installations in general	2	3	3	Batteries not secured
Hull damage impairing seaworthiness	1	4	3	Hull structure dented/holed
Steering gear	8	9	2	Malfunction

(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	2018	2019	2020	Noted Deficiencies
Galley, handling room (maintenance)	2	2	2	Galley dirty
Provisions quantity	1	1	2	Quantity not sufficient

2.4 Analysis of Detainable Deficiencies per PSC Country

Most frequent detainable deficiencies per PSC country are shown in Tables 2.4.1 to 2.4.13 according to number of detentions reported from 2018 to 2020. (Regarding details of deficiencies related to ISM and MLC, refer to Chapter 3 and Chapter 4.)

2.4.1 Australia

Table 2.4.1 Australia

Category of Detainable Deficiency	2018	2019	2020
ISM ^(*)	14	20	24
Life saving appliances	11	15	20
Emergency systems	13	17	13
Fire safety	11	12	11
Water/weathertight conditions	7	4	9
Labour conditions - minimum requirements for seafarers	0	4	4

Defective Items	2018	2019	2020
Other (ISM)	6	8	14
Emergency source of power - emergency generator	8	11	8
Lifeboats	17	6	8
Fire pumps and its pipes	6	1	6
Emergency fire pump and its pipes	5	5	5
Operational readiness of lifesaving appliances	1	5	5
Maintenance of the ship and equipment	14	3	5
Fire-dampers	7	11	4
Rescue boats	1	3	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 92 detainable deficiencies relating to 66 detentions were noted in 2020.
(1.4 detainable deficiencies/detention)

2.4.2 Russia

Table 2.4.2 Russia

Category of Detainable Deficiency	2017	2018	2020
Safety of navigation	11	23	19
Emergency systems	9	17	17
Fire safety	9	25	13
ISM	1	20	8
Labour conditions - health protection, medical care, social security	0	2	8
Life saving appliances	7	15	7

Defective Items	2018	2019	2020
Emergency fire pump and its pipes	4	5	7
Other (ISM)	13	4	7
Emergency lighting, batteries and switches	11	6	5
Fire detection and alarm system	2	8	4
Charts	3	7	4
Nautical publications	7	4	4

A total of 98 detainable deficiencies relating to 35 detentions were noted in 2020. (2.8 detainable deficiencies/detention)

2.4.3 Ukraine

Table 2.4.3 Ukraine

Category of Detainable Deficiency	2018	2019	2020
ISM	0	0	7
Certificate & documentation - ship certificates	0	0	7
Life saving appliances	0	2	5
Fire safety	0	0	3
Pollution prevention - MARPOL Annex I	0	0	3
Safety of navigation	0	0	3
ISPS	0	0	3

Defective Items	2018	2019	2020
ISM	0	0	4
Minimum safe manning document	0	0	3
Access control to ship	0	0	3
International sewage pollution prevention certificate	0	0	2
Immersion suits	0	0	2

A total of 36 detainable deficiencies relating to 18 detentions were noted in 2020. (2.0 detainable deficiencies/detention)

2.4.4 Indonesia

Table 2.4.4 Indonesia

Category of Detainable Deficiency	2018	2019	2020
ISM	1	6	8
Pollution prevention - MARPOL Annex IV	8	12	8
Fire safety	22	16	7
Emergency systems	1	10	7
Life saving appliances	6	8	5
Safety of navigation	3	3	3
Labour conditions - minimum requirements for seafarers	0	0	3

Defective Items	2018	2019	2020
Sewage treatment plant	8	10	6
Emergency source of power - emergency generator	0	5	4
Fire doors/openings in fire-resisting divisions	11	2	3
Emergency fire pump and its pipes	1	1	2
Reserve source of energy	1	1	2
Fire-dampers	6	11	2
Voyage or passage plan	0	0	2
Lifeboats	3	2	2
Launching arrangements for rescue boats	1	1	2
Masters responsibility and authority	0	0	2
Shipboard operations	0	0	2

A total of 50 detainable deficiencies relating to 17 detentions were noted in 2020. (2.9 detainable deficiencies/detention)

2.4.5 Belgium

Table 2.4.5 Belgium

Category of Detainable Deficiency	2018	2019	2020
Fire safety	10	9	14
Certificate & documentation - crew certificates	6	5	10
ISM	9	5	8
Safety of navigation	4	2	7
Structural conditions	1	1	4
Labour conditions - minimum requirements for seafarers	6	1	3
Life saving appliances	8	8	2
Emergency systems	2	3	2
Pollution prevention - MARPOL Annex I	0	0	2

Defective Items	2018	2019	2020
Seafarers' employment agreement (SEA)	6	5	9
ISM	9	5	8
Fire detection and alarm system	0	1	4
Wages	1	2	3

A total of 55 detainable deficiencies relating to 11 detentions were noted in 2020. (5.0 detainable deficiencies/detention)

2.4.6 Republic of Korea

Table 2.4.6 Republic of Korea

Category of Detainable Deficiency	2018	2019	2020
Fire safety	5	1	10
Life saving appliances	2	2	8
ISM	4	4	4
Emergency systems	2	0	3
Water/weathertight conditions	2	0	3
Pollution prevention - MARPOL Annex I	1	1	2
Structural conditions	0	0	2
Pollution prevention - MARPOL Annex VI	0	0	2

Defective Items	2018	2019	2020
Oil accumulation in engine room	1	2	4
Launching arrangements for survival craft	0	1	3
Covers (hatchway-, portable-, tarpaulins, etc.)	1	0	2
Emergency fire pump and its pipes	1	0	2
Fire-dampers	0	0	2
Stowage and provision of Lifeboats	0	0	2
Rescue boats	0	0	2
Oil filtering equipment	0	1	2
Other (ISM)	0	0	2

A total of 40 detainable deficiencies relating to 11 detentions were noted in 2020.
(3.6 detainable deficiencies/detention)

2.4.7 United States

Table 2.4.7 United States

Category of Detainable Deficiency	2018	2019	2020
Fire safety	11	12	17
ISM	6	21	7
Structural conditions	2	3	2

Defective Items	2018	2019	2020
Oil accumulation in engine room	1	3	11
Fixed fire extinguishing installation	2	1	3
Electrical installations in general	0	0	2
Shipboard operations	1	1	2
Maintenance of the ship and equipment	1	13	2
Fire pumps and its pipes	1	2	1
Safety and environmental policy	0	3	1

A total of 29 detainable deficiencies relating to 10 detentions were noted in 2020.
(2.9 detainable deficiencies/detention)

2.4.8 Japan

Table 2.4.8 Japan

Category of Detainable Deficiency	2018	2019	2020
Certificate & documentation - crew certificates	1	1	3
Labour conditions - minimum requirements for seafarers	0	2	3
Fire safety	2	5	2

Defective Items	2018	2019	2020
Seafarers' employment agreement (SEA)	0	0	2
Fixed fire extinguishing installation	2	3	2
Other (conditions of employment)	0	0	2

A total of 11 detainable deficiencies relating to 10 detentions were noted in 2020.
(1.1 detainable deficiencies/detention)

2.4.9 Canada

Table 2.4.9 Canada

Category of Detainable Deficiency	2018	2019	2020
Propulsion and auxiliary machinery	0	2	4
Life saving appliances	1	0	3
ISM	0	2	3
Water/weathertight conditions	4	0	3
Emergency systems	1	2	2
Certificate & documentation - crew certificates	0	0	2
Labour conditions - accommodation, recreational facilities, food and catering	2	1	2

Defective Items	2018	2019	2020
Seafarers' employment agreement (SEA)	0	0	2
Lifeboats	0	0	2
Bilge pumping arrangements	0	0	2
ISM	0	2	2

A total of 22 detainable deficiencies relating to 10 detentions were noted in 2020.
(2.2 detainable deficiencies/detention)

2.4.10 China

Table 2.4.10 China

Category of Detainable Deficiency	2018	2019	2020
ISM	25	37	5
Fire safety	46	90	3
Alarms	3	4	3
Emergency systems	24	40	2
Safety of navigation	13	14	2

Defective Items	2018	2019	2020
Emergency preparedness	3	2	2
Fixed fire extinguishing installation	4	14	1
Other (ISM)	1	12	1
Fire pumps and its pipes	6	11	1
Maintenance of the ship and equipment	14	10	1
Emergency source of power - emergency generator	7	7	1
Steering gear alarm	0	2	1
Charts	3	1	1

A total of 23 detainable deficiencies relating to 9 detentions were noted in 2020.
(2.6 detainable deficiencies/detention)

2.4.11 Saudi Arabia

Table 2.4.11 Saudi Arabia

Category of Detainable Deficiency	2018	2019	2020
Pollution prevention - MARPOL Annex I	0	0	2
Propulsion and auxiliary machinery	1	3	1
Life saving appliances	1	1	1

Defective Items	2018	2019	2020
Rescue boats	0	1	1

A total of 9 detainable deficiencies relating to 6 detentions were noted in 2020.
(3.4 detainable deficiencies/detention)

2.4.12 Germany

Table 2.4.12 Germany

Category of Detainable Deficiency	2018	2019	2020
Fire safety	8	6	8
Propulsion and auxiliary machinery	6	0	7
Certificate & documentation - crew certificates	0	0	7
Labour conditions - accommodation, recreational facilities, food and catering	6	2	5
Labour conditions - health protection, medical care, social security	1	2	5
Water/weathertight conditions	4	1	4
Life saving appliances	1	0	4
Pollution prevention - MARPOL Annex I	1	0	4
Pollution prevention - MARPOL Annex IV	2	0	4
Labour conditions - minimum requirements for seafarers	0	0	4
ISM	3	2	3

Defective Items	2018	2019	2020
Seafarers' employment agreement (SEA)	0	0	5
Division - decks, bulkheads and penetrations	0	0	3
Retention of oil on board	0	0	3
Sewage treatment plant	2	0	3
ISM	3	2	3
Propulsion main engine	0	0	2
Auxiliary engine	2	0	2
Wages	0	0	2
Calculation and payment of wages	0	0	2
Steam pipes, pressure pipes, wires (insulation)	1	0	2

A total of 62 detainable deficiencies relating to 6 detentions were noted in 2020.
(10.3 detainable deficiencies/detention)

2.4.13 Turkey

Table 2.4.13 Turkey

Category of Detainable Deficiency	2018	2019	2020
Life saving appliances	4	6	3
Fire safety	15	7	2
Emergency systems	2	5	2

Defective Items	2018	2019	2020
Fire fighting equipment and appliances	4	1	1
Lifeboats	1	1	1
Fire pumps and its pipes	2	0	1

A total of 10 detainable deficiencies relating to 4 detentions were noted in 2020.
(2.5 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 a 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 90.4% of the NK SMC ships.

Table 3.1 Number of NK SMC Ships (per Class)

Classification	2018		2019		2020	
	No.	%	No.	%	No.	%
NK class	4,968	90.0%	5,116	90.0%	5,220	90.4%
Other class	549	10.0%	569	10.0%	554	9.6%
Total	5,517		5,685		5,774	

Note: The numbers refer to ships engaged in international voyages including those under 500 gross tonnage

3.2 Statistics of Detentions of NK SMC Ships

In 2020, the total number of detentions of NK SMC ships was 181, which was 3.1% of all NK SMC ships, or 5,774 (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	2018			2019			2020		
	(I)	(II)	(III)	(I)	(II)	(III)	(I)	(II)	(III)
Panama	131	2,519	5.2%	135	2,548	5.3%	94	2,490	3.8%
Singapore	11	549	2.0%	8	590	1.4%	11	608	1.8%
Marshall Islands	21	494	4.3%	28	564	5.0%	22	595	3.7%
Hong Kong	14	393	3.6%	13	382	3.4%	18	374	4.8%
Liberia	24	400	6.0%	27	434	6.2%	15	471	3.2%
Japan	3	302	1.0%	4	320	1.3%	2	309	0.6%
Malta	13	163	8.0%	8	151	5.3%	2	152	1.3%
Bahamas	2	110	1.8%	4	116	3.4%	5	114	4.4%
Turkey	0	65	0.0%	1	57	1.8%	1	50	2.0%
Thailand	3	78	3.8%	3	75	4.0%	1	68	1.5%
Cyprus	10	66	15.2%	5	61	8.2%	0	61	0.0%
Malaysia	0	50	0.0%	0	54	0.0%	0	54	0.0%
Other Flag	27	328	8.2%	17	333	5.1%	10	428	2.3%
Total	259	5,517	4.7%	253	5,685	4.5%	181	5,774	3.1%

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	2018			2019			2020		
	(I)	(II)	(III)	(I)	(II)	(III)	(I)	(II)	(III)
Bulk Carrier	160	2,435	6.6%	162	2,500	6.5%	128	2,551	5.0%
Other Cargo Ship	88	1,980	4.4%	72	2,002	3.6%	42	1,995	2.1%
*Chemical Tanker	1	506	0.2%	12	544	2.2%	5	573	0.9%
Oil Tanker	8	346	2.3%	6	370	1.6%	3	372	0.8%
Gas Carrier	2	249	0.8%	1	268	0.4%	3	282	1.1%
MODU	0	1	0.0%	0	1	0.0%	0	1	0.0%
Passenger Ship	0	0	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%
Total	259	5,517	4.7%	253	5,685	4.5%	181	5,774	3.1%

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	2018			2019			2020			
	(I)	(II)	(III)	(I)	(II)	(III)	(I)	(II)	(III)	
China	20	64	31.3%	23	70	32.9%	3	5	60.0%	
Australia	13	47	27.7%	15	53	28.3%	25	62	40.3%	
Russia	12	32	37.5%	6	21	28.6%	7	21	33.3%	
Ukraine	0	0	0.0%	0	2	0.0%	8	14	57.1%	
EU	UK	2	3	66.7%	5	5	100%	1	1	100%
	Belgium	6	7	85.7%	4	4	100%	7	8	87.5%
	Italy	4	4	100%	4	4	100%	2	2	100%
	Other Members	10	19	52.6%	12	17	70.6%	10	14	71.4%
USA	5	16	31.3%	9	14	64.3%	5	7	71.4%	
Other Countries	13	67	19.4%	18	63	28.6%	12	47	25.5%	
Total	85	259	32.8%	96	253	37.9%	80	181	44.2%	

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 Study of ISM Detainable Deficiencies

This clause introduces studies of ISM detainable deficiencies recorded in Australia, Ukraine and Belgium which are the top 3 countries with the highest number of ISM detention cases in 2020 and a part of objective evidences of the ISM detention by each country.

Deficiency Codes of ISM deficiencies specified by Tokyo MOU which Australia participates in are as follows in table 3.3. Also, a deficiency code of ISM deficiencies specified by Black Sea MOU which Ukraine participates in and Paris MOU which Belgium participates in is only “15150 - ISM”.

Table 3.3 Deficiency Code per ISM Code Element (Tokyo MOU)

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)

Deficiency Code per ISM Code Element (Paris MOU, Black Sea MOU)

Def. Code	Defective Item
15150	ISM

3.3.1 Australia

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 Australia, “15199 - Other (ISM)” was most frequently recorded as an ISM detainable deficiency. 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.

- Oily sludge accumulated in galley exhaust duct
- Malfunction of safety devices of generator engines
- Damage and/or wastage of securing devices (cleats) or cleat crutches of cargo hatch covers
- Standard compass error not determined once a watch
- Malfunction of fire damper’s operations
- Crew unfamiliar with operation of ECDIS
- Not having the latest and/or corrected charts

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

Code	DEF_ITEM	2018	2019	2020
15104	Masters responsibility and authority	0	0	1
15105	Resources and personnel	1	0	0
15106	Shipboard operations	5	4	3
15107	Emergency preparedness	1	5	1
15109	Maintenance of the ship and equipment	2	3	5
15199	Other (ISM)	8	8	17
Total		17	20	27

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

Code	Item	No.	Remark
02108	Electrical installations in general	5	
03105	Covers (hatchway-, portable-, etc.)	4	
04102	Emergency Fire Pump and its pipes	5	
07106	Fire detection and alarm system	5	
07113	Fire pumps and its pipes	4	
07115	Fire-dampers	5	
07199	Other (fire safety)	10	Ex) Oily sludge accumulated in galley exhaust duct
10105	Magnetic compass	4	
10114	VDR/ S-VDR	4	
10127	Voyage or passage plan	5	
10133	Bridge operation	4	
11101	Lifeboats	5	
11104	Rescue boats	4	
11131	On board training and instructions	5	
13102	Auxiliary engine	8	
Others		126	

3.3.2 Ukraine

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. Typical objective evidences of the ISM detainable deficiency are mainly as follows.

- Logbook not properly recorded
- Malfunction of remote pump control system (F.P.T, bos'n store)
- Crew unfamiliar with fire drills
- Crew incapable of properly putting on immersion suits
- Controls of access to ships not properly implemented
- Crew unfamiliar with garbage collection and disposal procedure

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

Code	Item	2018	2019	2020
15150	ISM	0	0	10

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

Code	Item	No.	Remark
01305	Log-books / compulsory entries	8	
02199	Other (Structure condition)	2	Ex.) Malfunction of remote pump control system (F.P.T, bos'n store)
04109	Fire drills	3	
05115	Radio log (diary)	1	
10105	Magnetic compass	1	
10106	Compass correction log	1	
11119	Immersion suits	3	
11131	On board training and instructions	3	
14501	Garbage	1	
14503	Garbage management plan	1	
16101	Ship security defects	3	
16105	Access control to ship	2	
	Others	14	

3.3.3 Belgium

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. Typical objective evidences of the ISM detainable deficiency are mainly as follows.

- Invalid seafarers' employment agreement
- Damage to lighting fittings and/or electric cables
- Malfunction of fuel oil shut-off valves
- Damage to side ropes and/or steps of pilot ladder
- Not having the latest nautical publications
- Malfunction of self-igniting lights of lifebuoys
- Inappropriate entries in ballast water record book
- Crew not receiving full monthly wage in accordance with their employment agreements

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

Code	Item	2018	2019	2020
15150	ISM	10	6	11

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

Code	Item	No.	Remarks
01220	Seafarers' employment agreement (SEA)	16	
02107	Ballast, fuel and other tanks	3	
02108	Electrical installations in general	4	
02128	Bulk carriers add. Safety measures	3	
07114	Remote Means of control (opening, pumps, ventilation, etc.) Machinery spaces	4	
10101	Pilot ladders and hoist/pilot transfer arrangements	3	
10116	Nautical publications	3	
11117	Lifebuoys incl. provision and disposition	3	
13104	Bilge pumping arrangements	3	
14802	Ballast Water Record Book	4	
18203	Wages	4	
	Others	84	

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 a Maritime Labour Certificate issued by the Society (hereafter, “NK MLC ships”) based on the PSC Inspection Reports obtained. Table 4.1 shows the registered number of the NK MLC ships. About 89% of the NK MLC ships are classed with the Society.

Table 4.1 Number of NK MLC Ships (per Class)

Classification	2018		2019		2020	
NK class	4,588	88.4%	4,847	88.6%	4,957	89.3%
Other class	603	11.6%	623	11.4%	596	10.7%
Total	5,191		5,470		5,553	

4.2 Statistics of Detentions of NK MLC Ships

As of the end of April 2021, 97 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

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		2018	2019	2020
Australia		2	4	6
Canada		2	1	3
Japan		0	0	3
Russia		2	2	3
EU	Belgium	4	2	7
	Germany	2	0	4
	Greece	0	0	2
	Other Members	5	5	2
Other Countries		6	4	2
Total		23	18	32

4.3 Study of MLC Detainable Deficiencies

This clause introduces the studies 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 2020. 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, “01220 - Seafarers' employment agreement (SEA)” was most frequently recorded on NK MLC ships in 2020. And “18203 - wages” followed it.

On the other hand, the top 3 deficiencies recorded as objective evidences of ISM detainable deficiencies in MLC deficiencies are as follows.

- Top.1: “01220 - Seafarers' employment agreement (SEA)” (11)
- Top.1: “18420 - Cleanliness of engine room” (11)
- Top.3: “01308 – Records of rest” (5)

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)
01xxx		Certificates & Documentation
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 Seafarers' Daily Hours of Work or Rest (Records of Rest)
	01330	Procedure for Complaint under MLC, 2006
	01331	Collective Bargaining Agreement
	01336	Certificate or documentary evidence of financial security for repatriation
	01337	Certificate or documentary evidence of financial security relating to shipowners liability
18xxx		MLC, 2006 (Labour Conditions)
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 display)
01xxx	Certificates & Documentation		
01220	Seafarers' employment agreement (SEA)	17	BEL, CAN, DEU, EST, GBR, JPN
01308	Records of rest	1	AUS
18xxx	Labour Conditions (MLC, 2006)		
18203	Wages	9	AUS, BEL, DEU, PHL, RUS
18204	Calculation and payment of wages	3	BEL, DEU
18299	Other (Conditions of employment)	4	AUS, JPN, RUS
18305	Hospital accommodation (Sickbay)	1	CAN
18312	Galley, handling room (maintenance)	1	BEL
18313	Cleanliness	1	CAN
18317	Food personal hygiene	1	GRC
18324	Cold room, cold room cleanliness & temperature	1	BEL
18399	Other (Accommodation, recreational facilities)	1	AUS
18406	Medical care onboard or ashore free of charge	1	DEU
18408	Electrical	2	GRC, JOR
18416	Ropes and wires	1	GRC
18417	Anchoring devices	1	RUS
18418	Winches and capstans	2	DEU, RUS
18420	Cleanliness of engine room	1	GRC
18424	Steam pipes, pressure pipes, wires (insulation)	3	DEU, RUS
Total		51	-

***ISO description of the country**

ISO des.	Country	ISO des.	Country	ISO des.	Country
AUS	Australia	BEL	Belgium	CAN	Canada
DEU	Germany	EST	Estonia	GBR	UK
GRC	Greece	JOR	Jordan	JPN	Japan
PHL	Philippines	RUS	Russia		

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

Code	Item	No.
01xxx	Certificates & Documentation	
01220	Seafarers' employment agreement (SEA)	11
01308	Records of rest	5
-	Other Deficiencies with 01xxx	4
18xxx	Labour Conditions (MLC, 2006)	
18203	Wages	4
18302	Sanitary facilities	4
18312	Galley, handling room (maintenance)	4
18408	Electrical	4
18416	Ropes and wires	4
18418	Winches and capstans	4
18420	Cleanliness of engine room	11
18499	Other (Health protection, medical care ...)	4
-	Other Deficiencies with 18xxx	28
Total		87

(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 the deficiency code 09000 series “Working and Living Conditions” since 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 2020.

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

Code	Item	No.
092xx	Working Conditions	
09232	Cleanliness of engine room	1
	Total	1

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 the public data available, this Chapter introduces abstracts of the recent results of detentions by the Tokyo MOU, the Paris MoU and the USCG in 2020.

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

Tokyo MOU	http://www.tokyo-mou.org
Paris MoU	https://www.parismou.org/
USCG	https://www.uscg.mil/

5.1 Tokyo MOU

In 2020, 19,415 inspections were carried out in the Tokyo MOU region, and 493 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 2018 through 2020.

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

Country	No. of Inspection			No. of Detentions			Detention ratio (%)		
	2018	2019	2020	2018	2019	2020	2018	2019	2020
Australia ¹⁾	2,922	3,222	3,021	161	163	178	5.51	5.06	5.89
Canada ²⁾	511	703	583	3	12	19	0.59	1.71	3.26
Chile	831	759	533	12	7	8	1.44	0.92	1.50
China	7,549	7,756	787	360	434	56	4.77	5.60	7.12
Fiji	64	36	5	0	1	0	0	2.78	0
Hong Kong, China	716	710	256	24	20	6	3.35	2.82	2.34
Indonesia	1,803	1,766	1,949	60	73	47	3.33	4.13	2.41
Japan	5,173	5,023	2,323	100	93	43	1.93	1.85	1.85
Republic of Korea	1,925	1,950	1,601	67	59	63	3.48	3.03	3.94
Malaysia	1,567	1,413	738	13	11	2	0.83	0.78	0.27
Marshall Islands	21	11	0	3	2	0	14.29	18.18	0
New Zealand	288	228	146	16	6	3	5.56	2.63	2.05
Panama ³⁾	0	0	125	0	0	4	0	0	3.20
Papua New Guinea	154	187	75	5	3	0	3.25	1.60	0
Peru	544	462	189	4	1	0	0.74	0.22	0
Philippines	2,976	2,302	2,130	1	7	4	0.03	0.30	0.19
Russia Federation ²⁾	1,162	1,171	1,410	90	65	48	7.75	5.55	3.40
Singapore	1,097	1,199	494	15	21	5	1.37	1.75	1.01
Thailand	669	760	935	0	0	1	0	0	0.11
Vanuatu	4	8	2	0	0	0	0	0	0
Vietnam	1,613	1,706	2,113	0	5	6	0	0.29	0.28
Total	31,589	31,372	19,415	934	983	493	2.96	3.13	2.54

1) Data is also provided to Indian Ocean MOU.

2) Data is only for the Pacific ports.

3) Data for Panama before 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 2018-2020	No. of Detentions 2018-2020	Black to Grey limit
Togo	973	128	82
Sierra Leone	999	105	84
Mongolia	243	29	24
Jamaica	62	9	8
Palau	185	21	19
Kiribati	118	14	13
Korea, Democratic People's Republic	143	16	16

5.1.3 Recognized Organization Performance

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

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

Recognized Organization	No. of Inspections 2018-2020	No. of Detentions 2018-2020	Detention ratio (%)
American Bureau of Shipping (ABS)	10,425	194	1.86
Bureau Veritas (BV)	10,824	344	3.18
China Classification Society (CCS)	6,769	71	1.05
Croatian Register of Shipping (CRS)	116	9	7.76
DNV GL AS (DNV GL)	20,370	453	2.22
Indian Register of Shipping (IRS)	203	12	5.91
Korean Register (KR)	7,926	132	1.67
Lloyd's Register (LR)	12,712	314	2.47
Nippon Kaiji Kyokai (NK)	29,430	711	2.42
Polish Register of Shipping (PRS)	159	6	3.77
RINA Services S.p.A. (RINA)	3,078	114	3.70
Russian Maritime Register of Shipping (RS)	1,095	42	3.84

(*) 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 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 2018 through 2020.

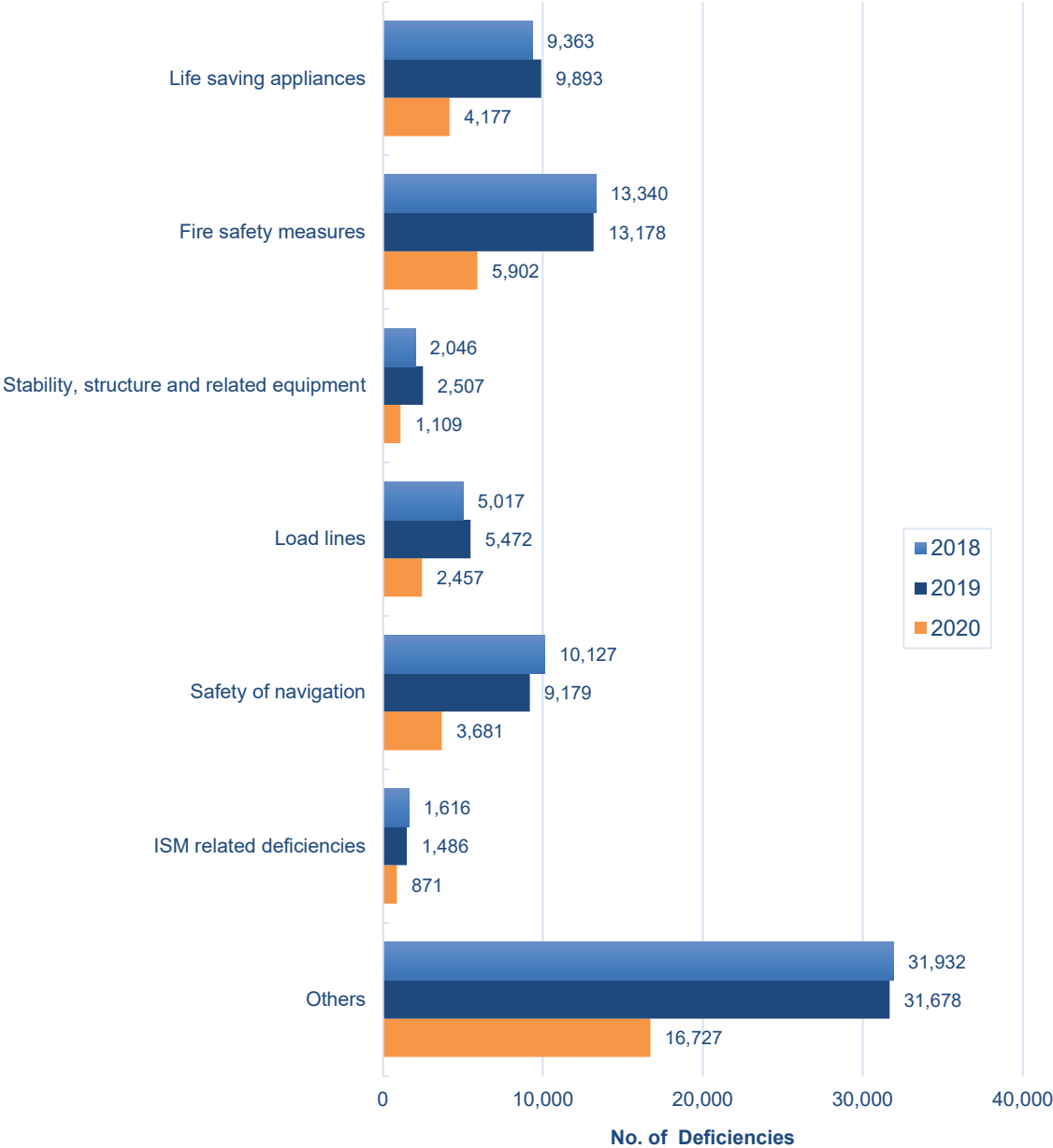


Fig. 5.1.4 Deficiencies per Category (Tokyo MOU)

5.2 Paris MoU

In 2020, 13,148 inspections were carried out in the Paris MoU region, and 369 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 2018 through 2020.

Table 5.2.1 Port State Inspections carried out by Authorities (Paris MoU)

Country	No. of Inspections			No. of Detentions			Detention ratio (%)		
	2018	2019	2020	2018	2019	2020	2018	2019	2020
Belgium	990	1,010	571	28	36	50	2.83	3.56	8.76
Bulgaria	329	342	320	16	12	7	4.86	3.51	2.19
Canada	1,022	1,237	1,115	19	25	37	1.86	2.02	3.32
Croatia	341	299	219	11	9	6	3.23	3.01	2.74
Cyprus	114	106	31	7	9	1	6.14	8.49	3.23
Denmark	493	491	542	6	4	4	1.22	0.81	0.74
Estonia	210	251	144	0	1	2	0.00	0.40	1.39
Finland	282	280	220	0	0	1	0.00	0.00	0.45
France	1,072	1,047	756	35	24	17	3.26	2.29	2.25
Germany	1,134	1,116	611	36	19	29	3.17	1.70	4.75
Greece	982	987	765	42	50	29	4.28	5.07	3.79
Iceland	63	64	79	1	1	3	1.59	1.56	3.80
Ireland	285	299	222	9	12	16	3.16	4.01	7.21
Italy	1,381	1,447	1,231	60	83	57	4.34	5.74	4.63
Latvia	303	309	187	3	3	3	0.99	0.97	1.60
Lithuania	231	253	372	0	0	1	0.00	0.00	0.27
Malta	196	181	157	6	8	3	3.06	4.42	1.91
Netherlands	1,278	1,287	658	28	22	4	2.19	1.71	0.61
Norway	569	555	355	8	14	5	1.41	2.52	1.41
Poland	507	492	468	26	19	9	5.13	3.86	1.92
Portugal	514	528	338	9	3	5	1.75	0.57	1.48
Romania	533	489	534	28	25	6	5.25	5.11	1.12
Russia ¹⁾	1,360	1,177	739	103	57	25	7.57	4.84	3.38
Slovenia	136	140	135	1	1	3	0.74	0.71	2.22
Spain	1,557	1,517	1,283	33	43	22	2.12	2.83	1.71
Sweden	573	570	245	11	8	9	1.92	1.40	3.67
United Kingdom	1,499	1,434	862	40	38	20	2.67	2.65	2.32

1) 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 2018-2020	Detentions 2018-2020	Risk	Black to Grey Limit
Albania	74	17	High Risk	9
Cameroon	45	10	Medium to High Risk	6
Togo	430	60		39
Comoros	336	45		32
Moldova, Republic of	350	41	Medium Risk	33
Belize	283	31		27
Tanzania, United Republic of	276	30		27
Sierra Leone	312	33		30
Tuvalu	39	6		6

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 2018 through 2020.

Table 5.2.3 Recognized Organization Performance Table (Paris MoU)

Recognized Organization	No. of Inspections 2018-2020	No. of Detentions 2018-2020	Performance Level
American Bureau of Shipping (ABS)	5,753	3	High
DNV GL AS (DNV GL)	17,859	14	
Lloyd's Register (LR)	11,313	11	
Nippon Kaiji Kyokai (NK)	7,811	13	
Bureau Veritas (BV)	10,577	22	
Russian Maritime Register of Shipping (RS)	2,434	4	
RINA Services S.p.A. (RINA)	4,756	11	
Korean Register (KR)	1,336	2	
China Classification Society (CCS)	815	1	
Polish Register of Shipping (PRS)	542	1	
Croatian Register of Shipping (CRS)	142	0	Medium
Indian Register of Shipping (IRS)	197	4	

5.3 USCG

In 2020, 7,383 PSC examinations were conducted by the USCG during the year, and 57 ships were detained due to serious deficiencies found onboard.

5.3.1 USCG Statistics

Table 5.3.1 shows the number of safety related detentions for the three years from 2018 through 2020.

Table 5.3.1 Detentions by Year (Safety)

Year	No. of Safety Exams	No. of Detentions	Annual Detention Ratio (%)	3-Year Average Detention Ratio (%)
2018	9,025	103	1.14	1.06
2019	8,622	95	1.10	1.07
2020	7,383	57	0.77	1.02

5.3.2 Targeted Flag States (Safety)

The USCG targets Flag Administrations for additional PSC examinations if their detention ratio scores higher than the overall three-year rolling average detention ratio and if an Administration is associated with more than one detention in the past three years. 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	2018-2020 Detention Ratio (%)	Category
Barbados	4.95	High Risk
Belgium	2.50	
Bolivia*	15.38	
Cook Islands	3.51	
Israel	15.38	
Mexico	5.57	
St. Kitts and Nevis	20.00	
Saint Vincent and the Grenadines	5.03	
Tanzania	19.57	
Togo	4.44	
Turkey	3.28	
Antigua and Barbuda	1.70	Medium Risk
Cyprus*	1.60	
Liberia	1.11	
Malta	1.19	
Panama	1.03	
Philippines	1.48	
Portugal	1.45	
Vanuatu	1.62	

* Administration not targeted last year.

5.3.3 Recognized Organization Performance (Safety)

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)

Recognized Organization	2018-2020 Vessel Examinations	2018-2020 RO-Related Detentions	Detention Ratio (%)
American Bureau of Shipping (ABS)	5408	0	0.00
Bureau Veritas (BV)	3382	4	0.11
China Classification Society (CCS)	620	1	0.16
Croatian Register of Shipping (CRS)	44	0	0.00
DNV GL AS (DNV GL)	9384	6	0.06
Indian Register of Shipping (IRS)	50	0	0.00
Korean Register (KR)	839	0	0.00
Lloyd's Register (LR)	7183	5	0.07
Nippon Kaiji Kyokai (NK)	6809	5	0.07
Polish Register of Shipping (PRS)	69	0	0.00
RINA Services S.p.A. (RINA)	1136	0	0.00
Russian Maritime Register of Shipping (RS)	103	1	1.09

Recognized Organizations are evaluated on their RO-related Detention Ratio on PSC over the previous three years.

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