June 2018

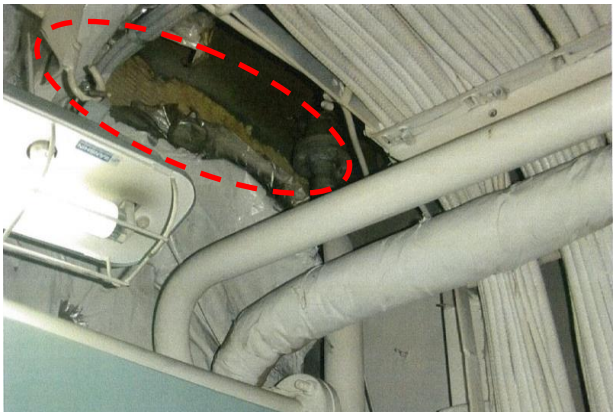
ClassNK

Port State Control Annual Report

[English]

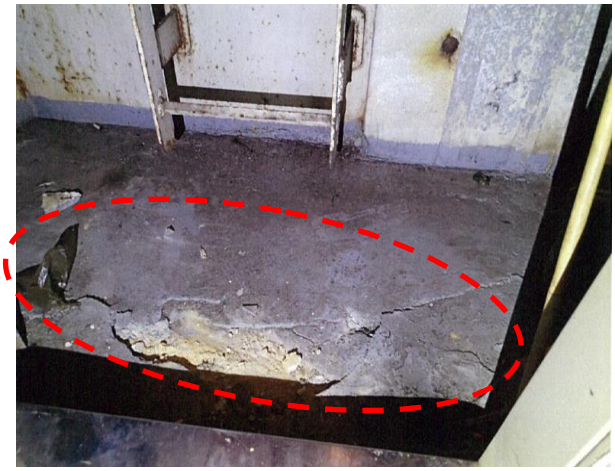
Photographs of Deficiencies identified during Port State Control

Fire Safety



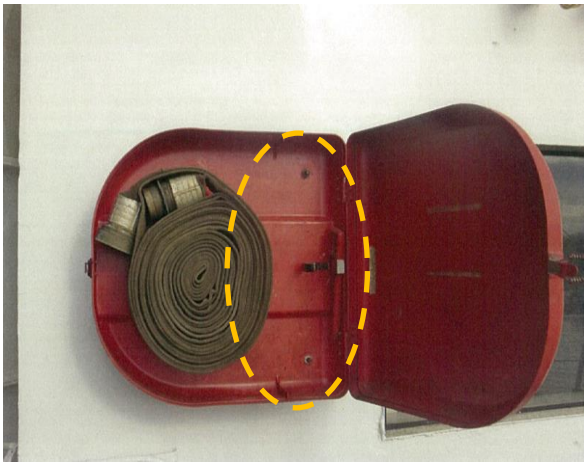
Detached insulation

Fractured escape trunk bottom

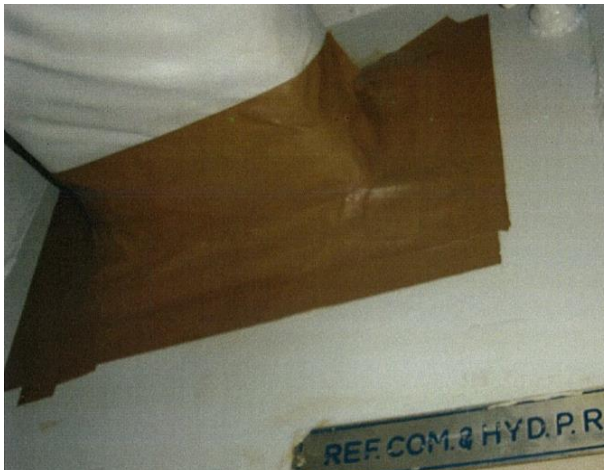


Malfunctioned self-closing devise

Fire hose nozzle missing

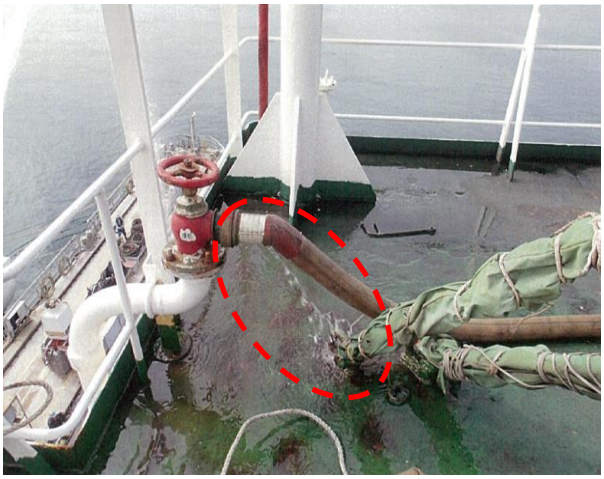


Fire Safety



Improper treatment of cable penetration

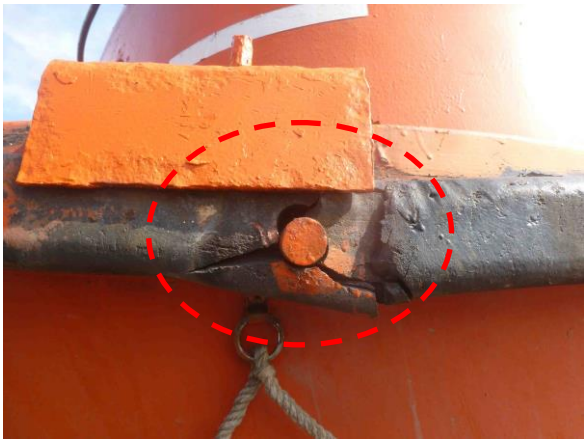
Fire hose joint leaking



Wasted fire door and its frame

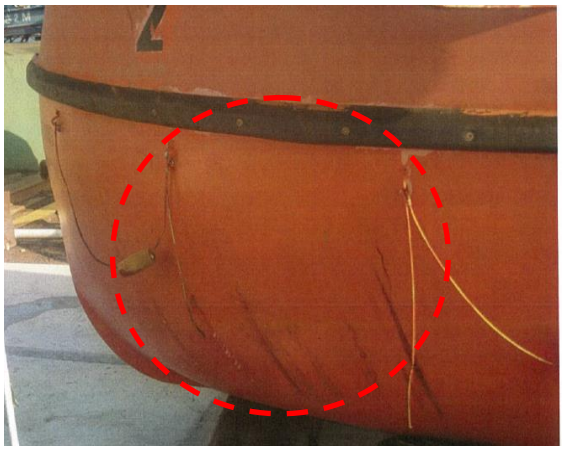
Wasted duct

Life Saving Appliances



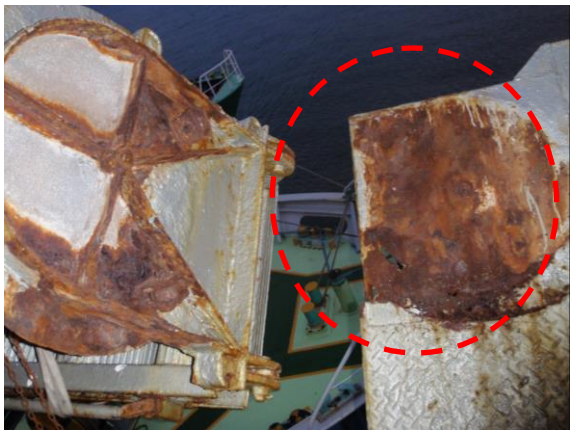
Fractured fender for life boat

Lacked life line



Loose foundation bolts for seat belts

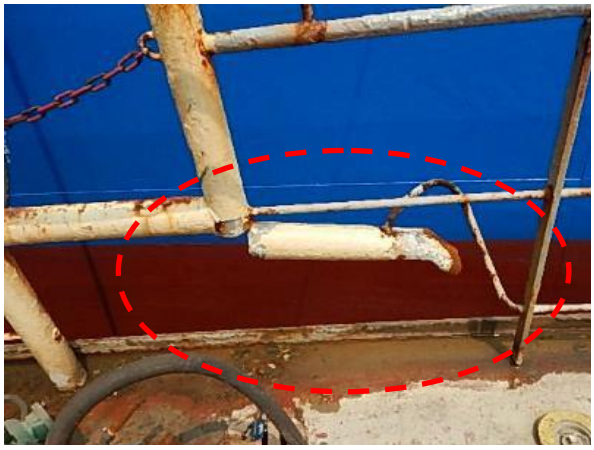
Wasted pilot ladder



Load Line

Holed air pipe head

Holed mushroom ventilator



Deformed stay for guard rail

Improper chain hook

MARPOL

Holed oil coaming

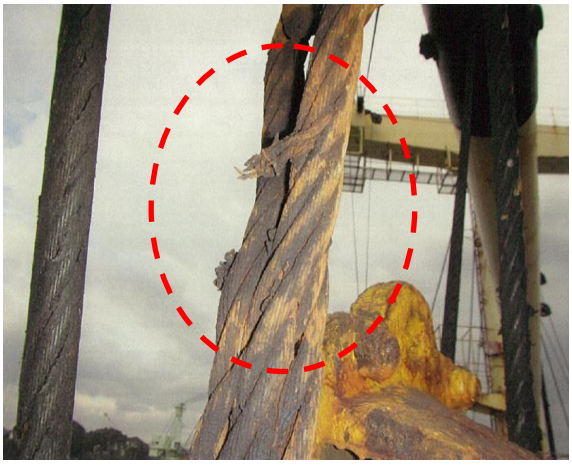
Machinery Space

Temporary repair with rubber patch

Oil accumulation

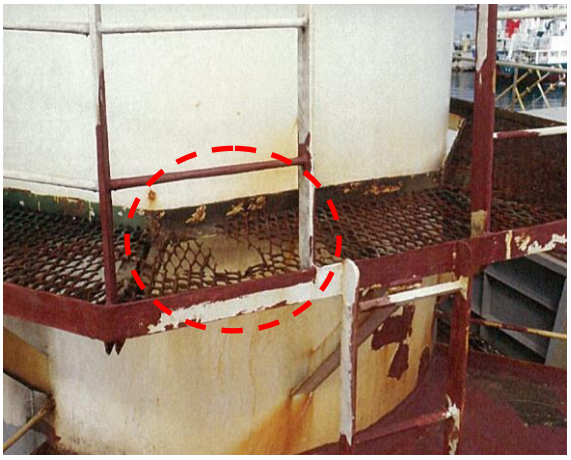
Oily and dirty engine room

Others



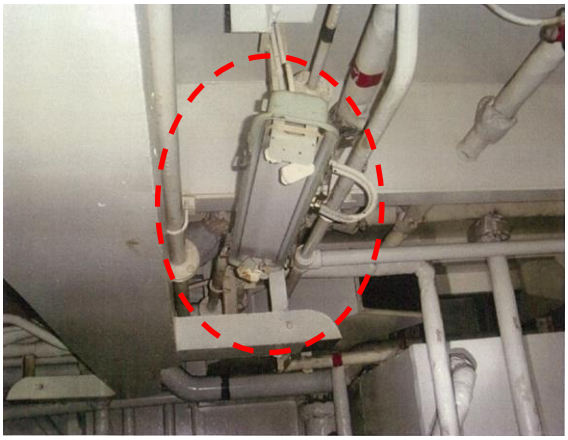
Broken wire rope for derrick

Insufficient quantity of fuel oil for emergency generator



Wasted catwalk

Broken illumination



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 to 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 Noise Code, POLAR Code, Ballast Water Management Convention, The Manila amendments to the STCW Convention, 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 vessel.

June 2018

TABLE OF CONTENTS

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 2016 through 2018 are summarized as below.

1.1.1 Installation of stability instrument for oil tankers, chemical tankers, gas carriers (Regulation 28 & 29 of MARPOL Annex I, 2.2.6 & 2.2.7 of IBC Code, 2.2.6 & 2.2.7 of IGC Code)

Entry into force: 1 January 2016

[Refer to ClassNK Technical Information TEC-1053]

All oil tankers, chemical tankers, and gas carriers are to be fitted with a stability instrument, capable of verifying compliance with intact and damage stability requirements approved by the Administration by the date designated in applicable convention or codes.

Type of Ship	Applicable Ship	Designated Date
Oil Tankers and Chemical Tankers	Ships constructed on or after 1 January 2016	The date of delivery
	Ships other than above	At first scheduled renewal survey of IOPP Certificate and/or Chemical Certificate on or after 1 January 2016 but not later than 1 January 2021
Gas Carriers	Ships constructed on or after 1 July 2016	The date of delivery
	Ships to which GC Code and EGC Code apply (Ships constructed before 1 July 1986)	At first scheduled renewal survey of Gas Certificate on or after 1 January 2016 but not later than 1 January 2021
	Ships other than above	At first scheduled renewal survey of Gas Certificate on or after 1 July 2016 but not later than 1 July 2021

1.1.2 Amended requirements for sludge discharging piping and bilge-water piping (Regulation 12 of MARPOL Annex I)

Entry into force: 1 January 2017

[Refer to ClassNK Technical Information TEC-1080]

Regulation 12 of MARPOL Annex I was amended and due to this amendment, it is required that the connections between the sludge discharge piping / the bilge-water piping and common piping leading to the standard discharge connection are not to allow for the transfer of sludge to bilge system prior to the following implementation deadline.

Application:

1) Ships constructed (keel-laid) on or after 1 January 2017: The date of delivery
2) Ships constructed before 1 January 2017: The first IOPP renewal survey on or after 1 January 2017

1.1.3 An entry-into-force of an international code for ships operating in polar waters (POLAR Code)

Entry into force: 1 January 2017

[Refer to ClassNK Technical Information TEC-1096]

The POLAR Code is applied to the ships operating in the Arctic and Antarctic Oceans on or after 1 January 2017.

	Part I Safety measures	Part II Pollution prevention measures
New ships	Ships constructed on or after 1 January 2017	On or after 1 January 2017
Existing ships	Not later than the first intermediate or renewal survey, whichever occurs first, after 1 January 2018	On or after 1 January 2017

1.1.4 Inspection and certification relating to the entry into force of the 2014 Amendments to the MLC, 2006 on 18th January 2017

Entry into force: 18 January 2017

[Refer to ClassNK Technical Information TEC-1098 & 1142]

Ships flying flag of the member States are required to carry the certificates or other documentary evidence of financial security complying with the requirements of the amendments on board by 18 January 2017. In addition, the DMLC Part II need to be revised by the ship owner associating with issuance of the revised DMLC Part I issued by the flag State administration and subsequently shipboard verification of its implementation is also required by the initial inspection, the first intermediate inspection or the first renewal inspection whichever period is earlier after 18 January 2017.

1.1.5 An entry-into-force of the International Convention for the Control and Management of Ships' Ballast Water and Sediments (BWM Convention)

Entry into force: 8 September 2017

[Refer to ClassNK Technical Information TEC-1085 & 1086]

On or after the following implementation deadline for Ballast Water Management Systems (BWMS) according to IMO Res. A. 1088(28) and MEPC 69, ships are required to conduct ballast water exchange through BWMS. On or after 8 September 2017 and prior to the following implementation deadline for BWMS, ships are required to conduct ballast water exchange offshore according to a ballast water management plan or ballast water exchange through BWMS.

Application:

(1) Ships constructed (keel-laid) on or after 8 September 2017: The date of delivery

(2) Ships constructed before 8 September 2017: The first IOPP renewal survey on or after 8 September 2017

1.1.6 Revised for Form of Garbage Record Book

Entry into force: 1 March 2018

[Refer to ClassNK Technical Information TEC-1135]

Amended form of Garbage Record book including amendment of garbage category for the purpose of recording is required to be provided on board on or after 1 March 2018.

1.1.7 Data collection system for fuel oil consumption of ships

Entry into force: 1 March 2018

[Refer to ClassNK Technical Information TEC-1139]

Data collection for fuel oil consumption and relevant is required on or after 1 January 2019. Collected data is to be reported to the Administration or RO after the end of each calendar year, and Statement of Compliance is to be provided on board. In addition, SEEMP Part II specified the Ship Fuel Oil Consumption Data Collection Plan (DCP) which includes a description of the methodology for data collecting and the reporting processes is to be approved, and Confirmation of Compliance is to be provided on board by the following date.

(1) Ships for which the delivery is placed on or after 1 March 2018: The date of delivery

(2) Ships other than above (1): 31 December 2018

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/)

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.

European and North Atlantic region	: Paris MoU	(http://www.parismou.org/)
Asia-Pacific region	: Tokyo MOU	(http://www.tokyo-mou.org/)
Latin American region	: Latin American Agreement	(http://www.acuerdolatino.int.ar/)
Caribbean region	: Caribbean MOU	(http://caribbeanmou.org/)
Mediterranean region	: Mediterranean MoU	(http://www.medmou.org/)
Indian Ocean region	: Indian Ocean MOU	(http://www.iomou.org/)
Black Sea region	: Black Sea MOU	(http://www.bsmou.org/)
West and Central Africa region	: Abuja MoU	(http://www.abujamou.org/)
Arab States of the Gulf	: Riyadh MoU	(http://www.riyadhmou.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 release dated 14 May 2018

- The Paris MoU announced that the Paris MoU held its 51th Committee meeting in Portugal through 7 to 11 May 2018. Committee approved the questionnaire for the CIC on MARPOL Annex VI to be carried out from September to November 2018. The questionnaire will be published in August.

Press release dated 14 June 2018

- The Paris MoU announced new performance lists for flag and Recognized Organizations. These lists will take effect from 1 July 2018.

(2) Asia-Pacific region (Tokyo MOU)

Established: 1 December 1993

Members: Australia, Canada, Chile, China, Fiji, Hong Kong, Indonesia, Japan, Republic of Korea, Malaysia, the Marshall Islands, New Zealand, Papua New Guinea, Peru, the Philippines, the Russian Federation, Singapore, Thailand, Vanuatu, and 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 25 September 2017

- The Tokyo MOU announced that the 28th meeting of the PSC Committee of the Tokyo MOU was held in Vladivostok, the Russian Federation through 18 to 21 September 2017.
- The Committee adopted the amendments to New Inspection Regime (NIR), and unanimously agreed to accept the Caribbean MOU as an observer of the Tokyo MOU.
- The Committee decided to conduct the CIC on MARPOL Annex VI in 2018. By the agreement with the Paris MOU, the Committee confirmed to carry out a joint CIC on Emergency Systems covered by SOLAS Chapter II-1 in 2019.
- The 29th meeting of the PSC Committee will be held in China in November 2018.

Press release dated 12 March 2018

- The Tokyo MOU announced the preliminary results of the Concentrated Inspection Campaign (CIC) on Safety Navigation, which was conducted from 1 September to 30 November 2017.
- During the course of the campaign Authorities carried out a total of 6,720 inspections of target ships. Of this quantity, 36 ships were detained as a result of deficiencies found during the CIC.

-3. Annual Report 2017 was released on 2 May 2018.

(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

-1. The Caribbean MoU conducted the Concentrated Inspection Campaign (CIC) on Life Saving Appliances from 1 September to 30 November 2017.

(4) Caribbean region (Caribbean MOU)

Established: 9 February 1996

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

-1. The Latin American Agreement conducts the Concentrated Inspection Campaign (CIC) on Auxiliary Machinery from 1 June 2018.

(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, Mozambique, South Africa, Sri Lanka, Sudan, Sultanate of Oman, Tanzania, and Yemen

-1. According to Annual Report 2017 of the Indian Ocean MOU, a total of 5,674 inspections were carried out and 281 vessels were detained in 2017.

-2. The Indian Ocean MOU announced the preliminary results of the Concentrated Inspection Campaign (CIC) on Safety of Navigation, which was conducted from 1 September to 30 November 2017. During the course of the campaign Authorities carried out a total of 1,076 inspections of target ships. Of this quantity, 6 ships were detained as a result of deficiencies found during the CIC.

-3. CIC on MARPOL Annex VI is scheduled to be carried out in 2018.

(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 2017 of the Black Sea MOU, a total of 5,112 inspections were carried out and 283 vessels were detained in 2017.

-2. On 4 June 2018, the Black Sea MOU announced the results of the Concentrated Inspection Campaign (CIC) on Safety of Navigation including ECDIS, which was conducted from 1 September to 30 November 2017. During the course of the campaign Authorities carried out a total of 983 inspections of target ships. Of this quantity, 59 ships were detained as a result of deficiencies found during the CIC.

-3. CIC on MARPOL Annex VI is scheduled to be carried out in 2018.

(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, Nigeria, Sao Tome and Principe, Senegal, Sierra Leone, South Africa, and Togo

-1. According to Annual Report 2017 of the Abuja MoU, a total of 2,074 inspections were carried out and 16 vessels were detained in 2017.

-2. CIC on Life Saving Appliances is scheduled to be carried out in 2018.

(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. The Riyadh MoU conducted the Concentrated Inspection Campaign (CIC) on Crew Familiarization for Enclosed Space Entry from 1 September to 30 November 2017.

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/hq/cgcvc/)

(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.

1.2.3 Equasis

Equasis is a unique database that collects safety-related information on the world's merchant fleet from both public and private sources and makes it easily accessible on the Internet (http://www.equasis.org/). It displays information from public authorities (Port State inspection and detention information from the three participating PSC regions, i.e. the Paris MoU, Tokyo MOU, and USCG) and industry players (such as information on class, insurance, participation in industry inspection schemes, and quality organizations), all free of charge.

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 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, including all members of the board of directors, as necessary. The results are also reflected 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) Publications

The “ClassNK Annual Report on Port State Control” is distributed to all registered management companies or others in the ClassNK fleet. A checklist entitled “Good Maintenance on board Ships” and mobile application “ARRIVAL CHECKLIST for PSC” have also been prepared and posted on NK website as below, which can be used by the ship’s crew for quick and easy inspection of a ship before entering port. (http://www.classnk.or.jp/hp/en/info_service/psc/)

In addition, “Monthly PSC Information”, which indicates the cases of PSC inspection including detainable deficiency or ISM related deficiency, is also posted on the same page.

Fourteen “ClassNK PSC Bulletin” were sent to Company managed ClassNK fleet as of June 2018 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

Personnel 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 2017, the ClassNK Head Office visited the following PSC authorities for the above-mentioned purpose.(Nor confirmed)

- Australia	Australian Maritime Safety Authority (AMSA)
- China	Maritime Safety Administration (MSA)
- Korea	Ministry of Oceans and Fisheries
- 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 to 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 2017, 426 PSC detentions were reported relating to 383 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 8,445 at the end of December 2017. Therefore, the 383 ships detained represent about 4.5 % of the total number of ships in the NK fleet. Further, detention ratio (Detentions/Registered number in 2017) of the NK fleet in 2017 is about 5.0%.

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 (500GT or over)			Number of Detentions			Detention Ratio (%) (= Detentions / Registered Number in each year)		
	2015	2016	2017	2015	2016	2017	2015	2016	2017
Panama	3,188	3,213	3,119	245	255	222	7.7	7.9	7.1
Marshall Islands	468	514	576	11	39	31	2.4	7.6	5.4
Liberia	533	547	564	47	37	27	8.8	6.8	4.8
Malta	227	214	210	27	18	20	11.9	8.4	9.5
Hong Kong	454	454	449	21	17	12	4.6	3.7	2.7
Singapore	756	750	758	13	13	12	1.7	1.7	1.6
Bahamas	164	159	157	12	6	9	7.3	3.8	5.7
Cyprus	85	86	82	5	10	7	5.9	11.6	8.5
Thailand	78	74	79	5	9	6	6.4	12.2	7.6
Turkey	77	79	59	7	8	6	9.1	10.1	10.2
Philippines	70	72	81	4	1	4	5.7	1.4	4.9
Viet Nam	95	100	90	4	5	2	4.2	5.0	2.2
Indonesia	170	177	181	3	3	2	1.8	1.7	1.1
Japan	916	926	952	4	3	1	0.4	0.3	0.1
Cayman Islands	45	53	56	2	0	1	4.4	0.0	1.8
Others	1,000	1,001	1,032	66	47	64	6.6	4.7	6.2
Total	8,326	8,419	8,445	476	471	426	5.7	5.6	5.0

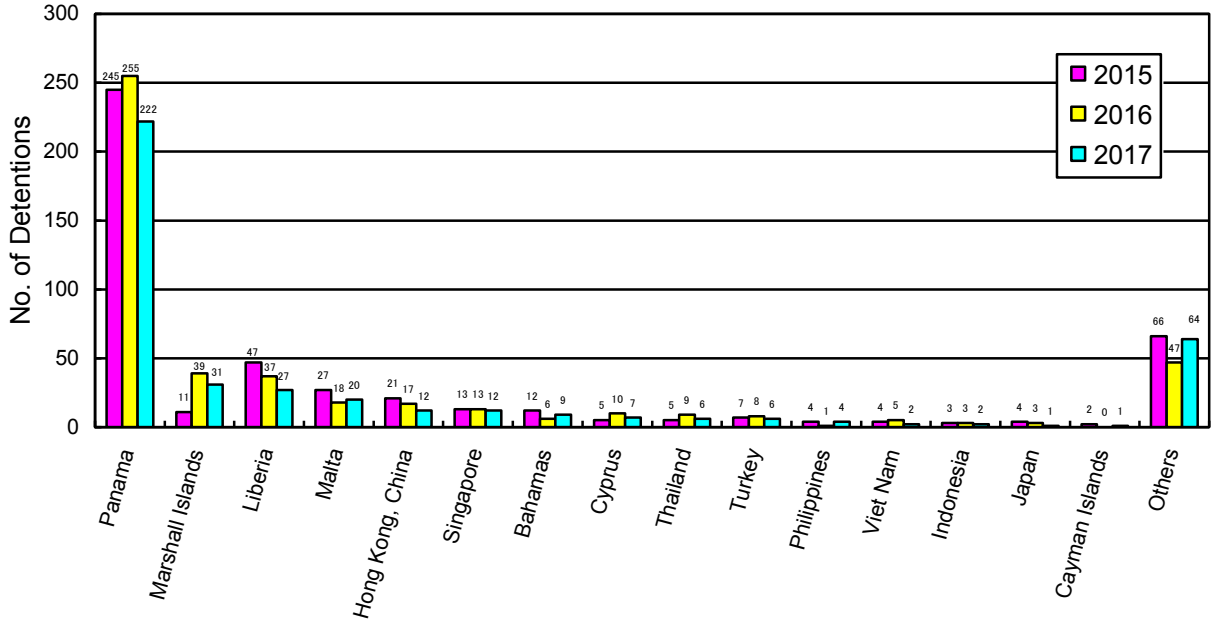


Fig. 2.2.1-1 No. of Detentions per Flag

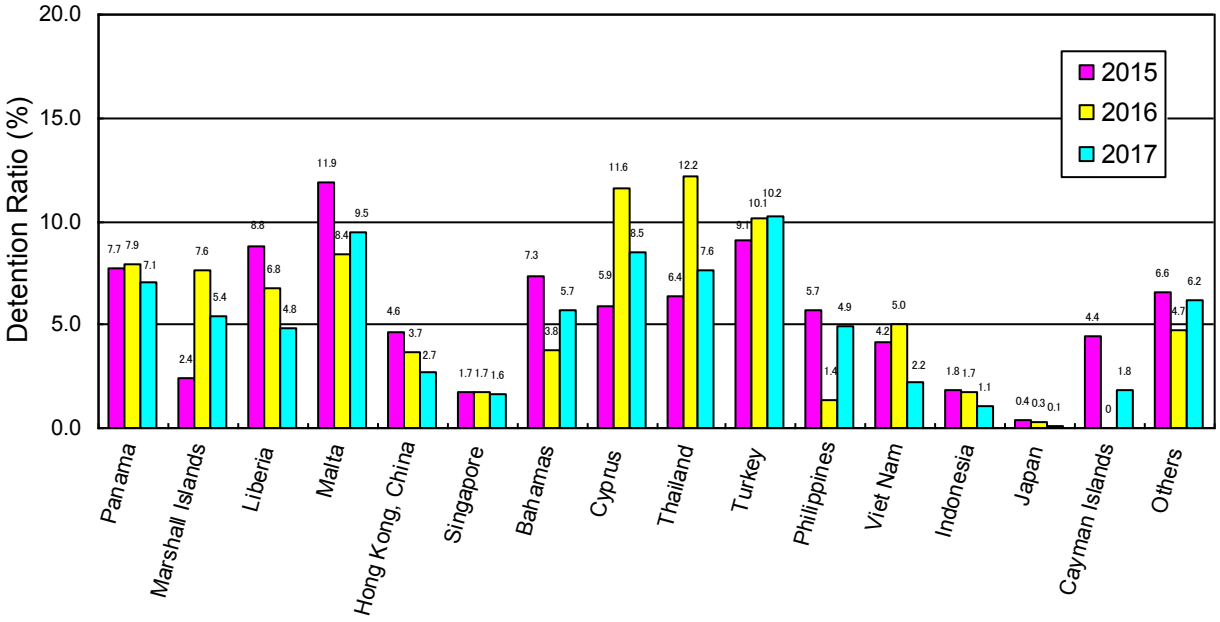


Fig 2.2.1-2 Detention Ratio per Flag (%)

2.2.2 Detentions per Ship Type

Table 2.2.2 Detentions per Ship Type

Ship Type	Number of Registered Ships in 2017 (500GT or over)	Number of Detentions			Detention Ratio (%) (= Detentions / Registered Number in each year)		
		2015	2016	2017	2015	2016	2017
Bulk Carrier	3,756	255	291	252	7.1	7.9	6.7
General Cargo	810	103	85	102	12.0	9.8	12.6
Container Carrier	605	36	24	17	5.8	4.0	2.8
Chip Carrier	116	7	5	4	5.8	4.3	3.4
Cement Carrier	122	1	1	2	0.8	0.8	1.6
Ro-Ro Ship	28	7	2	2	19.4	6.3	7.1
Reefer Carrier	117	13	14	9	9.6	11.0	7.7
Vehicles Carrier	341	11	7	5	3.1	2.0	1.5
Oil Tanker	763	14	14	10	1.9	1.9	1.3
Oil/Chemical Tanker	699	19	18	14	2.7	2.5	2.0
Gas Carrier	401	6	10	7	1.5	2.5	1.7
Others	687	4	0	2	0.6	0.0	0.3
Total	8,445	476	471	426			

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.)

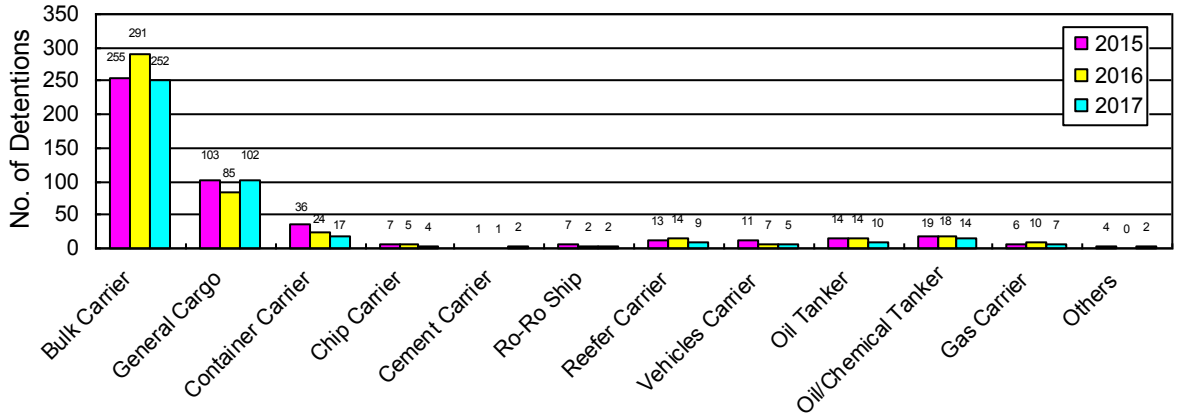


Fig. 2.2.2-1 No. of Detentions per Ship Type

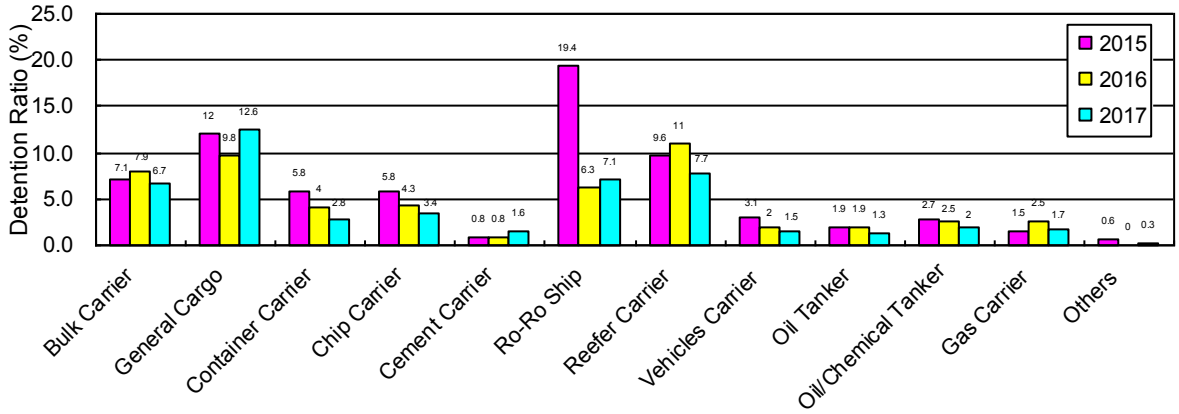


Fig. 2.2.2-2 Detention Ratio per Ship Type (%)

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 2017 (500GT or over)	Number of Detentions			Detention Ratio (%) (= Detentions / Registered Number in each year)		
		2015	2016	2017	2015	2016	2017
Up to 5 years old	2,702	56	54	37	1.9	1.9	1.4
Over 5 and up to 10	2,476	109	132	104	5.0	5.6	4.2
Over 10 and up to 15	1,356	85	81	104	7.7	6.5	7.7
Over 15 and up to 20	967	101	107	60	8.7	10.2	6.2
Over 20 and up to 25	632	72	60	74	13.4	10.3	11.7
Over 25	312	53	37	47	16.3	11.7	15.1
Total	8,445	476	471	426			

Aged ships tend to increase the detention ratio.

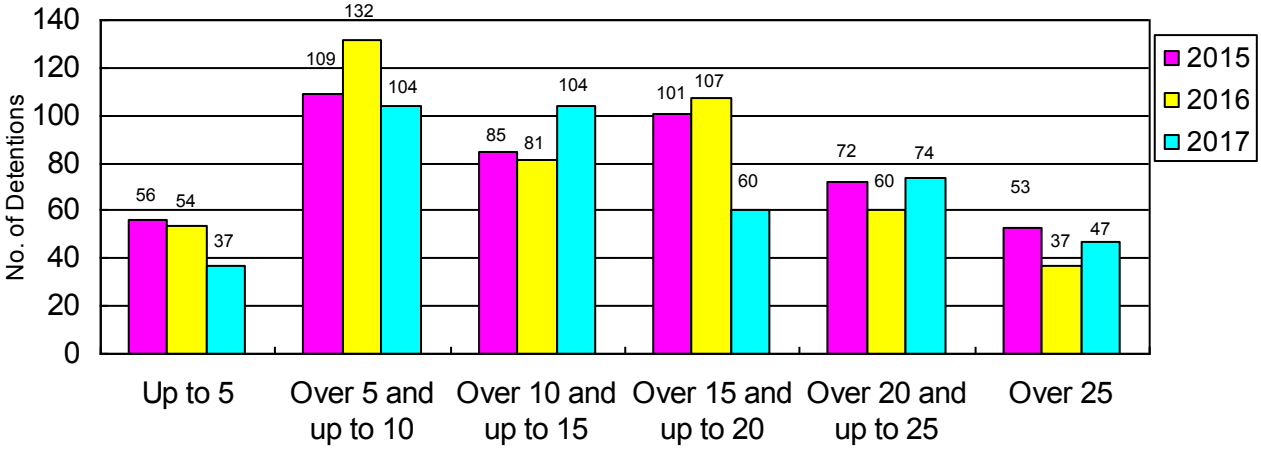


Fig. 2.2.3-1 No. of Detentions per Ship's Age

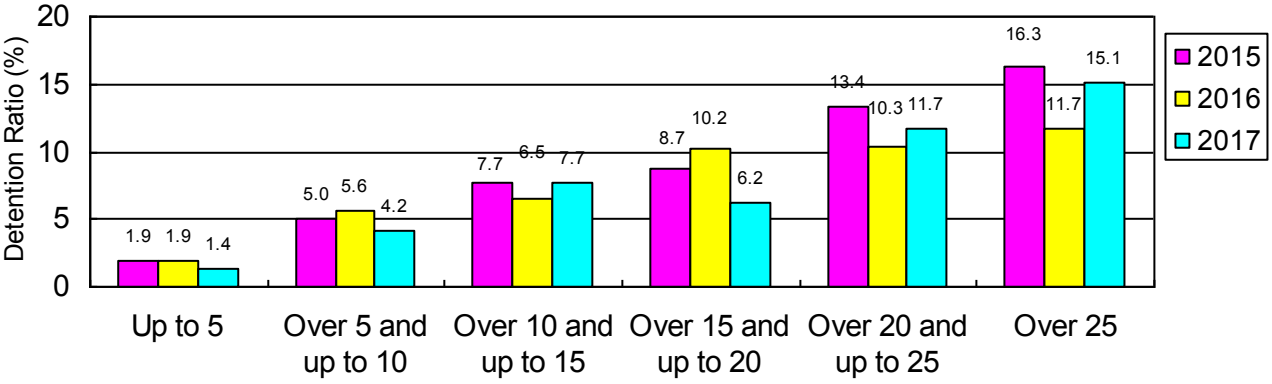


Fig. 2.2.3-2 Detention Ratio per Ship's Age (%)

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 2017 (500GT or over)	Number of Detentions			Detention Ratio (%) (= Detentions / Registered Number in each year)		
		2015	2016	2017	2015	2016	2017
Up to 10	2,732	150	124	130	5.4	4.4	4.8
Over 10 and up to 20	1,277	109	110	92	8.2	8.5	7.2
Over 20 and up to 30	1,073	70	58	68	6.8	5.5	6.3
Over 30 and up to 40	1,319	73	88	69	6.0	6.9	5.2
Over 40 and up to 50	802	31	34	29	4.4	4.5	3.6
Over 50 and up to 60	298	9	15	7	2.8	4.9	2.3
Over 60 and up to 80	205	10	9	7	4.7	4.4	3.4
Over 80	739	24	33	24	3.3	4.5	3.2
Total	8,445	476	471	426			

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

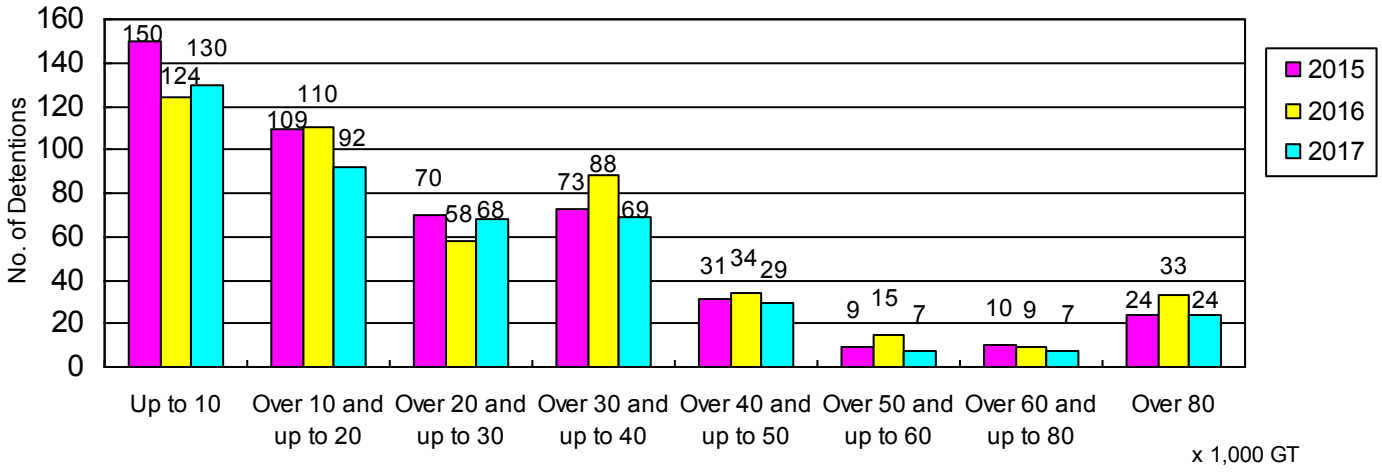


Fig.2.2.4-1 No. of Detentions per Ship Size (Gross Tonnage)

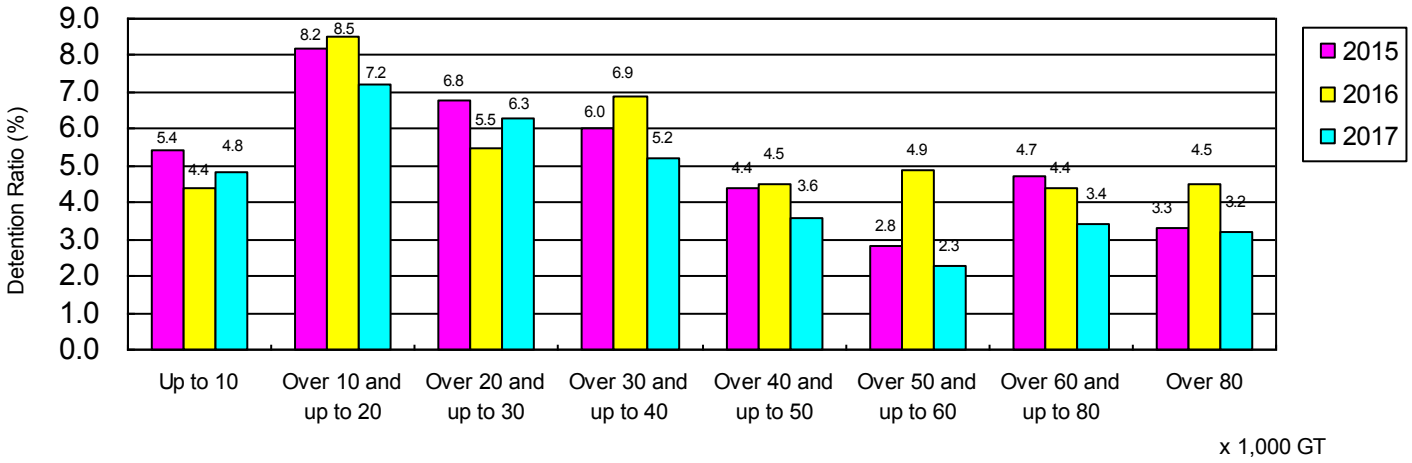


Fig. 2.2.4-2 Detention Ratio per Ship Size (Gross Tonnage) (%)

2.2.5 Detentions per PSC Country

Table 2.2.5
No. of Detentions per PSC Country

Country	2015	2016	2017
China	105	103	92
Australia	86	104	57
Indonesia	14	14	38
Russia	18	39	30
U.S.A.(*)	46	23	23
Japan	18	24	18
United Kingdom	8	11	14
Republic Korea	11	8	14
Germany	11	9	11
Ukraine	0	0	11
Iran	6	10	10
Turkey	12	8	9
Romania	6	11	8
India	18	6	8
France	6	6	8
Italy	11	10	7
Greece	8	8	7
Netherlands	4	4	5
Viet Nam	2	2	5
Egypt	9	1	5
Spain	6	13	4
Hong Kong, China	13	4	4
Canada	8	4	4
Belgium	3	3	4
Chile	3	3	4
Others	46	45	31
Total	476	471	426

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

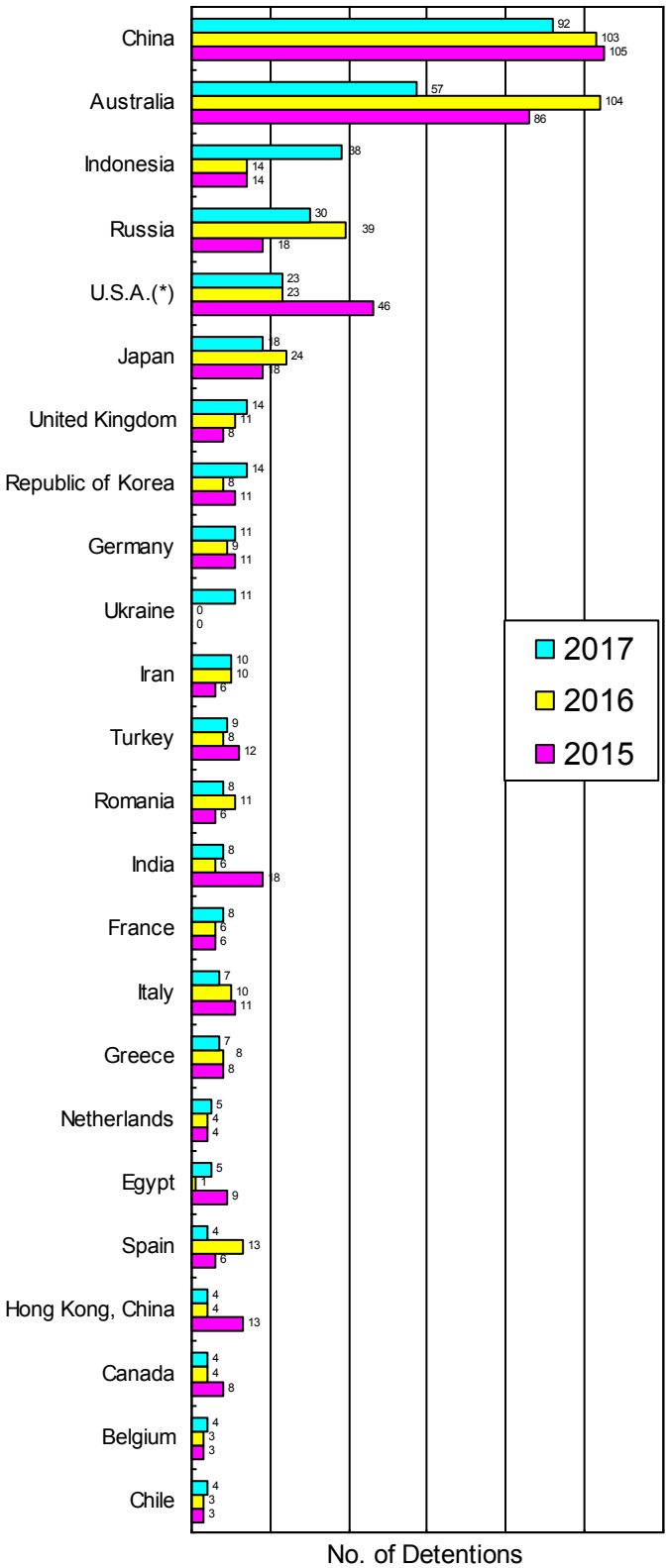


Fig. 2.2.5 No. of Detentions per PSC Country

Number of ships detained by Indonesia and Ukraine in 2017 increased compared with that of 2016.

2.2.6 Detentions per MOUs and USCG

Table 2.2.6 No. of Detentions per MOUs and USCG

Region	2015	2016	2017
Tokyo MOU	268	274	238
Paris MoU	85	97	89
USCG	46	23	23
Others	77	77	76
Total	476	471	426

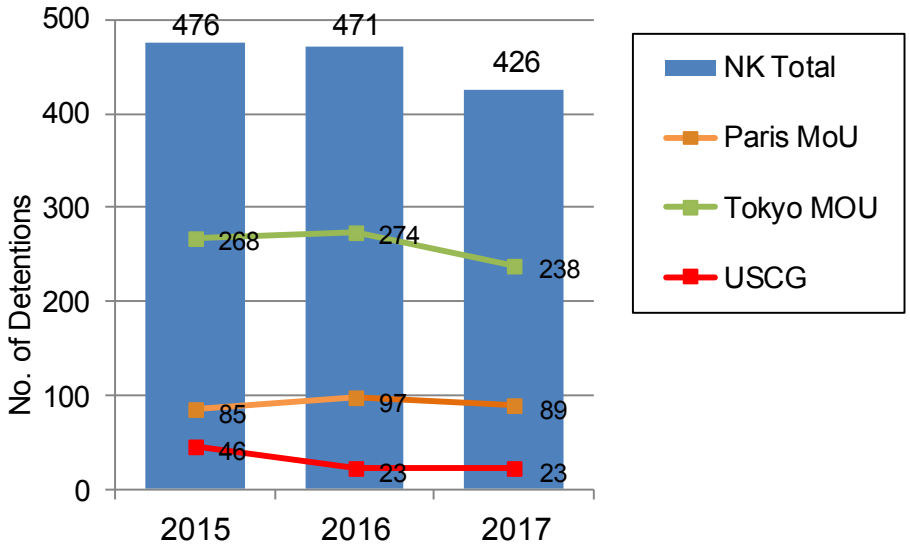


Fig. 2.2.6 No. of Detentions per MOUs and USCG

Compared with number of 2016, number of detention at Tokyo MOU decrease 13% and at Paris MoU decrease 8% in 2017.

2.3 Analysis of Detainable Deficiencies

2.3.1 Detainable Deficiencies per Category

In 2017 a total of 1,359 detainable deficiencies were reported relating to 426 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 2017.

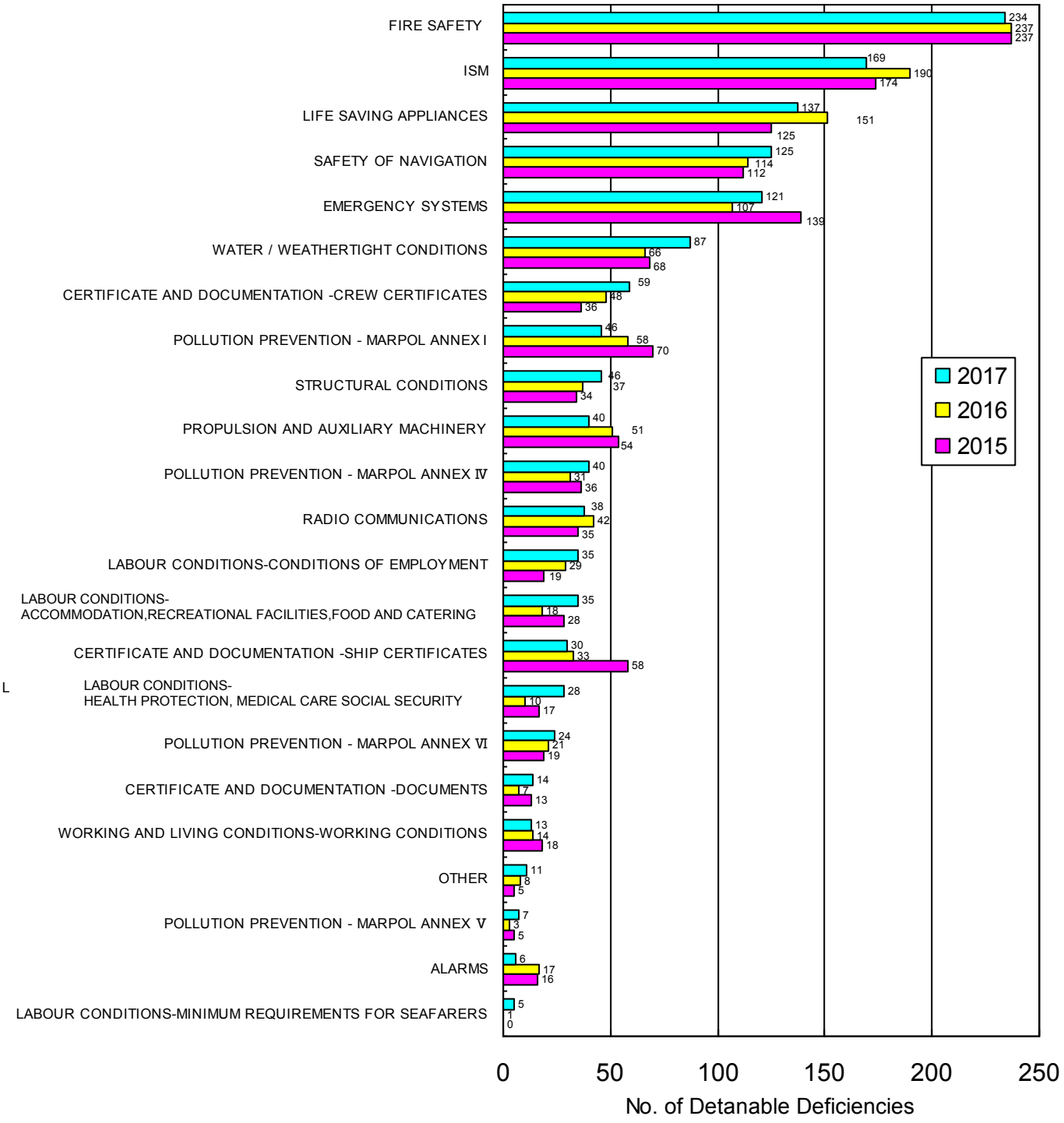


Fig. 2.3.1 No. of Detainable Deficiencies per Category

2.3.2 Frequently Reported Deficiencies

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 is most frequent detainable deficiencies item continuously from 2015. Lifeboats, emergency fire pumps and fire doors continue to be the major items where most detainable deficiencies were found. The items reported from 2015 to 2017 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.)

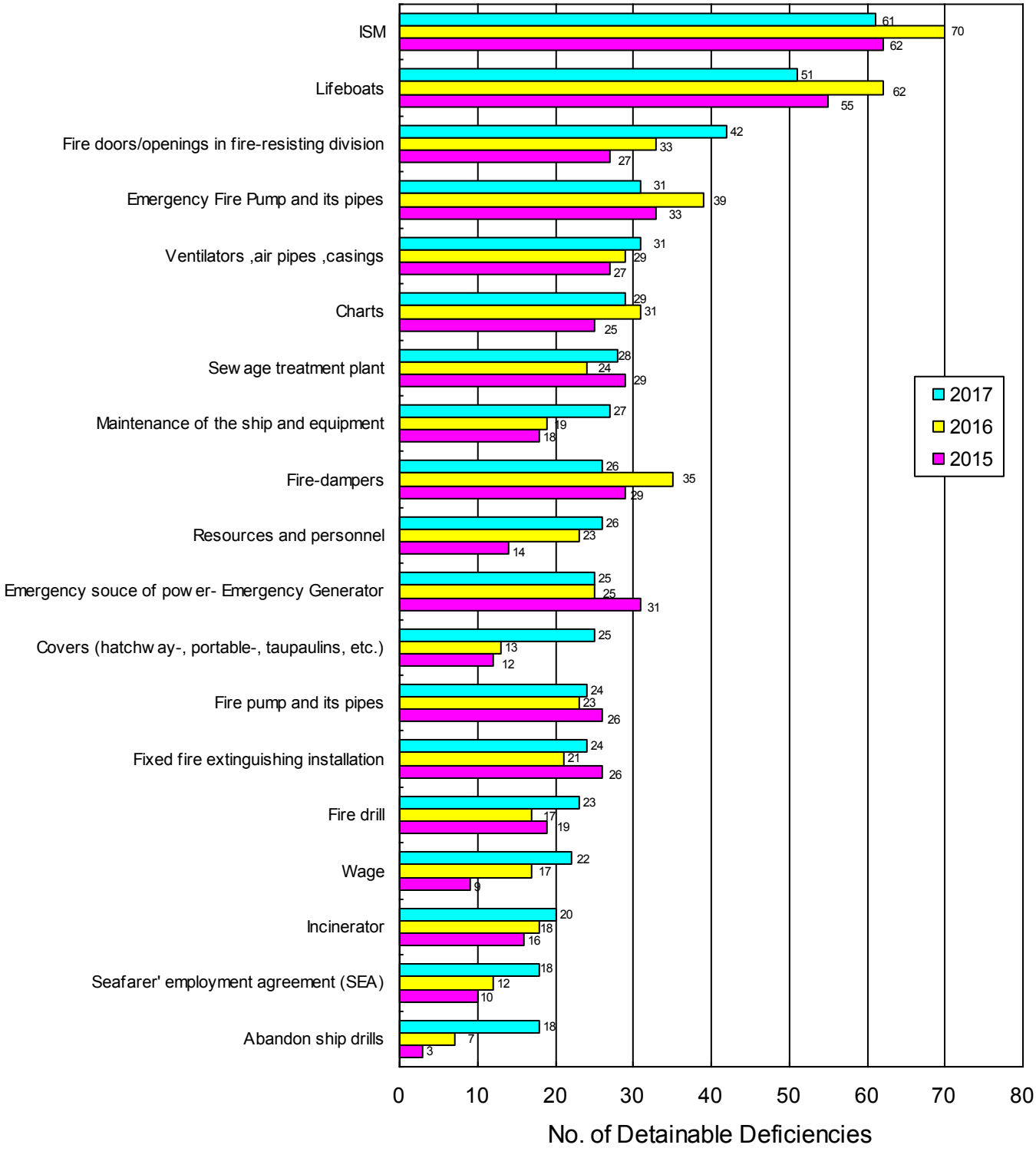


Fig. 2.3.2 Detainable Deficiencies Frequently Reported

(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	2015	2016	2017	Noted Deficiencies
Doors within main vertical zone	27	33	42	Malfunction of self-closing devices Poor closing condition of fire door
Fire-dampers	29	35	26	Wasted and holed fire-dampers Defective operation of fire-dampers
Fire pumps and its pipes	26	23	24	Malfunction of fire pump(incl. for emergency) Wasted and holed fire main line
Fixed fire extinguishing system	26	21	24	Corroded and holed CO2 lines Defective operation of fire extinguishing systems
Fire detection	27	26	16	Inoperable fire detection units
Quick closing valves, Remote control devices	7	10	13	Inoperable quick closing valves
Fire fighting equipment and appliances	8	7	13	Wasted and holed fire hoses Fire extinguisher expired
Means of escape	5	3	12	Escape route blocked
Other (fire safety)	10	15	11	Fire hazard due to oil leakage from equipment in Engine Room
Ventilation	7	11	11	Corroded and holed ventilator casings Malfunction of mechanical ventilators

(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	2015	2016	2017	Noted Deficiencies
Lifeboats	55	62	51	Lifeboat engine not started Poor maintenance of rechargeable batteries Inadequate resetting of on-load release gears
Rescue boats	17	9	14	Rescue boat engine not started Poor maintenance of rechargeable batteries
Launching arrangements for rescue boats	5	13	13	Inoperative davit (Components seized, etc.)
Embarkation arrangement survival craft	4	8	11	Embarkation ladder heavily corroded and broken
Launching arrangements for survival craft	4	14	10	Corroded boat falls

(4) Safety of Navigation

Major types and details of deficiencies noted under the category of "Safety of Navigation" are shown in Table 2.3.2-(4) below.

Table 2.3.2-(4) Safety of Navigation

Item	2015	2016	2017	Noted Deficiencies
Charts	25	31	29	Navigation charts not updated Navigation charts for intended voyage not available
Nautical publications	14	26	16	Nautical publications (tide table, list of lights, list of radio signals, etc.) not updated
Voyage date recorder(VDR)	12	13	15	Defective VDR/S-VDR Alarm panel showing "system error"
Lights, shapes, sound -signals	16	9	11	Inoperable navigation lights
Voyage or passage plan	8	5	9	Previous passage plan missing

(5) Emergency Systems

Major types and details of deficiencies noted under the category of "Emergency Systems" are shown in Table 2.3.2-(5) below.

Table 2.3.2-(5) Emergency Systems

Item	2015	2016	2017	Noted Deficiencies
Emergency Fire Pump and its pipes	33	39	31	Inoperable and unable to pressure the fire main
Emergency source of power-Emergency Generator	31	25	25	Emergency generator unable to start automatically or manually
Fire drills	19	17	23	Fire drill failed
Abandon ship drills	3	7	18	Abandon ship drill failed Drill not conducted
Emergency lighting, batteries and switches	10	10	8	Deficient batteries/emergency generator Inoperable emergency lighting
Enclosed space entry and rescue drills	27	6	7	Enclosed spaces drill not planned and conducted as per requirement

(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	2015	2016	2017	Noted Deficiencies
Ventilators, air pipes, casings	27	29	31	Waster/Holed ventilators and pipes Damaged float of air pipe heads Damaged closing devices
Hatch Covers	12	13	25	Wasted/Holed hatch covers Wasted hatch cover cleats and its spacers Deteriorated rubber packing
Cargo and other hatchways	3	7	9	Wasted hatch covers and coamings Packing missing and damaged
Doors	9	6	5	Doors not closed tightly

(7) Crew Certificate

Major types and details of deficiencies noted under the category of "Crew Certificate" are shown in Table 2.3.2-(7) below.

Table 2.3.2-(7) Crew Certificate

Item	2015	2016	2017	Noted Deficiencies
Seafarers' employment agreement (SEA)	10	12	18	Expired, missing
Endorsement by flag State	10	20	16	Expired, missing
Certificates for master and officers	3	9	11	Missing of endorsement on STCW certificates by flag state Valid certificates expired

(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	2015	2016	2017	Noted Deficiencies
Oil filtering equipment (Oily-Water Separating Equipment)	33	22	15	Inoperable oily water separator Inoperable bilge pump Oily water inside overboard discharging line Ship's crew not familiar with operation of oil filtering equipment
Oil and oily mixtures from machinery spaces	2	13	8	Oil spot beneath M/E and A/E
15PPM alarm arrangements	13	8	8	Failure of 15PPM alarm

(9) Structural Conditions

Major types and details of deficiencies noted under the category of "Structural Conditions" are shown in Table 2.3.2-(9) below.

Table 2.3.2-(9) Structural Conditions

Item	2015	2016	2017	Noted Deficiencies
Hull damage impairing seaworthiness	1	2	8	Insufficient repair

(10) 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-(10) below.

Table 2.3.2-(10) Propulsion and auxiliary machinery

Item	2015	2016	2017	Noted Deficiencies
Propulsion main engine	18	15	12	Defective oil mist detectors Uncleanness due to leakage of oil and cooling water
Auxiliary engine	11	11	12	Inoperable Auxiliary engines Uncleanness due to leakage of oil
Other (machinery)	9	11	9	Excessive oil and bilge in engine room Malfunction of air compressors

(11) MARPOL Annex IV

Major types and details of deficiencies noted under the category of "MARPOL Annex IV" are shown in Table 2.3.2-(11) below.

Table 2.3.2-(11) MARPOL Annex IV

Item	2015	2016	2017	Noted Deficiencies
Sewage treatment plant	29	24	28	Not operative
Other (MARPOL Annex IV)	6	6	6	Sewage is pumped directly to sea as sewage treatment plant defective

(12) Radio Communications

Major types and details of deficiencies noted under the category of "Radio Communications"are shown in Table 2.3.2-(12) below.

Table 2.3.2-(12) Radio Communications

Item	2015	2016	2017	Noted Deficiencies
Reserve source of energy	9	12	11	GMDSS reserve source of energy failed
MF/HF radio installation	11	9	11	Malfunction of radio devices
Operation of GMDSS equipment	1	5	3	Ship's crew not familiar with operation of GMDSS equipment
INMARSAT	6	4	3	Malfunction of IMMARSAT

(13) Labour Conditions-Condition of employment

Major types and details of deficiencies noted under the category of "Labour Conditions-Condition of employment" are shown in Table 2.3.2-(13) below.

Table 2.3.2-(13) Labour Conditions-Condition of employment

Item	2015	2016	2017	Noted Deficiencies
Wages	9	17	22	Wages not paid
Calculation and payment of wages	5	7	9	Overtime and compensation arrangements not provided

(14) 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-(14) below.

Table 2.3.2-(14) Labour Conditions-Accommodation, recreational facilities, food and catering

Item	2015	2016	2017	Noted Deficiencies
Cleanliness	0	0	10	Signs of Vermin
Provisions quantity	5	4	9	Insufficient quantity of fruits/vegetables
Sanitary facilities	9	5	7	Toilet/bath room defective/dirty

(15) Ship Certificates

Major types and details of deficiencies noted under the category of "Ship Certificates" are shown in the Table 2.3.2-(15) below.

Table 2.3.2-(15) Ship Certificates

Item	2015	2016	2017	Noted Deficiencies
Cargo Ship Safety Equipment Certificate (including Exemption)	5	9	6	Original certificate missing, or expired

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 2015 to 2017. (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	2015	2016	2017
Fire Safety	62	68	56
Lifesaving Appliances	31	30	43
ISM	25	39	38
Water/Weathertight conditions	26	22	23
Safety of Navigation	17	16	20
Emergency Systems	27	23	15
MARPOL Annex I	13	14	13
Radio Communications	12	7	9
MARPOL Annex IV	14	6	9
Ship Certificates & Documents	3	4	9
Labour Conditions-Health protection, medical care, social security	0	0	9

Type of Detainable Deficiency Frequently Reported	2015	2016	2017
Lifeboats	14	15	22
Maintenance of the ship and equipment	5	8	17
Doors within main vertical zone	8	8	16
Ventilators, air pipes, casings	11	14	14
Resources and personnel	5	10	9
Fire prevention	11	6	8
Embarkation arrangement survival craft	0	4	8
Means of escape	5	3	7
Emergency preparedness	5	3	7
Oil filtering equipment	6	9	6
Sewage treatment plant	11	5	6
Hatch Covers	6	3	6
Emergency Fire Pump and its pipes	6	12	5
Other (Health protection, medical care, social security	0	0	5

A total of 274 detainable deficiencies relating to 92 detentions were noted in 2017.
(3.0 detainable deficiencies/detention)

2.4.2 Australia

Table 2.4.2 Australia

Category of Detainable Deficiency	2015	2016	2017
ISM(*)	42	46	22
Emergency Systems	14	16	11
Lifesaving Appliances	12	21	10
Water/Weathertight conditions	7	7	10
Fire safety	12	13	5
Labour Conditions-Condition of employment	4	5	5
Structural Conditions	1	0	4
Type of Detainable Deficiency Frequently Reported	**2015**	**2016**	**2017**
Shipboard operations	13	26	11
Other (ISM)	24	16	8
Emergency source of power-Emergency Generator	6	11	7
Fire-dampers	5	6	4
Emergency Fire Pump and its pipes	5	5	4
Ventilators, air pipes, casings	6	3	4
Launching arrangements for rescue boats	0	4	3
Hatch Covers	0	2	3
Calculation and payment of wages	0	0	3

(*) 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 77 detainable deficiencies relating to 57 detentions were noted in 2017.
(1.4 detainable deficiencies/detention)

2.4.3 Indonesia

Table 2.4.3 Indonesia

Category of Detainable Deficiency	2015	2016	2017
Fire safety	8	18	37
ISM	4	8	18
MARPOL Annex IV	12	10	12
MARPOL Annex VI	4	6	16
Water/Weathertight conditions	1	5	11
Emergency Systems	1	1	9

Type of Detainable Deficiency Frequently Reported	2015	2016	2017
Doors within main vertical zone	3	9	16
Incinerator	4	6	16
Sewage treatment plant	1	8	11
Fire-dampers	3	4	8
Hatch Covers	1	2	8
Safety and environmental policy	2	3	6
Emergency source of power-Emergency Generator	0	0	5

A total of 132 detainable deficiencies relating to 38 detentions were noted in 2017.
(3.5 detainable deficiencies/detention)

2.4.4 Russia

Table 2.4.4 Russia

Category of Detainable Deficiency	2015	2016	2017
Structural Conditions	10	12	12
Labour Conditions-Health protection, medical care, social security	2	15	9
Safety of Navigation	1	9	9
Propulsion and auxiliary machinery	8	19	7
Emergency Systems	1	2	5

Type of Detainable Deficiency Frequently Reported	2015	2016	2017
Emergency Fire Pump and its pipes	1	8	5
Lifeboats	6	11	3
Fire pumps and its pipes	1	3	3
Fire detection	0	3	3
Lights, shapes, sound-signals	3	2	3
Rescue boats	0	1	3

A total of 64 detainable deficiencies relating to 30 detentions were noted in 2017.
(2.1 detainable deficiencies/detention)

2.4.5 U.S.A.

Table 2.4.5 U.S.A.

Category of Detainable Deficiency	2015	2016	2017
Fire Safety	20	12	11
ISM	17	9	10
MARPOL Annex I	10	4	10
Lifesaving appliances	12	12	4
Documents	1	0	4

Type of Detainable Deficiency Frequently Reported	2015	2016	2017
Other (Fire Safety)	0	5	5
Safety and environmental policy	5	1	4
Oil record book	1	0	4
Control of discharge of oil	1	0	4
Lifeboats	4	3	3
Oil and oily mixtures from machinery spaces	0	1	3
Fixed fire extinguishing installation	9	0	3
Resources and personnel	0	0	3

A total of 51 detainable deficiencies relating to 21 detentions were noted in 2017.
(2.4 detainable deficiencies/detention)

2.4.6 Japan

Table 2.4.6 Japan

Category of Detainable Deficiency	2015	2016	2017
ISM	4	12	10
Emergency Systems	2	9	7
Other	1	4	5
Fire safety	1	3	5
Lifesaving appliances	5	1	4
Safety of Navigation	1	2	1

Type of Detainable Deficiency Frequently Reported	2015	2016	2017
Resources and personnel	3	10	10
Fire drills	2	6	6
Other (SOLAS operational)	1	4	5
Fire pumps and its pipes	0	0	2
Rescue boats	0	0	2

A total of 32 detainable deficiencies relating to 18 detentions were noted in 2017.
(1.8 detainable deficiencies/detention)

2.4.7 United Kingdom

Table 2.4.7 United Kingdom

Category of Detainable Deficiency	2015	2016	2017
Crew Certificates & Documents	0	2	11
Labour Conditions-Condition of employment	5	2	10
ISM	6	7	9
Labour Conditions - Accommodation, recreational facilities, food and catering	0	1	9
Safety of Navigation	2	4	8
Emergency Systems	3	2	7
Lifesaving appliances	3	9	5
Fire safety	3	3	5

Type of Detainable Deficiency Frequently Reported	2015	2016	2017
ISM	6	7	9
Wages	2	2	8
Seafarers' employment agreement (SEA)	0	1	6
Fire drills	0	0	3
Cleanliness	0	0	3

A total of 71 detainable deficiencies relating to 14 detentions were noted in 2017.
(5.1 detainable deficiencies/detention)

2.4.8 Republic of Korea

Table 2.4.8 Republic of Korea

Category of Detainable Deficiency	2015	2016	2017
Fire safety	3	5	7
ISM	11	4	6
Water/Weathertight conditions	2	2	5
Lifesaving appliances	1	3	3
MARPOL Annex I	2	1	3

Type of Detainable Deficiency Frequently Reported	2015	2016	2017
Maintenance of the ship and equipment	1	1	3
Fixed fire extinguishing installation	0	2	2
Hatch Covers	0	1	2
Lifeboats	0	1	2
Oil and oily mixtures from machinery spaces	0	1	2
Shipboard operations	1	0	2
Abandon ship drills	0	0	2

A total of 33 detainable deficiencies relating to 14 detentions were noted in 2017. (2.4 detainable deficiencies/detention)

2.4.9 Germany

Table 2.4.9 Germany

Category of Detainable Deficiency	2015	2016	2017
Fire Safety	27	19	17
Structural Conditions	6	2	12
Labour Conditions - Accommodation, recreational facilities, food and catering	8	2	11
ISM	10	9	10
Safety of Navigation	25	8	9
Water/Weathertight conditions	10	6	7

Type of Detainable Deficiency Frequently Reported	2015	2016	2017
ISM	10	9	10
Other (fire safety)	5	4	4
Stability/ strength/ loading information and instruments	0	0	4
Cleanliness	0	0	4
Sewage treatment plant	4	3	3
Sanitary facilities	2	0	3
Hull damage impairing seaworthiness	1	0	3
Division- decks, bulkheads and penetrations	1	0	3

A total of 93 detainable deficiencies relating to 11 detentions were noted in 2017. (8.5 detainable deficiencies/detention)

2.4.10 Ukraine

Table 2.4.10 Ukraine

Category of Detainable Deficiency	2015	2016	2017
Working Conditions	0	0	8
Structural Conditions	0	0	3
Fire safety	0	0	3
Safety of Navigation	0	0	3

Type of Detainable Deficiency Frequently Reported	2015	2016	2017
Cleanliness of engine room	0	0	6

A total of 25 detainable deficiencies relating to 11 detentions were noted in 2017.
(2.3 detainable deficiencies/detention)

2.4.11 Iran

Table 2.4.11 Iran

Category of Detainable Deficiency	2015	2016	2017
Fire Safety	4	5	8
Safety of Navigation	3	4	7
Lifesaving appliances	1	3	3

Type of Detainable Deficiency Frequently Reported	2015	2016	2017
Fixed fire extinguishing installation	1	1	3
Nautical publications	0	0	3
Lifeboats	1	2	2
Fixed fire extinguishing system	0	0	2
Charts	0	0	2
Other (Conditions of employment)	0	0	2

A total of 36 detainable deficiencies relating to 10 detentions were noted in 2017.
(3.6 detainable deficiencies/detention)

2.4.12 Turkey

Table 2.4.12 Turkey

Category of Detainable Deficiency	2015	2016	2017
Safety of Navigation	2	3	5
Lifesaving appliances	4	0	5
Radio Communications	2	2	3
Emergency System	5	0	3

Type of Detainable Deficiency Frequently Reported	2015	2016	2017
Endorsement by Flag State	0	4	2
Charts	0	1	2
Lifeboats	1	0	2
Enclosed space entry and rescue drills	0	0	2
MF/HF radio installation	0	0	2

A total of 26 detainable deficiencies relating to 9 detentions were noted in 2017.
(2.9 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. About 90% of the NK SMC ships are classed with this Society.

Table 3.1 Number of NK SMC Ships (per Class)

Classification	2015		2016		2017	
NK class	4,789	89.3%	4,867	89.7%	4,980	90.1%
Other class	574	10.7%	560	10.3%	550	9.9%
Total	5,363		5,427		5,530	

3.2 Statistics of Detentions of NK SMC Ships

In 2017, the total number of the detentions of NK SMC ships was 285, which was 5.2% of the all NK SMC ships, 5,530 (hereafter, "Detention Ratio").

Tables 3.2.1 and Table 3.2.2 shows 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	2015			2016			2017		
	(I)	(II)	(III)	(I)	(II)	(III)	(I)	(II)	(III)
Panama	198	2,655	7.5%	196	2,665	7.4%	167	2,623	6.4%
Singapore	8	609	1.3%	12	594	2.0%	6	589	1.0%
Marshall Islands	7	321	2.2%	27	360	7.5%	25	440	5.7%
Hong Kong	14	337	4.2%	17	351	4.8%	10	362	2.8%
Liberia	30	307	9.8%	22	327	6.7%	16	365	4.4%
Japan	3	250	1.2%	3	268	1.1%	1	283	0.4%
Malta	21	185	11.4%	11	178	6.2%	15	179	8.4%
Bahamas	9	116	7.8%	5	114	4.4%	7	109	6.4%
Turkey	8	81	9.9%	9	90	10.0%	3	73	4.1%
Thailand	5	77	6.5%	7	75	9.3%	6	80	7.5%
Cyprus	6	69	8.7%	6	70	8.6%	5	71	7.0%
Malaysia	4	71	5.6%	3	68	4.4%	0	64	0.0%
Other Flag	33	285	11.6%	19	267	7.1%	24	292	8.2%
Total	346	5,363	6.5%	337	5,427	6.2%	285	5,530	5.2%

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	2015			2016			2017		
	(I)	(II)	(III)	(I)	(II)	(III)	(I)	(II)	(III)
Bulk Carrier	189	2,340	8.1%	220	2,390	9.2%	167	2,451	6.8%
Other Cargo Ship	133	1,916	6.9%	94	1,946	4.8%	101	1,958	5.2%
*Chemical Tanker	7	377	1.9%	7	425	1.6%	10	459	2.2%
Oil Tanker	13	465	2.8%	12	414	2.9%	4	396	1.0%
Gas Carrier	3	257	1.2%	4	248	1.6%	3	263	1.1%
MODU	0	4	0.0%	0	2	0.0%	0	2	0.0%
Passenger Ship	1	3	33.3%	0	1	0.0%	0	1	0.0%
High Speed Craft	0	1	0.0%	0	1	0.0%	0	0	0.0%
Total	346	5,363	6.5%	337	5,427	6.2%	285	5,530	5.2%

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, "the 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		2015			2016			2017		
		(I)	(II)	(III)	(I)	(II)	(III)	(I)	(II)	(III)
Australia		28	75	37.3%	29	92	31.5%	17	48	35.4%
China		26	79	32.9%	25	67	37.3%	23	63	36.5%
Japan		3	16	18.8%	9	19	47.4%	3	15	20.0%
Indonesia		4	14	28.6%	4	10	40.0%	6	26	23.1%
EU	Germany	0	8	0.0%	2	8	25.0%	2	8	25.0%
	UK	0	3	0.0%	6	10	60.0%	2	9	22.2%
	Italy	1	8	12.5%	1	8	12.5%	2	8	25.0%
	Other EU Members	9	22	40.9%	12	32	37.5%	9	30	30.0%
USA		14	39	35.9%	5	17	29.4%	5	16	31.3%
Other Countries		31	82	37.8%	26	74	35.1%	22	62	35.5%
Total		116	346	33.5%	119	337	35.3%	91	285	31.9%

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 Australia, China, Indonesia which are top 3 countries of the number of ISM detention cases in 2017.
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)

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 Australia

Table 3.3.1(a) shows the number of the 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.

As seen from the Table 3.3.1(a), in 2017, ISM detainable deficiencies categorized into “15106 - Shipboard operations” and “15199 - Other (ISM)” were frequently recorded just like 2016. Typical evidences of each ISM detainable deficiency are as follows. For the case there were plural ISM code elements corresponding to the evidences of ISM detention, “15199 - Other (ISM)” was recorded.

[15106 - Shipboard operations]
- Unofficial Charts (photocopy) are used
- Crew not follow the vessel voyage plan, in relation to frequency and method of position fixing
- Recorded rest hours of deck and engine room personnel do not reflect actual hours of rest
- Un-familiar with the operation of ECDIS
- Engineer officers are not in charge of Engine room watch keeping at port

[15199 - Others]
- Crew unable to demonstrate rescue boat or life raft davit launching
- Crew unable to demonstrate “under keel clearance” in voyage plan
- Life boat or rescue boat’s engine not started
- Port and Starboard lifeboat launched and maneuvered in water overdue

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

Code	Item	2015	2016	2017
15105	Resources and personnel	1	1	1
15106	Shipboard operations	16	26	11
15107	Emergency preparedness	3	1	2
15108	Reports of NCs, accidents and hazardous occur.	1	-	-
15109	Maintenance of the ship and equipment	1	2	-
15199	Other (ISM)	27	15	9
Total		49	45	23

Table 3.3.1(b) Number of Deficiencies Regarded as The Evidences of ISM Detainable Deficiencies per Deficiency Code

Code	Item	No.	Remark
01306	Schedules for watchkeeping personnel	4	
01308	Records of rest	6	
03108	Ventilators, air pipes, casings	7	
04102	Emergency Fire Pump and its pipes	8	
04114	Emergency source of power - Emergency Generator	6	
07110	Fire fighting equipment and appliances	4	
07199	Other (fire safety)	7	E.g.) Excessive oil inside exhaust duct
10111	Charts	9	
10112	Electronic charts (ECDIS)	6	
10116	Nautical publications	4	
10127	Voyage or passage plan	13	
10135	Monitoring of voyage or passage plan	6	
11104	Rescue boats	4	
11131	On board training and instructions	13	E.g.) Unable to demonstrate davit launching
13199	Other (machinery)	4	E.g.) Excessive oil leakage in E/R
Others		107	

3.3.2 China

Table 3.3.2(a) shows the number of ISM detainable deficiencies per Deficiency Code. Table 3.3.2(b) shows the number of deficiencies regarded as the evidences of ISM detainable deficiencies per Deficiency Code.

As seen from the Table 3.3.2(a), in 2017, "15109 - Maintenance of the ship and equipment" was most frequently recorded as ISM detainable deficiencies. Typical evidences of the ISM detainable deficiency are as follows.

[15109 - Maintenance of the ship and equipment]

- Corrosion of air pipe head
- Self-closed fire door not closed tightly
- An engine of life boat or rescue boat not start
- Wastage of embarkation ladder
- Leakage of fuel oil from main engine and auxiliary engine or excessive oil leakage from the line

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

Code	Item	2015	2016	2017
15101	Safety and environmental policy	-	1	-
15102	Company responsibility and authority	-	1	-
15104	Masters responsibility and authority	-	1	-
15105	Resources and personnel	6	4	5
15106	Shipboard operations	9	10	3
15107	Emergency preparedness	5	1	6
15108	Reports of NCs, accidents and hazardous occur.	-	1	1
15109	Maintenance of the ship and equipment	5	8	16
15112	Certification, verification and control	1	2	-
15150	ISM	1	-	-
15199	Other (ISM)	2	3	1
Total		29	32	32

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

Code	Item	No.	Remarks
03108	Ventilators, air pipes, casings	15	
03199	Other (load lines)	4	E.g.)Load line not clear
04102	Emergency Fire Pump and its pipes	4	
04103	Emergency lighting, batteries and switches	6	
04114	Emergency source of power - Emergency Generator	4	
07105	Fire doors/openings in fire-resisting divisions	14	
07114	Remote Means of control (opening, pumps, ventilation, etc.) Machinery spaces	4	
07115	Fire-dampers	4	
10116	Nautical publications	6	
11101	Lifeboats	21	
11124	Embarkation arrangement survival craft	9	
13101	Propulsion main engine	9	
13102	Auxiliary engine	8	
13103	Gauges, thermometers, etc	9	
13199	Other (machinery)	12	E.g.) Excessive oil in E/R
14402	Sewage treatment plant	5	
Others		137	

3.3.3 Indonesia

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.
As seen from the Table 3.3.3(a), in 2017, "15101 - Safety and environmental policy" was most frequently recorded. Typical evidences of the ISM detainable deficiency are as follows.

[15101 - Safety and environmental policy]
- Self-closing fire doors fitted with hold-back hooks or rope
- Emergency generator not start automatically
- Malfunction of incinerator
- Malfunction of sewage treatment plant
- Discharge of untreated sewage in port

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

Code	Item	2015	2016	2017
15100	ISM	1	2	1
15101	Safety and environmental policy	2	2	5
15102	Company responsibility and authority	1	1	2
15104	Masters responsibility and authority	-	2	-
15105	Resources and personnel	-	1	2
15109	Maintenance of the ship and equipment	-	-	3
15150	ISM	-	-	2
15199	Other (ISM)	-	-	1
Total		4	8	16

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

Code	Item	No.	Remark
03105	Covers (hatchway-, portable-, tarpaulins, etc.)	7	
04103	Emergency lighting, batteries and switches	8	
07105	Fire doors/openings in fire-resisting divisions	26	
09219	Pipes, wires (insulation)	7	
09229	Winches and capstans	6	
10111	Charts	7	
10116	Nautical publications	6	
11101	Lifeboats	7	
11131	On board training and instructions	6	
13102	Auxiliary engine	11	
13108	Operation of machinery	6	E.g.) Unfamiliar with simulation test of M/E
13199	Other (machinery)	9	E.g.)Leakage from pumps
14402	Sewage treatment plant	6	
14503	Garbage management plan	6	
14608	Incinerator including operations and operating manual	6	
Others		107	

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	2015		2016		2017	
NK class	4,288	86.5%	4,517	87.9%	4,629	87.9%
Other class	672	13.5%	618	12.1%	635	12.1%
Total	4,960		5,135		5,264	

4.2 Statistics of Detentions of NK MLC Ships

As of the end of April 2018, 86 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		2015	2016	2017
Australia		6	4	6
Canada		2	2	1
China		-	-	3
Russia		3	-	2
EU	Germany	6	3	5
	Italy	1	5	-
	UK	-	3	6
	Other EU Members	8	15	10
Other Countries		5	1	3
Total		31	33	36

Note: (I): * In China, MLC, 2006 has been in force since Nov. 2016

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 evidences of ISM detainable deficiencies for NK MLC ships. 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 20 MLC deficiencies regarded as 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 2017. And "01220 - Seafarers' employment agreement (SEA)" followed it.

On the other hand, the following deficiencies were recorded more than 10 as evidences of ISM detainable deficiencies.

- "01220 - Seafarers' employment agreement (SEA)"
- "01308 - Records of rest"
- "18203 - Wages"
- "18302 - Sanitary facilities"
- "18313 - Cleanliness"
- "18314 - Provisions quantity"

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 description)
01xxx	**Certificates & Documentation**		
218	Medical certificate	1	GBR
220	Seafarer' employment agreement (SEA)	11	CAN, DEU, ESP, FRA, GBR, SWE
308	Records of rest	3	BEL, GBR
18xxx	**Labour Conditions (MLC, 2006)**		
103	Medical fitness	2	CHN, GRC
104	Recruitment and placement service	1	GBR
201	Fitness for duty- work and rest hours	1	RUS
203	Wages	19	AUS, ESP, GBR, JPN, KEN
204	Calculation and payment of wages	7	AUS, BEL, ESP, GBR
299	Other (Conditions of employment)	1	AUS
302	Sanitary facilities	3	DEU, GBR
313	Cleanliness	6	DEU, FRA, GRC
314	Provisions quantity	8	AUS, BEL, DEU, ESP, GBR, LTU
315	Provisions quality and nutritional value	1	DEU
317	Food personal hygiene	1	FRA
321	Heating, air conditioning and ventilation	3	AUS, DEU
322	Insulation	1	NLD
324	Cold room, cold room cleanliness, cold room temperature	1	DEU
327	Ventilation (Work spaces)	1	GBR
401	Medical Equipment, medical chest, medical guide	1	ESP
407	Lighting (Working spaces)	2	DEU, GRC
408	Electrical	1	DEU
410	Gas instruments	1	IRN
416	Ropes and wires	1	GRC
417	Anchoring devices	2	GRC, LTU
420	Cleanliness of engine room	1	LTU
424	Steam pipes, pressure pipes, wires (insulation)	3	DEU, RUS
425	Access/ structural features (ship)	1	DEU
427	Ship's occupational safety and health policies and programmes	4	AUS, CHN
430	Ship's safety committee	1	CHN
499	Other (Health protection, medical care …)	1	AUS
Total		90	-

***ISO description of the country**

ISO des.	Country	ISO des.	Country	ISO des.	Country
AUS	Australia	FRA	France	LTU	Lithuania
BEL	Belgium	GBR	United Kingdom	NLD	Netherlands
CAN	Canada	GRC	Greece	ROU	Romania
CHN	China	IRN	Iran	RUS	Russia
DEU	Germany	JPN	Japan	SWE	Sweden
ESP	Spain	KEN	Kenya	-	-

Table 4.3.3 Top 15 MLC Deficiencies Regarded as The Evidences of ISM Detainable Deficiencies

Code	Item	No.
01xxx	**Certificates & Documentation**	
218	Medical certificate	3
220	Seafarer' employment agreement (SEA)	13
307	Tables of working hours	2
308	Records of rest	5
330	Procedure for complaint under MLC, 2006	3
18xxx	**Labour Conditions (MLC, 2006)**	
201	Fitness for duty- work and rest hours	2
203	Wages	12
302	Sanitary facilities	5
313	Cleanliness	6
314	Provisions quantity	9
317	Food personal hygiene	4
321	Heating, air conditioning and ventilation	2
401	Medical Equipment, medical chest, medical guide	6
407	Lighting (Working spaces)	4
408	Electrical	4
412	Personal equipment	3
416	Ropes and wires	4
420	Cleanliness of engine room	3
424	Steam pipes, pressure pipes, wires (insulation)	3
425	Access/ structural features (ship)	3
-	(Other Deficiencies with 18xxx)	27
Total		123

(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 2017.

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

Code	Item	No.
091xx	**Living Conditions**	
25	Ventilation	1
30	Water, pipes, tanks	1
092xx	**Working Conditions**	
03	Lighting (Working spaces)	1
05	Safe means of access Shore - Ship	1
10	Machinery	1
26	Holds and tanks safety	1
32	Cleanliness of engine room	5
Total		11

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 2017.

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 2017, 31,315 inspections were carried out in the Tokyo MOU region, and 941 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 2015 through 2017.

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

Country	No. of Inspection			No. of Detentions			Detention ratio (%)		
	2015	2016	2017	2015	2016	2017	2015	2016	2017
Australia [1)]	4,050	3,675	3,128	242	245	165	5.98	6.67	5.27
Canada [2)]	476	510	615	9	2	5	1.89	0.39	0.81
Chile	923	869	888	15	11	13	1.63	1.27	1.46
China	8,126	7,736	7,242	443	422	372	5.45	5.46	5.14
Fiji	4	10	42	0	0	2	0.00	0.00	4.76
Hong Kong, China	697	630	664	49	24	27	7.03	3.81	4.07
Indonesia	2,045	2,143	1,920	29	33	66	1.42	1.54	3.44
Japan	5,400	5,438	5,439	178	181	107	3.30	3.33	1.97
Republic of Korea	1,807	1,988	1,947	85	72	66	4.70	3.62	3.39
Malaysia	1,057	1,193	1,544	30	18	24	2.84	1.51	1.55
Marshall Islands	18	19	20	0	2	1	0.00	10.53	5.00
New Zealand	168	184	241	9	3	6	5.36	1.63	2.49
Papua New Guinea	128	129	143	3	4	7	2.34	3.10	4.90
Peru [3)]	35	484	502	0	3	2	0.00	0.62	0.40
Philippines	2,367	2,420	2,714	3	1	2	0.13	0.04	0.07
Russia 2)	1,021	1,049	1,101	12	22	54	1.18	2.10	4.90
Singapore	1,004	1,035	1,027	35	29	15	3.49	2.80	1.46
Thailand	637	634	607	3	0	0	0.47	0.00	0
Vanuatu	0	0	5	0	0	0	0.00	0.00	0
Vietnam	1,444	1,532	1,526	8	18	7	0.55	1.17	0.46
Total	31,407	31,678	31,315	1,153	1,090	941	3.67%	3.44%	3.00%

1) Data is also provided to Indian Ocean MOU.

2) Data is only for the Pacific ports.

3) Data for the Peru in 2015 is only for November and December.

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 2015-2017	No. of Detentions 2015-2017	Grey to White limit	Black to Grey limit
Fiji [1)]	42	14		6
Tanzania	148	32		16
Mongolia	332	53		31
Togo	781	110		67
Cambodia	1,755	234		141
Niue	157	25		17
Indonesia	589	77		52
Sierra Leone	1,011	123		85
Palau	159	23		17
Korea, Democratic People's Republic	704	83		61
Micronesia, Federated States of [1)]	369	45		34

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 2015-2017	No. of Detentions 2015-2017	No. of RO responsibile detentions	Detention ratio (%)	RO responsibile detention ratio (%)
ABS	10,956	205	5	1.87	0.05
BV	10,916	336	19	3.08	0.17
CCS	7,594	59	0	0.78	0.00
CRS	129	5	1	3.88	0.78
DNV GL	28,429	680	13	2.39	0.05
IRS	283	17	0	6.01	0.00
KR	9,543	152	3	1.59	0.03
LR	14,297	291	9	2.04	0.06
NK	32,324	864	40	2.67	0.12
PRS	97	7	1	7.22	1.03
RINA	2,843	84	1	2.95	0.04
RS	1,311	56	1	4.27	0.08

(*) 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 2015 through 2017.

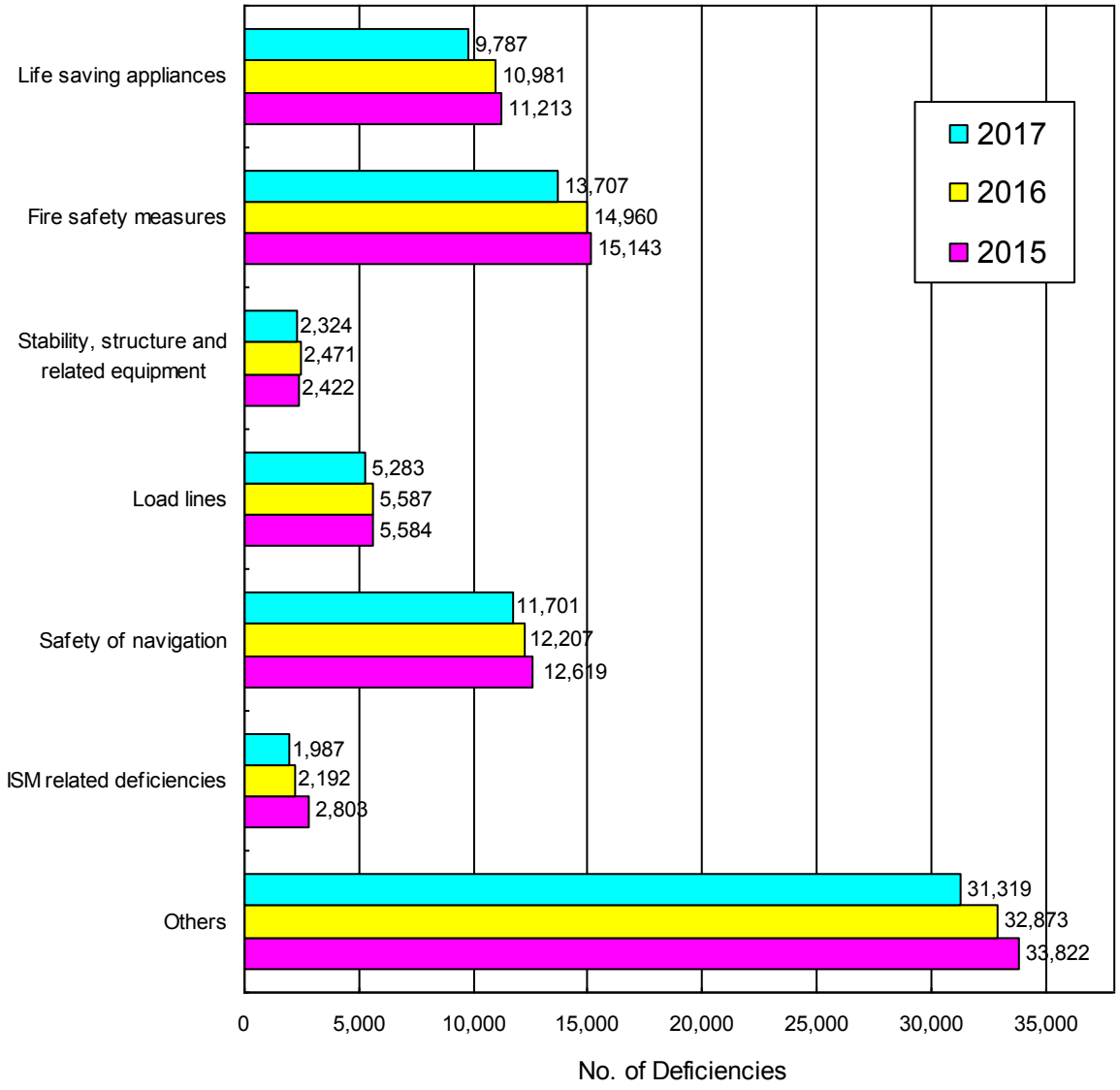


Fig. 5.1.4 Deficiencies per Category (Tokyo MOU)

5.2 Paris MoU

In 2017, 17,925 inspections were carried out in the Paris MoU region, and 691 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 2015 through 2017.

Table 5.2.1 Port State Inspections carried out by Authorities (Paris MoU) [1)]

Country	No. of Inspections			No. of Detentions			Detention ratio (%)		
	2015	2016	2017	2015	2016	2017	2015	2016	2017
Belgium	969	942	961	18	23	23	1.86	2.44	2.39
Bulgaria	366	350	288	8	14	9	2.19	4.00	3.13
Canada	1,063	1,061	1,151	32	16	21	3.01	1.51	1.82
Croatia	284	315	323	5	4	11	1.76	1.27	3.41
Cyprus	137	147	123	13	13	12	9.49	8.84	9.76
Denmark	445	452	471	0	2	0	0.00	0.44	0.00
Estonia	188	199	202	0	2	0	0.00	1.01	0.00
Finland	292	274	282	0	1	1	0.00	0.36	0.35
France	1,255	1,132	1,141	27	24	32	2.15	2.12	2.80
Germany	1,234	1,149	1,121	39	51	48	3.16	4.44	4.28
Greece	1,154	1,016	1,015	84	63	65	7.28	6.20	6.40
Iceland	63	65	60	3	0	2	4.76	0.00	3.33
Ireland	276	300	288	15	7	9	5.43	2.33	3.13
Italy	1,387	1,430	1,465	92	65	94	6.63	4.55	6.42
Latvia	282	326	290	0	2	4	0.00	0.61	1.38
Lithuania	220	226	239	1	2	2	0.45	0.88	0.84
Malta	184	232	211	7	5	5	3.80	2.16	2.37
Netherlands	1,315	1,263	1,265	21	34	32	1.60	2.69	2.53
Norway	570	560	557	8	7	6	1.40	1.25	1.08
Poland	524	501	502	32	21	18	6.11	4.19	3.59
Portugal	492	499	499	8	13	7	1.63	2.61	1.40
Romania	590	502	510	43	59	58	7.29	11.75	11.37
Russia [2)]	1,008	1,186	1,337	38	128	126	3.77	10.79	9.42
Slovenia	155	131	132	5	1	2	3.23	0.76	1.52
Spain	1,716	1,673	1,564	52	68	40	3.03	4.06	2.56
Sweden	566	556	563	3	8	11	0.53	1.44	1.95
United Kingdom	1,123	1,353	1,365	41	50	53	3.65	3.70	3.88
Total	17,858	17,840	17,925	595	683	691	3.33%	3.83%	3.85%

1) This list is based on Paris MoU database "THETIS". If necessary, it might be updated after publishing of 2017 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 2015-2017	Detentions 2015-2017	Grey to White Limit	Black to Grey Limit
Congo, Republic of the	104	28	Very High Risk	12
Comoros.	282	60		27
Togo	422	85		39
Tanzania United Rep.	259	53		25
Moldova, Republic of	480	89	High Risk	43
Palau	180	36		19
Ukraine	94	18	Medium to High Risk	11
Sierra Leone	292	46		28
Saint Kitts and Nevis	266	35	Medium Risk	26
Cambodia	161	22		17
Vanuatu	251	28		25
Cook Islands	414	43		38
Belize	399	40		37

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 2015 through 2017.

Table 5.2.3 Recognized Organization Performance Table (Paris MoU)

Recognized Organization	Inspections 2015-2017	Detentions 2015-2017	Performance Level
ABS	5,866	2	High
LR	12,554	9	
DNVGL	16,014	16	
BV	11,376	23	
KRS	1,142	1	
RINA	4,071	10	
NK	8,305	24	
CCS	834	1	
RS	3,033	22	
IRS	95	0	Medium
PRS	484	6	
CRS	146	1	

5.3 USCG

In 2017, a total of 10,190 individual vessels visited U.S. ports, and a total of 9,105 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 2015 through 2017. The three-year average detention ratio decreased from 1.58% to 1.40% during this time.

Table 5.3.1 Detentions by Year (Safety)

Year	Distinct Vessel Arrivals*	SOLAS Safety		
		Detentions	Annual Detention Ratio	3 Year Average Detention Ratio
2015	8,925	201	2.17%	1.67%
2016	9,859	98	1.04%	1.58%
2017	10,190	91	0.99%	1.40%

* 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	2015-2017 Detention Ratio	Points of Targeting Matrix
Barbados	3.70%	7 points
Bolivia	24.24%	
India	4.65%	
St. Kitts and Nevis (*)	11.11%	
Saint Vincent and the Grenadines	4.15%	
Saudi Arabia (*)	3.64%	
Tanzania	13.51%	
Thailand	4.35%	
Togo (*)	9.84%	
Vanuatu	6.59%	
Antigua and Barbuda	2.26%	2 points
Cyprus	2.28%	
Greece	2.10%	
Malta (*)	1.48%	
Panama	1.90%	
Philippines (*)	1.56%	
Turkey	2.50%	

* 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
	2015	2016	2017	Total	2015	2016	2017	Total		
ABS	1,677	1,836	1,685	5,198	-	-	1	1	0.02%	0 points
BV	1,038	1,113	1,166	3,317	2	-	-	2	0.06%	0 points
CCS	234	231	194	659	-	-	-	0	0.00%	0 points
CRS	17	17	14	48	-	-	-	0	0.00%	0 points
DNV GL	2,687	2,122	3,271	8,080	1	-	-	1	0.01%	0 points
IRS	13	13	13	39	-	-	-	0	0.00%	0 points
KR	287	242	314	843	-	-	-	0	0.00%	0 points
LR	2,143	2,403	2,405	6,951	-	-	1	1	0.01%	0 points
NK	2,203	2,296	2,282	6,781	-	-	-	0	0.00%	0 points
PRS	22	17	22	61	-	-	-	0	0.00%	0 points
RINA	355	284	320	923	-	-	-	0	0.00%	0 points
RS	43	34	29	106	-	-	-	0	0.00%	0 points

In accordance with the Boarding Priority Matrix, Recognized Organizations are evaluated on their PSC performance over the previous three years. The evaluation for 2017 was based on the records for 2015, 2016, and 2017.

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 ration 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.

ClassNK

Port State Control Annual Report
[English]

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