June 2016

ClassNK

Port State Control Annual Report

[English]

Photographs of Deficiencies identified during Port State Control

Life Saving

Corrosion and Hole of water spray

Improper reset of on load release gear interlock lever

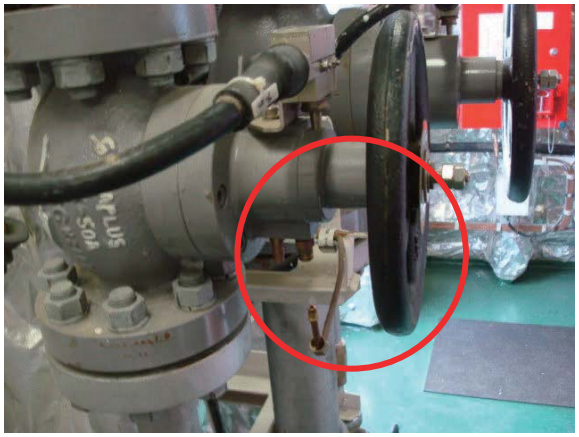
Seize of on-load release gear by excessive paint

Poor condition of lifeboat hull

Fire Safety

Holed fire line

Dis-connected pilot line for CO2 discharge valve



Poor condition of firemans' outfits

MARPOL

Illegal repair by patch with putty of Oily Water Separator

Machinery Space

Oily and dirty engine room

Oily lagging of F.O. piping

Load Line

Detached gasket of cargo hold air vent

Holed funnel ventilation

Others

Corrosion holes of strength deck

Wasted mooring line

Foreword

This annual Port State Control (PSC) report summarizes deficiencies identified by 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 as well as to improve future maintenance and inspections, and also Safety Management System is compiled into 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 found to be a very effective tool in reducing the number of substandard ships as well as improving maritime safety and pollution prevention. There has been a significant increase in PSC activity worldwide in concert with a number of amendments to relevant international conventions.

In order to carry out the effective implementation of PSC provisions, many countries have already signed and accepted a Memorandum of Understanding (MOU) for regional cooperation in PSC for many regions, and have established a centralized computerized database system and/or a harmonized approach.

PSC inspection procedures have been improved to cover not only a ships' hardware or documents, but also the operational requirements of the relevant conventions or shipboard maintenance under the ISM Code.

In light of this background, ClassNK is working hard to increase the transparency of information related to PSC issues and to make it even more difficult for substandard ships to survive in the market place.

June 2016

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 2014 through 2016 are summarized below.

1.1.1 Plans and procedures for recovery of persons from the water (SOLAS III/17-1)

Entry into force: 1 July 2014

[Refer to ClassNK Technical Information TEC-0985]

SOLAS chapter III was amended to add new regulation 17-1 and this new regulation states that "Plans and procedures for recovery of persons from the water" shall be provided for all ships engaged in international voyage (all passenger ships other than ro-ro passenger ships and cargo ships of not less than 500 tons).

Application:

1) New ships constructed (keel-laid) on or after 1 July 2014: Classification survey at new building stage
2) Existing ships (ships constructed before 1 July 2014): By the first periodical or renewal safety equipment survey of the ship, whichever comes first after 1 July 2014

1.1.2 Means of recharging breathing apparatus (SOLAS II-2/15.2.2.6)

Entry into force: 1 July 2014

[Refer to ClassNK Technical Information TEC-0947 & 0990]

SOLAS regulation II-2/15 was amended to add new paragraph 2.2.6 and this new paragraph states that an onboard means of recharging breathing apparatus used during drills or a suitable number of spare cylinders shall be carried on board to replace those used.

Application:

1) New ships constructed (keel-laid) on or after 1 July 2014: Classification survey at new building stage
2) Existing ships (ships constructed before 1 July 2014): By 1 July 2014

1.1.3 Fire-fighter's communication (SOLAS II-2/10.10.4)

Entry into force: 1 July 2014

[Refer to ClassNK Technical Information TEC-0947 & 0990]

SOLAS regulation II-2/10 was amended to add new paragraph 10.4. This new paragraph states that a minimum of two two-way portable radiotelephone apparatus for each fire party for fire-fighter's communication shall be carried on board and those two-way portable radiotelephone apparatus shall be intrinsically safe or of an explosion-proof type.

Application:

1) New ships constructed (keel-laid) on or after 1 July 2014: Classification survey at new building stage
2) Existing ships (ships constructed before 1 July 2014): By the first survey after 1 July 2018

1.1.4 Types of fire-fighter's outfits (Amendments to SOLAS II-2/1 & 10.1)

Entry into force: 1 July 2014

[Refer to ClassNK Technical Information TEC-0947 & 0990]

SOLAS II-2/1 & 10.1 were amended and due to these amendments, compressed air breathing apparatus shall be fitted with an audible alarm and a visual or other device which will alert the user before the volume of the air in the cylinder has been reduced to no less than 200 *l*.

Application:

1) New ships constructed (keel-laid) on or after 1 July 2014: Classification survey at new building stage
2) Existing ships (ships constructed before 1 July 2014): By 1 July 2019

1.1.5 Enclosed space entry and rescue drills (SOLAS III/19 etc.)

Entry into force: 1 January 2015

[Refer to ClassNK Technical Information TEC-0965]

To require that crew members with enclosed space entry or rescue responsibilities shall participate in an enclosed space entry and rescue drill to be held on board the ship at least once every two months on and after 1 January 2015.

1.1.6 Mandatory installation of stability instrument for oil tankers, chemical tankers, gas carriers

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 construted on or after 1 January 2016	Completion date
	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	Completion date
	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

1.1.7 Appropriate portable atmosphere tesing instrument or instruments to entry into enclosed spaces (SOLAS XI-1/7)

Entry into force: 1 July 2016

SOLAS XI-1/7 were newly added and due to this requirement, every ship shall carry an appropriate portable atmosphere tesing instrument or instruments. As a minimum, these shall be capable of measuring concentrations of oxygen, flammable gases or vapours, hydrogen sulphide and carbon monoxide prior to entry into enclosed spaces. Suitable means shall be provided for the calibration of all such

instruments.

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	:Viña del Mar	(http://www.acuerdolatino.int.ar/)
Caribbean region	:Caribbean MOU	(http://www.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, Netherlands, Norway, Poland, Portugal, Romania, 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 port State control.

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

Press release dated 2 June 2015

The Paris MoU announced that the Paris MoU held its 48th Committee meeting in the Netherlands from 18-22 May 2015. Committee decided on carrying out a CIC in 2016 to verify compliance with MLC2006.

Press release dated 22 February2016

The Paris MoU announced the preliminary results of the Concentrated Inspection Campaign (CIC) on Crew Familiarization for Enclosed Space Entry, which was conducted from 1 September to 30 November 2015.

3776 inspections have been performed using the CIC questionnaire. Of those inspections 54 detentions have CIC topic related deficiencies. The total number of detentions in the 3-month period was 160.

Press release dated 30 May 2016

The Paris MoU announced that the Paris MoU held its 49th Committee meeting in the Norway from 23-27 May 2016. Committee decided on carrying out a CIC in 2018 on MARPOL Annex VI in 2018.

Press release dated 8 June 2016

The Paris MoU announced new performance lists for flag and Recognized

Organizations. These lists will take effect from 1 July 2016.

(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, Papua New Guinea, Philippines, Russian Federation, Singapore, Thailand, Vanuatu, and Vietnam, Peru

-1 The main objectives of the Memorandum have been announced as follows:

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 13 October 2015

The Tokyo MOU announced that the 26th meeting of the PSC Committee of the Tokyo MOU was held in Putrajaya, Malaysia.

- The Committee unanimously agreed to accept Peru as the 20th member Authority and Panama as a Co-operating Member of the Tokyo MOU.
- The Committee decided to conduct the CIC on Cargo Securing Arrangements in 2016. By the agreement with the Paris MOU, the Committee confirmed to carry out a joint CIC on Safety of Navigation in 2017.
- The 27th meeting of the PSC Committee will be held in Australia in October 2016.

Press release dated 18 March 2016

The Tokyo MOU announced the preliminary results of the Concentrated Inspection Campaign (CIC) on Crew Familiarization for Enclosed Space Entry, which was conducted from 1 September to 30 November 2015.

- During the CIC inspections, Port State Control Officers were required to observe an enclosed space entry drill where practicable. 4,487 such drills were observed during the campaign and of these, 93% were conducted to a satisfactory standard.

(3) Latin-American region (Viña del Mar or Latin-America Agreement)

Established: 5 November 1992

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

(4) Caribbean region (Caribbean MOU)

Established: 9 February 1996

Members: Antigua and Barbuda, Aruba, Bahamas, Barbados, Belize, Cayman Islands, Cuba, Curacao, Grenada, Guyana, Jamaica, Netherlands Antilles, St. Kitts and Nevis, Suriname, and Trinidad & 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, Djibouti, Eritrea, France (La Reunion Island), India, Iran, Kenya, Maldives, Mauritius, Mozambique, Seychelles, South Africa, Sri Lanka, Sudan, Sultanate of Oman, Tanzania, Union of Comoros and Yemen

-1 In 2015, the Indian Ocean MOU carried out a Concentrated Inspection Campaign (CIC) on Crew Familiarization for Enclosed Space Entry from 1 September to 30 November 2015 in line with the CIC carried out by the Tokyo MOU and the Paris MoU.

-2 According to Annual Report 2015 of the Indian Ocean MOU, a total of 6,253 inspections were carried out and 350 vessels were detained in 2014.

-3 CIC on Cargo Securing is scheduled to be carried out on 2016.

(7) Black Sea region (Black Sea MOU)

Established: 7 April 2000

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

-1 the Memorandum of Understanding on Port State Control in the Black Sea Region (BS MOU) decided to introduce a New Inspection Regime for selection of ships from 1st January 2016.

-2 The Black Sea MOU announced the preliminary results of the Concentrated Inspection Campaign (CIC) on Crew Familiarization for Enclosed Space Entry, which was conducted from 1 September to 30 November 2015. During the course of the campaign Authorities carried out a total of 1,022 inspections of individual ships using the CIC questionnaire. Of this quantity 49 ships were detained with 20 of detentions were being within the CIC scope.

-3 The BS MOU announced that the 17th meeting of the PSC Committee of the BS MOU was held in Sochi, the Russian Federation, The Committee agreed to carry out CIC on Cargo Securing Arrangements in 2016 jointly with the Tokyo MOU and to join Paris and Tokyo MOU to carry out CIC on Safety of Navigation in 2017.

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

Established: 22 October 1999

Members: Angola, Benin, Cote d'Ivoire, Gabon, Ghana, Nigeria, Congo, Guinea Konakry, Sao Tome & Principe, Senegal, Sierra Leone, South Africa, The Gambia and Togo

(9) Arab States of the Gulf (Riyadh MOU)

Established: 30 June 2004

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

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.

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 Port State Control Inspections

(1) Cooperative assistance with Port States 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 Authority in a number of ways. The more direct of these steps include the following.

- Surveyors liaise with port state control authorities 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 port state.
- Attending surveyors examine not only the condition of the deficiencies identified by the PSC officers but also the general condition of the hull, machinery and equipment of the subject ship to the extent of an annual survey, carefully considering the seriousness of any deficiencies when they attend ships that have been subject to an intervention action by the port state.

(2) Treatment of inspection reports by PSC officers

When a surveyor receives an inspection report from a port state authority, 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 ship owner or manager, 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 port state authority 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 ship owners

(a) Visiting Management Companies

When a ship classed with ClassNK is detained by a Port State, if deemed necessary, a senior surveyor or manager of the Society visits the owner or 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 ship owners. 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 shipowners and operators in the ClassNK fleet. A checklist entitled "Good Maintenance on board Ships" has also been prepared in electronic format, which can be used by the ship's crew for quick and easy inspection of a ship before entering port.

Seven "ClassNK PSC Bulletin" were sent to Company managed ClassNK fleet as of 9 May 2016 by e-mail. This non-regular bulletin provides timely information on particularly notable deficiencies pointed out during PSC inspections of NK classed ships, continuously.

Smartphone application of Pocket check list which improved advantage convenience of which was being distributed by paper will be released within this year.

1.3.3 Visits to Port States

Personnel from the ClassNK Head Office as well as local survey offices are assigned to visit the headquarters or offices of various Port States with the aim of introducing ClassNK and exchanging views on matters of mutual concern. In 2015, the ClassNK Head Office visited the following Port States for the above-mentioned purpose.

Australia	Australian Maritime Safety Authority (AMSA)
China	Maritime Safety Administration (MSA)
Canada	Transport Canada (TC)
New Zealand	Maritime New Zealand(MNZL)
U.S.A.	United States Coast Guard (USCG)
U.K.	United Kingdom Maritime and Coastguard Agency (UKMCA)
Italia	Italian Coastguard
Germany	Dienststelle Schiffssicherheit BG Verkehr
Korea	Ministry of Oceans and Fisheries
Singapore	Maritime and Port Authority of Singapore(MPA Singapore)
Hong Kong	Marine Department of the Government of the Hong Kong Special Administrative Region

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 2015, 476 PSC detentions were reported relating to 440 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 8,326 at the end of December 2015. Therefore, the 440 ships detained represent about 5.3 % of the total number of ships in the NK fleet. Further, detention ratio (Detentions/Registered number in 2015) of the NK fleet in 2015 is about 5.7%.

2.2 Data on Detentions

2.2.1 Detentions by Flag State

Table 2.2.1 Detentions by Flag State (NK)

Flag State	Number of Registered Ships (500GT or over)			Number of Detentions			Detention Ratio (%) (= Detentions / Registered Number in each year)		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
Panama	3,160	3,194	3,188	246	228	245	7.8	7.1	7.7
Liberia	396	468	533	36	43	47	9.1	9.2	8.8
Malta	200	216	227	21	21	27	10.5	9.7	11.9
Hong Kong	458	432	454	14	14	21	3.1	3.2	4.6
Singapore	691	729	756	17	10	13	2.5	1.4	1.7
Bahamas	144	149	164	7	6	12	4.9	4.0	7.3
Marshall Islands	343	402	468	21	19	11	6.1	4.7	2.4
Turkey	69	66	77	7	4	7	10.1	6.1	9.1
Cyprus	86	89	85	5	3	5	5.8	3.4	5.9
Thailand	67	73	78	8	5	5	11.9	6.8	6.4
Viet Nam	91	89	95	2	6	4	2.2	6.7	4.2
Philippines	87	73	70	5	4	4	5.7	5.5	5.7
Japan	860	887	916	5	2	4	0.6	0.2	0.4
Malaysia	275	291	293	2	0	4	0.7	0.0	1.4
Indonesia	170	168	170	9	8	3	5.3	4.8	1.8
Others	-	-	-	38	56	64	-	-	-
Total	7,620	7,986	8,326	443	429	476	5.8	5.4	5.7

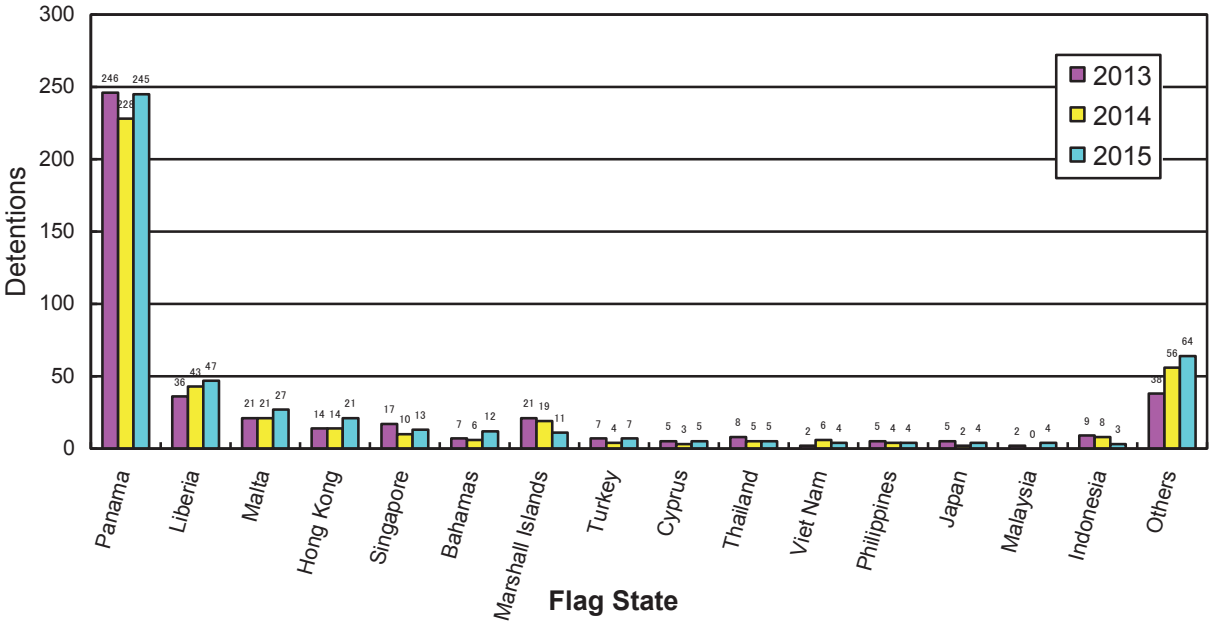


Fig 2.2.1-1 Detention by Flag (NK)

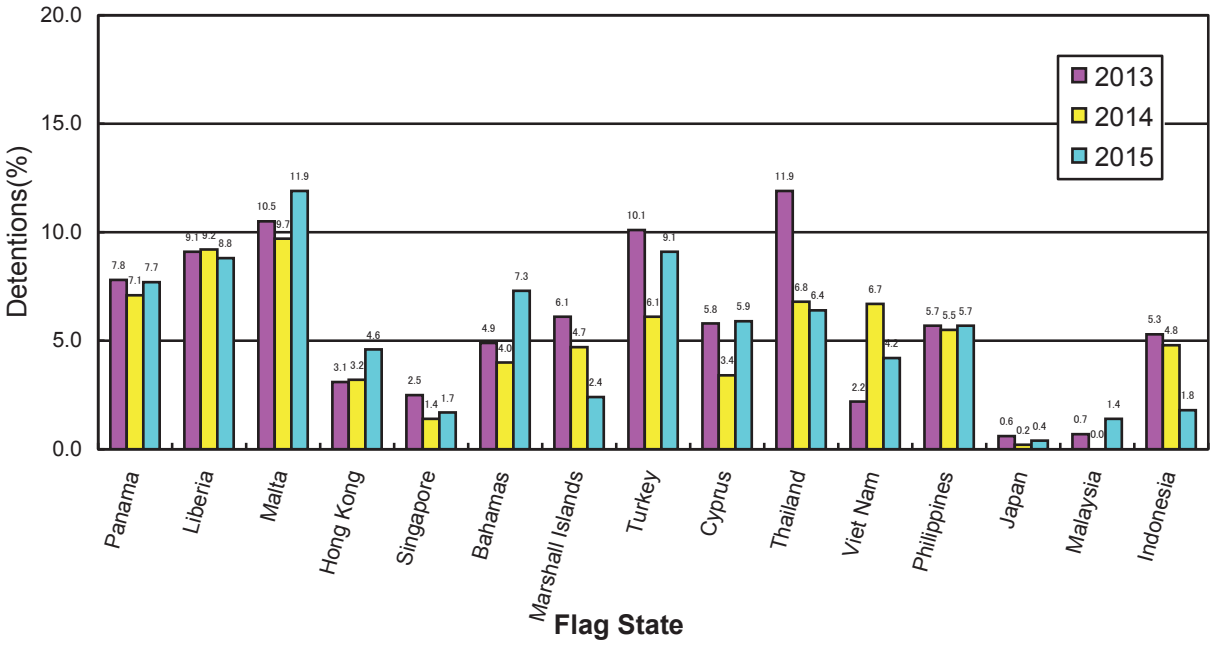


Fig 2.2.1-2 Detention Ratio by Flag (NK)

2.2.2 Detentions by ship type

Table 2.2.2 Detentions by Ship Type (NK)

Ship Type	Number of Registered Ships in 2015 (500GT or over)	Number of Detentions			Detention Ratio (%) (= Detentions / Registered Number in each year)		
		2013	2014	2015	2013	2014	2015
Bulk Carrier	3,604	243	246	255	7.6	7.2	7.1
General Cargo	857	79	76	103	10.3	9.3	12.0
Container Carrier	619	35	26	36	5.9	4.2	5.8
Chip Carrier	120	6	5	7	4.7	4.0	5.8
Cement Carrier	118	1	2	1	1.0	1.8	0.8
Ro-Ro Ship	36	6	3	7	13.6	6.8	19.4
Reefer Carrier	136	18	14	13	12.7	10.4	9.6
Vehicles Carrier	359	14	14	11	4.0	4.0	3.1
Oil Tanker	745	10	9	14	1.3	1.2	1.9
Oil/Chemical Tanker	697	22	21	19	3.3	3.2	2.7
Gas Carrier	395	6	9	6	1.6	2.4	1.5
Others	640	3	4	4	0.6	0.9	0.6
Total	8,326	443	429	476			

A detention ratio of General Cargo and Ro-Ro Ship were more than 10% and they were 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.)

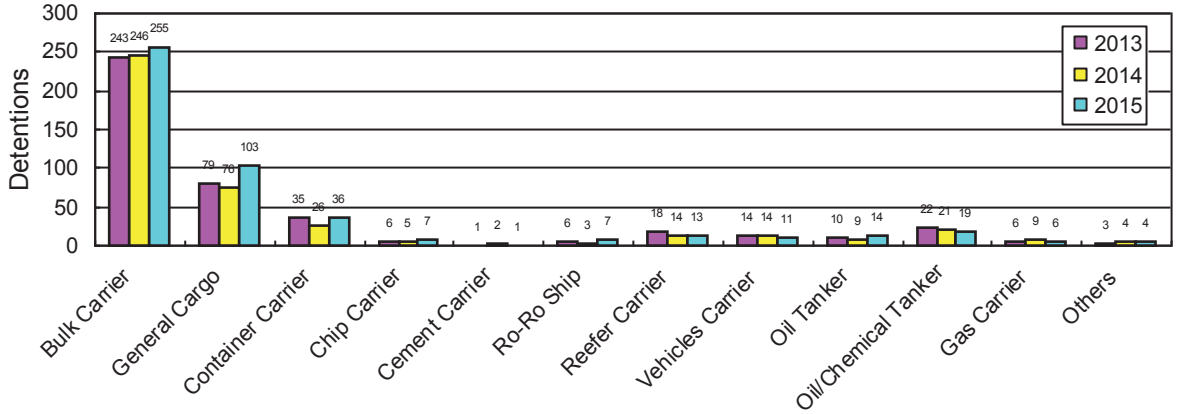


Fig. 2.2.2-1 Detention by Ship Type (NK)

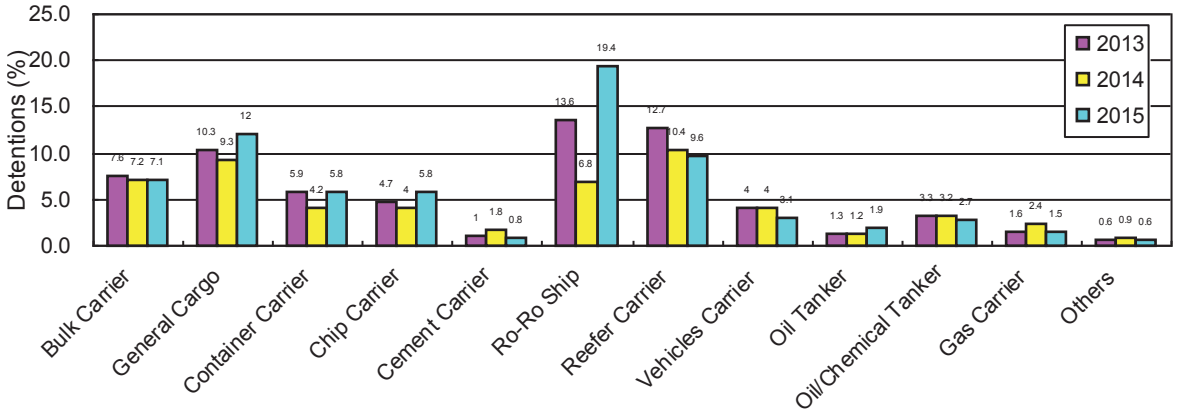


Fig. 2.2.2-2 Detention Ratio by Ship Type (%)

2.2.3 Detentions by ship's age

Table 2.2.3 Detentions by Ship's Age (NK)

Ship's age	Number of Registered Ships in 2015 (500GT or over)	Number of Detentions			Detention Ratio (%) (= Detentions / Registered Number in each year)		
		2013	2014	2015	2013	2014	2015
Up to 5 years old	3,016	56	60	56	1.8	2.0	1.9
Over 5 and up to 10	2,190	114	98	109	6.9	5.0	5.0
Over 10 and up to 15	1,100	77	79	85	7.0	7.3	7.7
Over 15 and up to 20	1,158	100	102	101	9.5	8.8	8.7
Over 20 and up to 25	537	43	43	72	10.6	9.7	13.4
Over 25	325	53	47	53	15.5	13.7	16.3
Total	8,326	443	429	476			

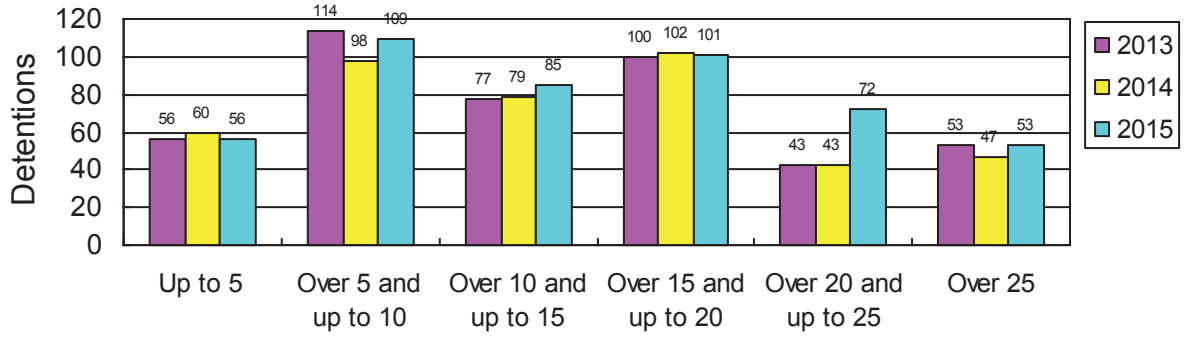


Fig. 2.2.3-1 Detentions by Ship's Age (NK)

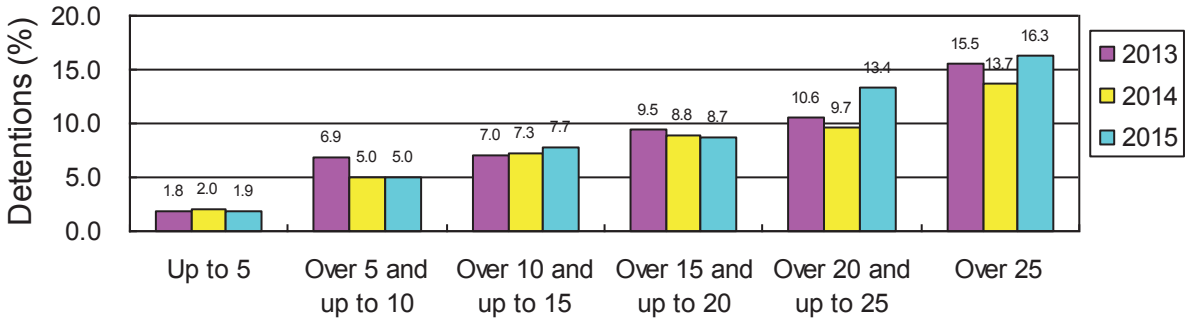


Fig. 2.2.3-2 Detention Ratio by Ship's Age (NK)

2.2.4 Detentions by ship size (Gross Tonnage)

Table 2.2.4 Detentions by Ship Size (Gross Tonnage) (NK)

Gross Ton (x 1,000)	Number of Registered Ships in 2015 (500GT or over)	Number of Detentions			Detention Ratio (%) (= Detentions / Registered Number in each year)		
		2013	2014	2015	2013	2014	2015
Up to 10	2,789	136	131	150	5.3	4.9	5.4
Over 10 and up to 20	1,331	100	100	109	7.9	7.5	8.2
Over 20 and up to 30	1,032	54	68	70	5.9	7.1	6.8
Over 30 and up to 40	1,208	74	58	73	7.0	5.2	6.0
Over 40 and up to 50	705	20	26	31	3.4	4.0	4.4
Over 50 and up to 60	324	16	10	9	4.8	3.0	2.8
Over 60 and up to 80	215	14	8	10	6.6	3.7	4.7
Over 80	722	29	28	24	4.4	4.0	3.3
Total	8,326	443	429	476			

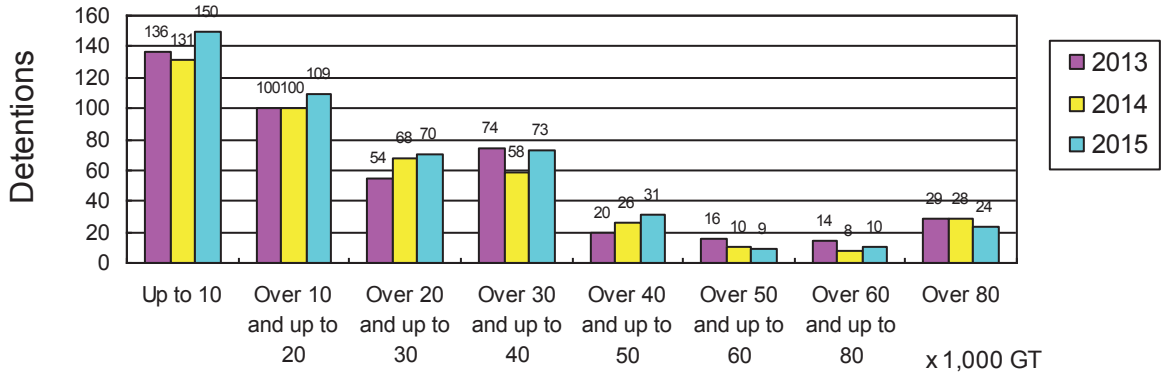


Fig.2.2.4-1 Detentions by Gross Tonnage (NK)

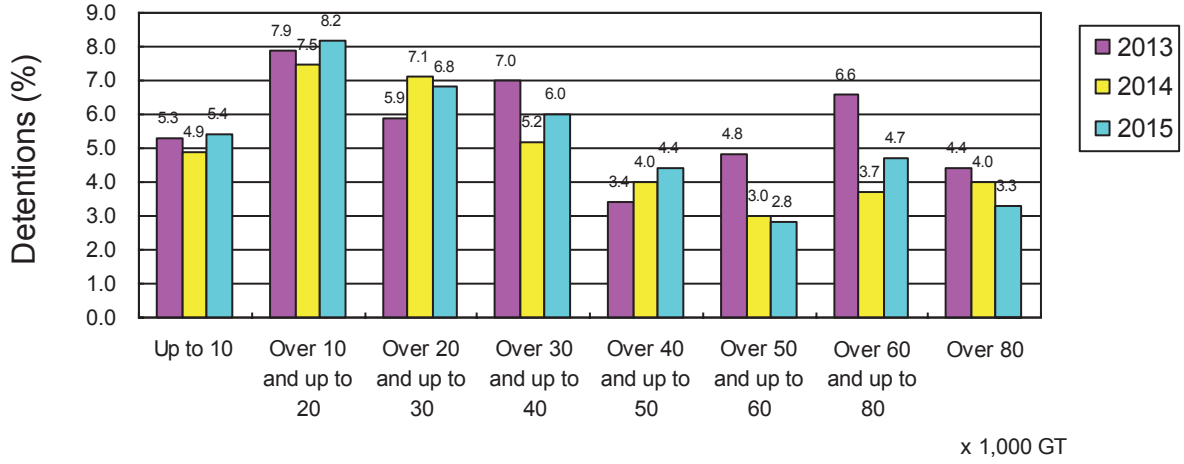


Fig. 2.2.4-2 Detention Ratio by Gross Tonnage (NK)

2.2.5 Detentions by Port State

Table 2.2.5
Detentions by Port State (NK)

Port State	2013	2014	2015
China	141	95	105
Australia	79	82	86
U.S.A.(*1)	23	32	46
Japan	27	22	18
Russian Federation	9	17	18
India	20	21	17
Indonesia	14	8	14
Hong Kong, China	2	7	13
Turkey	4	10	12
Italy	9	15	11
Republic of Korea	15	10	11
Germany	2	10	11
Egypt	5	10	9
United Kingdom	6	15	8
Canada	10	7	8
Greece	0	7	8
Singapore	4	3	8
Taiwan	1	3	8
Iran	5	5	7
Spain	3	8	6
France	6	4	6
Romania	2	0	6
Netherlands	7	4	4
Others	49	34	36
Total	443	429	476

(*1) Including Puerto Rico and Guam

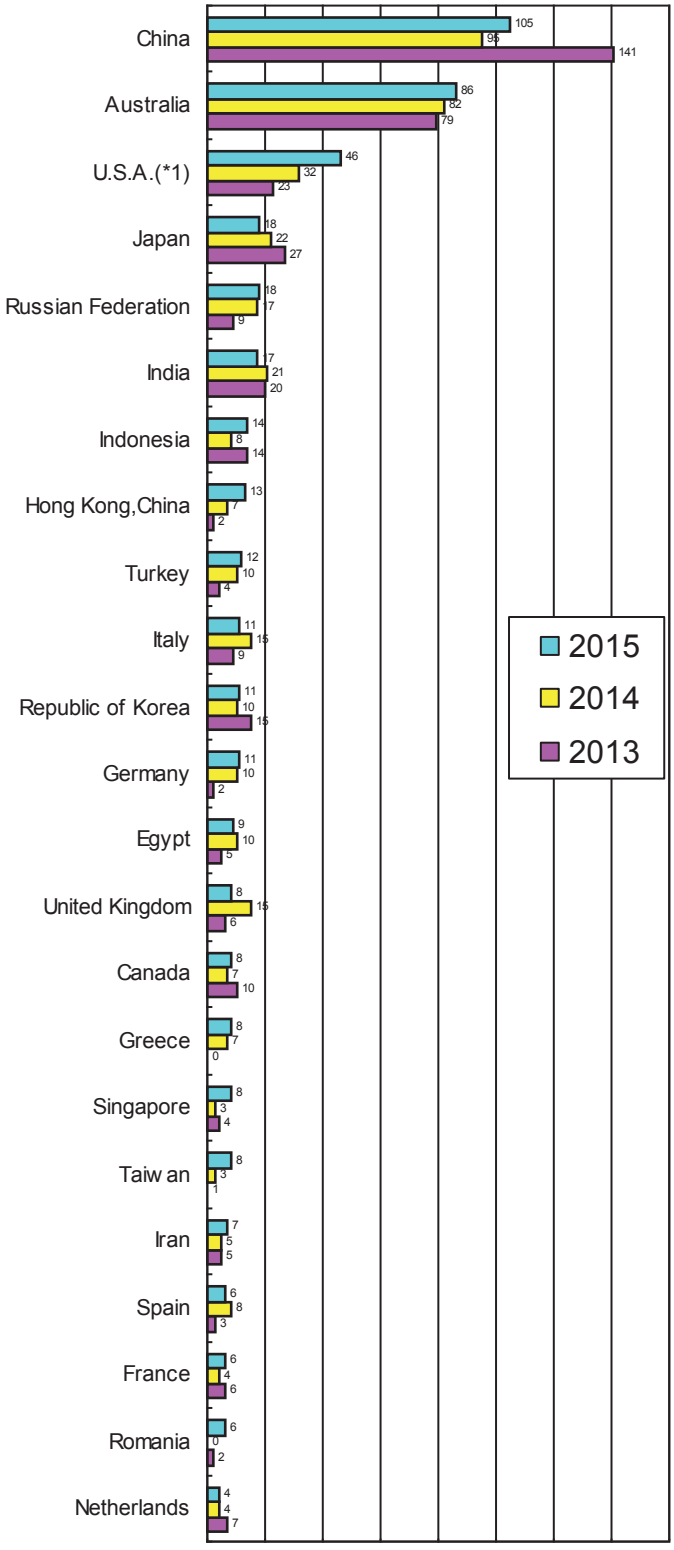


Fig. 2.2.5 Detentions by Port State (NK)

Number of ships detained by United States Coast Guard in 2015 increased approximately one and a half times as many as that of 2014.

2.2.6 Detentions by MOU (and USCG)

Table 2.2.6

Detentions by MOU (and USCG)(NK)

MOU(and USCG)	2013	2014	2015
Tokyo MOU	304	243	268
Paris MoU	59	87	83
USCG	23	32	46
Others	57	67	79
Total	443	429	476

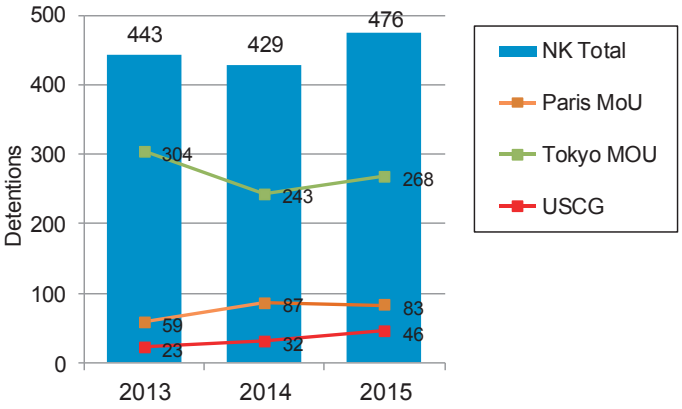


Fig. 2.2.6 Detentions by MOU(and USCG)(NK)

Compared with number of 2014, number of detention at Paris MoU decrease about 6%, otherwise number of detention at Tokyo MoU and USCG increase in 2015.

2.3 Analysis of Detainable Deficiencies

2.3.1 Detainable Deficiencies per Category

In 2015, a total of 1,337 detainable deficiencies were reported relating to 476 detentions, i.e., deficiencies which were serious enough to jeopardise the ship's seaworthiness, safety of the crew onboard, or to present an unreasonable 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 2015.

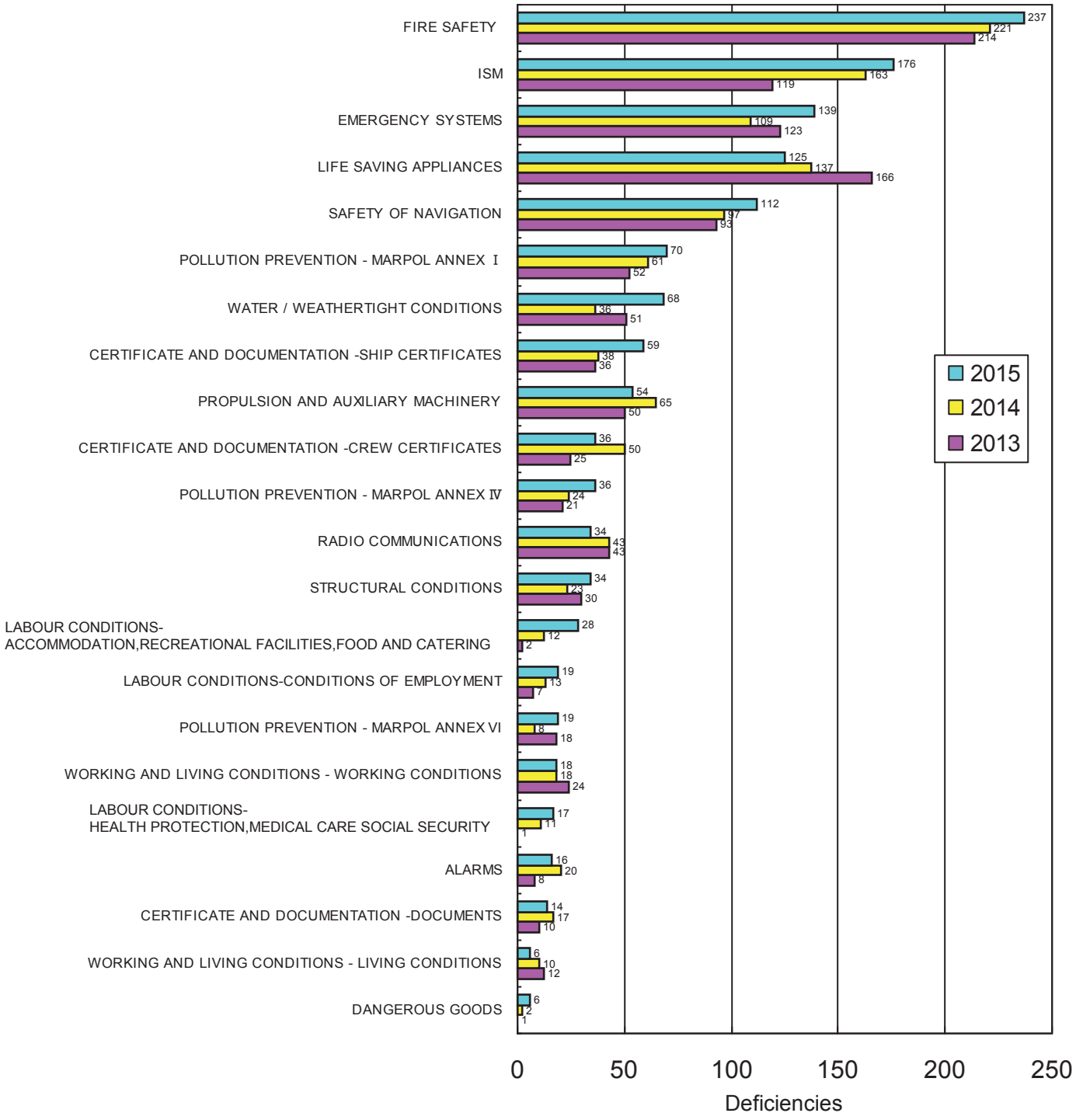


Fig. 2.3.1 Deficiencies per Category (NK)

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 2014. Lifeboats and emergency fire pumps continue to be the major items where most detainable deficiencies were found. The items reported from 2013 to 2015 are explained in detail in paragraphs (1) to (15) below.

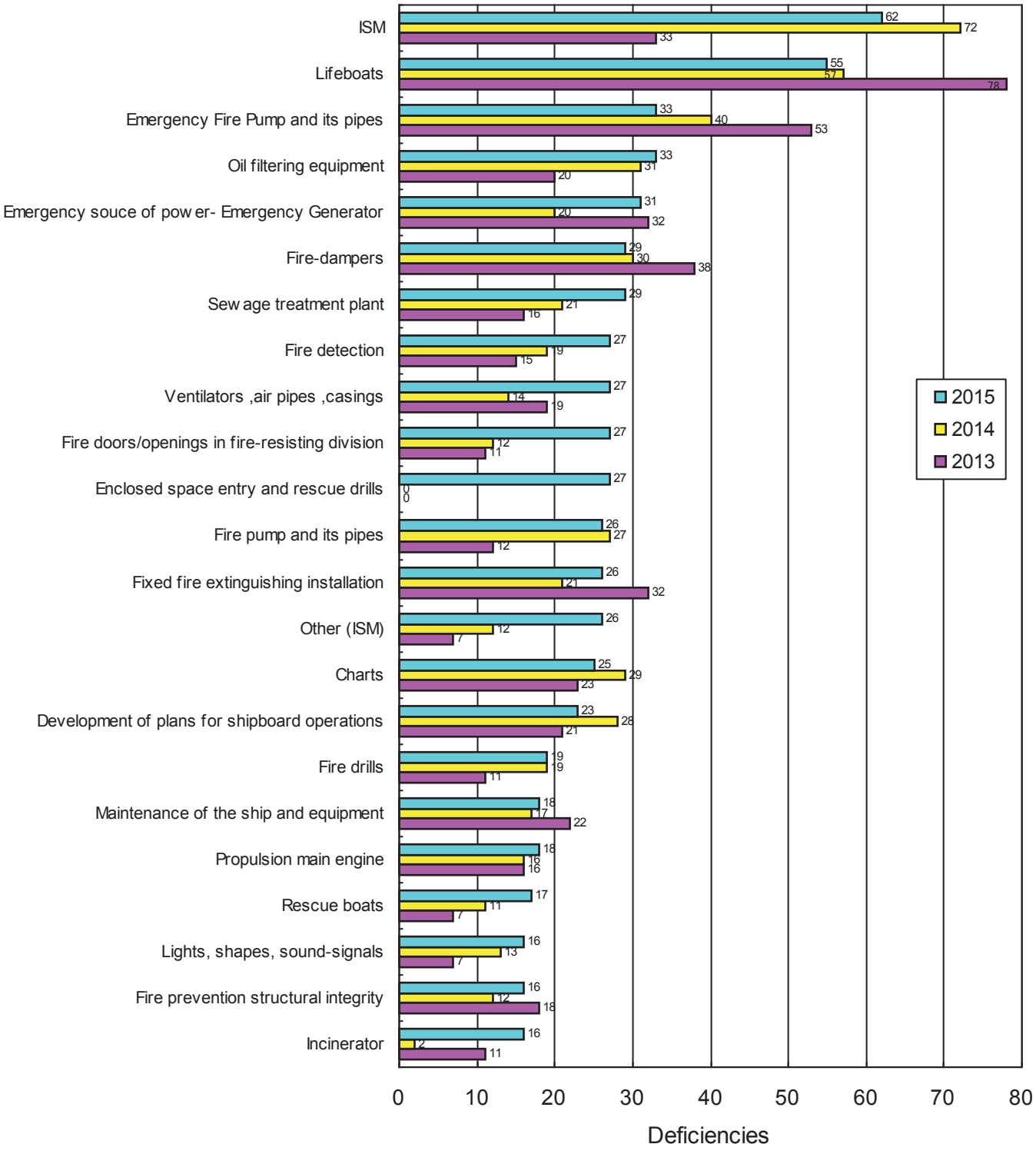


Fig. 2.3.2 Deficiencies reported Frequentry (NK)

(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	2013	2014	2015	Noted Deficiencies
Fire-dampers	38	30	29	Wasted and holed fire-dampers Operation failure of fire-dampers
Fire detection	15	19	27	Inoperable fire detection units
Doors within main vertical zone	11	12	27	Malfunction of self-closing devices
Fire pumps and its pipes	12	27	26	Wasted and holed fire main line
Fixed fire extinguishing system	32	21	26	Corroded and holed CO2 lines Operation failure of fire extinguishing systems
Fire prevention	18	12	16	Deteriorated non-combustible materials for cable penetrations in A-class divisions
Other (fire safety)	5	8	10	Engine Room bilges are filled with oil
Readily availability of fire fighting equipment	5	6	10	Inproper maintenance/control of fire fighting equipment
Fire fighting equipment and appliances	14	15	8	Wasted and holed fire hoses
Jacketed high pressure lines	12	7	8	Fuel oil leakage alarm main engine inoperative
Operation of Fire Protection Systems	4	5	8	Crew member are not familiar with fire protection systems

(2) ISM Related Deficiencies

Major types and details of deficiencies noted under the category of "ISM Related Deficiencies" are shown in Table 2.3.2-(2) below.

Table 2.3.2-(2) ISM Related Deficiencies

Item	2013	2014	2015	Noted Deficiencies
ISM	33	72	62	Implementation of SMS failed generally
Other (ISM related)	7	12	26	ISM system does not ensure etc.
Development of plans for shipboard operations	21	28	23	Ineffectiveness of implementation of the ISM
Maintenance of the ship and equipment	22	17	18	Inadequate implementation of SMS by crew Inadequate maintenance of ship's equipment
Resources and personnel	12	12	14	Ship's crew not familiar with operation of ship's equipment
Emergency preparedness	8	6	12	Failure of demonstrate emergency steering Not familiar with fire fighting equipment
Safety and environmental policy	6	0	8	Ineffectiveness of implementation of the ISM
Company responsibility and authority	0	3	7	Vessel notified company of defect and the company failed to rectify NC

(3) Emergency Systems

Major types and details of deficiencies noted under the category of "Emergency Systems " are shown in Table 2.3.2-(3) below.

Table 2.3.2-(3) Emergency Systems

Item	2013	2014	2015	Noted Deficiencies
Emergency Fire Pump and its pipes	53	40	33	Inoperable and unable to pressure the fire main
Emergency source of power-Emergency Generator	32	20	31	Emergency generator unable to start
Enclosed space entry and rescue drills	0	0	27	Enclosed spaces drill not planned and conducted as per requirement
Fire drills	11	19	19	Fire drill failed
Emergency lighting, batteries and switches	6	13	10	Deficient batteries/emergency generator Inoperable emergency lighting

(4) Life Saving Appliances

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

Table 2.3.2-(4) Life Saving Appliances

Item	2013	2014	2015	Noted Deficiencies
Lifeboats	78	57	55	Lifeboat engine not started Poor maintenance of rechargeable batteries Inadequate resetting of on-load release gears
Rescue boats	7	11	17	Rescue boat engine not started Rescue boat rudder control inoperable
Launching arrangements for rescue boats	5	5	5	Wasted / Holed davit

(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	2013	2014	2015	Noted Deficiencies
Charts	23	29	25	Navigation charts not updated Navigation charts for intended voyage not available
Lights, shapes, sound -signals	7	13	16	Inoperable navigation lights Navigation lights not supplied by batteries
Nautical publications	10	12	14	Nautical publications (tide table, list of lights, list of radio signals, etc.) not updated
Voyage date recorder(VDR)	12	9	12	Defective VDR/S-VDR Alarm panel showing "system error"

(6) MARPOL Annex I

Major types and details of deficiencies noted under the category of "MARPOL Annex I" are shown in Table 2.3.2-(6) below.

Table 2.3.2-(6) MARPOL Annex I

Item	2013	2014	2015	Noted Deficiencies
Oil filtering equipment (Oily-Water Separating Equipment)	20	31	33	Inoperable oily water separator Inoperable bilge pump Oily water inside overboard discharging line Ship's crew not familiar with operation of oil filtering equipment
15PPM alarm arrangements	12	11	13	Failure of 15PPM alarm

(7) Water/ Weathertight conditions

Major types and details of deficiencies noted under the category of "Water/ Weathertight conditions" are shown in Table 2.3.2-(7) below.

Table 2.3.2-(7) Water/ Weathertight conditions

Item	2013	2014	2015	Noted Deficiencies
Ventilators, air pipes, casings	19	14	27	Wasted/Holed ventilators and air pipes Damaged float of air pipe heads Damaged closing devices
Hatch Covers	14	6	12	Wasted / Holed hatch covers Wasted hatch cover cleats Deteriorated rubber packing
Doors	3	5	9	Doors not closed tightly

(8) Ship Certificate

Major types and details of deficiencies noted under the category of "Ship Certificate" are shown in the Table 2.3.2-(8) below.

Table 2.3.2-(8) Ship Certificate

Item	2013	2014	2015	Noted Deficiencies
Maritime Labor Certificate	0	1	7	MLC certificate expired, missing
Load Lines	4	2	6	Load line mark not complied with certificate

(9) 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-(9) below.

Table 2.3.2-(9) Propulsion and auxiliary machinery

Item	2013	2014	2015	Noted Deficiencies
Propulsion main engine	16	16	18	Defective oil mist detectors Leakage of cooling water
Auxiliary engine	12	19	11	Inoperable Auxiliary engines Leakage of oil
Other (machinery)	9	22	9	Excessive oil and bilge in engine room Oil leakage around auxiliary engines

(10) Crew Certificate

Major types and details of deficiencies noted under the category of "Crew Certificate" are shown in Table 2.3.2-(10) below.

Table 2.3.2-(10) Crew Certificate

Item	2013	2014	2015	Noted Deficiencies
Endorsement by flag State	6	18	10	Endorsement by flag State for officer expired or missing
Seafarer' employment agreement SEA	0	3	10	Expired, missing

(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	2013	2014	2015	Noted Deficiencies
Sewage treatment plant	16	21	29	Not operable
Other (MARPOL Annex IV)	3	0	6	Sewage is pumped directly to sea as seawage treatment plant defective

(12) Radio Communications

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

Table 2.3.2-(12) Radio Communications

Item	2013	2014	2015	Noted Deficiencies
MF/HF radio installation	14	13	11	Defective MF/HF radio apparatus Not operable by DC power
Reserve source of energy	9	9	9	GMDSS reserve source of energy failed
INMARSAT	2	2	6	Out of order

(13) Structural Conditions

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

Table 2.3.2-(13) Structural Conditions

Item	2013	2014	2015	Noted Deficiencies
Steering gear	4	4	5	Inoperable emergency steering Not familiar with operation of emergency steering
Other (Structure condition)	4	2	5	Corrosion/Cracks of deck

(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	2013	2014	2015	Noted Deficiencies
Sanitary facilities	0	5	9	Toilet/bath room defective/dirty
Provisions quantity	1	2	5	Insufficient quantity of fruits/vegetables
Other (Accommodation, recreational facilities)	0	0	4	MLC 2006 not effectively implemented

(15) 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-(15) below.

Table 2.3.2-(15) Labour Conditions-Condition of employment

Item	2013	2014	2015	Noted Deficiencies
Wages	3	8	9	Wages not paid
Calculation and payment	1	4	5	Overtime and compensation arrangements not provided

2.4 Analysis of Detainable Deficiencies by Port State

Most frequent detainable deficiencies per port state are shown in Tables 2.4.1 to 2.4.12 according to number of detentions reported from 2013 to 2015.

2.4.1 China

Table 2.4.1 China

Category of Deficiency	2013	2014	2015
Fire Safety	67	69	62
Lifesaving Appliances	58	40	31
Emergency Systems	42	16	27
ISM	18	17	26
Water/Weathertight conditions	24	4	26
Safety of Navigation	14	8	17
MARPOL Annex IV	7	12	14
MARPOL Annex I	19	19	13
Radio Communications	13	12	11
MARPOL Annex VI	8	2	10
Propulsion and auxiliary machinery	11	7	7
Alarms	0	12	5
Crew Certificates and Documents	7	10	4
MARPOL Annex V	17	2	4
Ships Certificates and Documents	15	5	3
Structural Conditions	9	0	3

Type of Deficiency	2013	2014	2015
Lifeboats	36	19	14
Fire prevention	10	12	11
Sewage treatment plant	4	10	11
Emergency source of power-Emergency Generator	11	3	11
Ventilators, air pipes, casings	14	0	11
Incinerator	6	0	9
Doors within main vertical zone	2	1	8
Development of plans for shipboard operations	4	5	7
Lights, shapes, sound-signals	3	4	7
Oil filtering equipment	11	11	6
Emergency Fire Pump and its pipes	22	9	6
Fire-dampers	11	7	6
Hatch Covers	6	1	6
Emergency preparedness	2	1	6

A total of 269 detainable deficiencies relating to 105 detentions were noted in 2015. (2.6 detainable deficiencies/detention)

2.4.2 Australia

Table 2.4.2 Australia

Category of Deficiency	2013	2014	2015
ISM	24	37	42
Emergency Systems	14	12	14
Lifesaving Appliances	19	21	12
Fire safety	14	7	12
Water/Weathertight conditions	10	5	7
MARPOL Annex IV	6	4	7
Labour Conditions – Accommodation, recreational facilities, food and catering	0	3	6

Type of Deficiency	2013	2014	2015
Other (ISM)	4	8	24
Development of plans for shipboard operations	14	16	13
Sewage treatment plant	6	4	7
Emergency source of power-Emergency Generator	3	5	6
Ventilators, air pipes, casings	1	2	6
Lifeboats	3	10	5
Emergency Fire Pump and its pipes	9	6	5
Fire-dampers	6	5	5
Operational readiness of lifesaving appliances	11	8	3
Wages	0	2	3
Oil filtering equipment	0	0	3
Other (Accommodation, recreational facilities)	0	0	3

A total of 122 detainable deficiencies relating to 86 detentions were noted in 2015. (1.4 detainable deficiencies/detention)

2.4.3 U.S.A.

Table 2.4.3 U.S.A.

Category of Deficiency	2013	2014	2015
Fire Safety	14	14	20
ISM	4	14	17
Lifesaving Appliances	1	9	12
MARPOL Annex I	2	5	10
Emergency Systems	1	3	6
Structural Conditions	1	1	4

Type of Deficiency	2013	2014	2015
Fixed fire extinguishing installation	9	5	9
Maintenance of the ship and equipment	1	4	6
Oil filtering equipment	1	3	5
Fire drills	1	2	5
Company responsibility and authority	0	1	5
Safety and environmental policy	1	0	5

A total of 85 detainable deficiencies relating to 46 detentions were noted in 2015. (1.8 detainable deficiencies/detention)

2.4.4 Japan

Table 2.4.4 Japan

Category of Deficiency	2013	2014	2015
Lifesaving appliances	7	2	5
ISM	10	9	4
MARPOL Annex I	0	0	4

Type of Deficiency	2013	2014	2015
Lifeboats	5	2	5
Resources and personnel	6	6	3
Fire drills	6	7	2

A total of 23 detainable deficiencies relating to 18 detentions were noted in 2015. (1.3 detainable deficiencies/detention)

2.4.5 Russian Federation

Table 2.4.5 Russian Federation

Category of Deficiency	2013	2014	2015
Safety of Navigation	6	12	10
Lifesaving appliances	8	8	8
Labour Conditions – Health protection, medical care, social security	1	0	3

Type of Deficiency	2013	2014	2015
Lifeboats	6	5	6
Lights, shapes, sound-signals	1	2	3
Echo – sounding device	0	0	2
Navigation bridge visibility	0	0	2

A total of 27 detainable deficiencies relating to 18 detentions were noted in 2015. (1.5 detainable deficiencies/detention)

2.4.6 India

Table 2.4.6 India

Category of Deficiency	2013	2014	2015
Fire Safety	9	12	15
Emergency Systems	13	9	7
MARPOL Annex I	4	5	6

Type of Deficiency	2013	2014	2015
Emergency Fire Pump and its pipes	8	9	5
Sewage treatment plant	3	4	3
Fire pumps and its pipes	0	4	3

A total of 52 detainable deficiencies relating to 17 detentions were noted in 2015. (3.1 detainable deficiencies/detention)

2.4.7 Indonesia

Table 2.4.7 Indonesia

Category of Deficiency	2013	2014	2015
Fire Safety	11	2	8
ISM	4	1	4
MARPOL Annex VI	1	0	4

Type of Deficiency	2013	2014	2015
Incinerator	1	0	4
Fire-dampers	4	1	3
Doors within main vertical zone	2	0	3

A total of 29 detainable deficiencies relating to 14 detentions were noted in 2015. (2.1 detainable deficiencies/detention)

2.4.8 Hong Kong

Table 2.4.8 Hong Kong

Category of Deficiency	2013	2014	2015
Fire Safety	3	7	7
Water/Weathertight conditions	0	2	7
ISM	3	1	6
Emergency Systems	0	0	6

Type of Deficiency	2013	2014	2015
Oil filtering equipment	0	2	2
Lifeboats	2	1	2
MF/HF radio installation	1	1	2

A total of 42 detainable deficiencies relating to 13 detentions were noted in 2015. (3.2 detainable deficiencies/detention)

2.4.9 Turkey

Table 2.4.9 Turkey

Category of Deficiency	2013	2014	2015
Fire Safety	3	7	5
Emergency Systems	0	2	5
Lifesaving appliances	2	2	4

Type of Deficiency	2013	2014	2015
Emergency Fire Pump and its pipes	0	2	3
Emergency lighting, batteries and switches	0	0	2
Readily availability of fire fighting equipment	0	0	2

A total of 24 detainable deficiencies relating to 12 detentions were noted in 2015. (2.0 detainable deficiencies/detention)

2.4.10 Italy

Table 2.4.10 Italy

Category of Deficiency	2013	2014	2015
Emergency Systems	4	8	11
ISM	8	13	9
Fire Safety	12	24	6

Type of Deficiency	2013	2014	2015
ISM	6	13	9
Enclosed space entry and rescue drills	0	0	6
Fire drills	1	3	3

A total of 51 detainable deficiencies relating to 11 detentions were noted in 2015. (4.6 detainable deficiencies/detention)

2.4.11 Republic Korea

Table 2.4.11 Republic Korea

Category of Deficiency	2013	2014	2015
ISM	9	5	11
Fire Safety	9	2	3

Type of Deficiency	2013	2014	2015
Resources and personnel	1	0	4
Oil filtering equipment	0	1	2
Reports and analysis of nonconformities, accidents and hazardous occurrences	0	1	2

A total of 29 detainable deficiencies relating to 11 detentions were noted in 2015. (2.6 detainable deficiencies/detention)

2.4.12 Germany

Table 2.4.12 Germany

Category of Deficiency	2013	2014	2015
Fire safety	1	11	27
Safety of Navigation	5	14	25
ISM	1	10	11

Type of Deficiency	2013	2014	2015
ISM	1	10	10
Charts	3	5	7
Other (fire safety)	0	3	5

A total of 130 detainable deficiencies relating to 11 detentions were noted in 2015. (11.8 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 issued by the Society (hereafter, "NK SMC ships") based on the PSC Inspection Reports having been obtained.

Tables 3.1.1 thru 3.1.3 show the trends and the details of the registered number of the NK SMC ships, which is used as the matrix of the subsequent statistics.
About 90% of the NK SMC ships are classed with this Society.

Table 3.1.1. Number of NK SMC Ships (per Class.)

Classification	2013		2014		2015	
NK class	4328	88.3%	4599	89.2%	4789	89.3%
Other class	576	11.7%	558	10.8%	574	10.7%
Total	4904		5157		5363	

Table 3.1.2. Number of NK SMC Ships (per Flag)

Flag	2013		2014		2015	
Panama	2591	52.8%	2635	51.1%	2655	49.5%
Singapore	568	11.6%	599	11.6%	609	11.4%
Hong Kong	289	5.9%	314	6.1%	337	6.3%
Marshall Islands	270	5.5%	297	5.8%	321	6.0%
Liberia	221	4.5%	285	5.5%	307	5.7%
Japan	221	4.5%	232	4.5%	250	4.7%
Malta	139	2.8%	159	3.1%	185	3.4%
Bahamas	115	2.3%	116	2.2%	116	2.2%
Turkey	84	1.7%	66	1.3%	81	1.5%
Thailand	70	1.4%	71	1.4%	77	1.4%
Malaysia	54	1.1%	62	1.2%	71	1.3%
Cyprus	65	1.3%	69	1.3%	69	1.3%
Other Flag	218	–	252	–	285	–
Total	4904		5157		5363	

Table 3.1.3. Number of NK SMC Ships (per Ship Type specified in SOLAX Chapter IX)

Type of Ship	2013		2014		2015	
Bulk Carrier	2062	39.1%	2263	40.9%	2340	40.7%
Other Cargo Ship	1806	34.3%	1852	33.5%	1916	33.3%
Oil Tanker	424	8.0%	448	8.1%	465	8.1%
Chemical Tanker*	375	7.1%	347	6.3%	377	6.6%
Gas Carrier	232	4.4%	242	4.4%	257	4.5%
MODU	2	0.0%	2	0.0%	4	0.1%
Passenger Ship	2	0.0%	2	0.0%	3	0.1%
High Speed Craft	1	0.0%	1	0.0%	1	0.0%
Total	4904		5157		5363	

Note: * "Chemical Tanker" includes Oil/ Chemical Tanker.

3.2 Statistics of Detentions of NK SMC Ships

In 2015, the number of the detentions of NK SMC ships was 339, which is 6.3% of the total 5363 NK SMC ships. This ratio (hereafter, "detention ratio") has been almost flat since 2013.

Tables 3.2.1 and 3.2.2 show the number of detentions, ships and the detention ratio of NK SMC ships per Flag and ship type, respectively.

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

Flag	2013			2014			2015		
	(Ⅰ)	(II)	(III)	(Ⅰ)	(II)	(III)	(Ⅰ)	(II)	(III)
Panama	197	2591	7.6%	183	2635	6.9%	193	2655	7.3%
Singapore	12	568	2.1%	10	599	1.7%	8	609	1.3%
Hong Kong	12	289	4.2%	8	314	2.5%	12	337	3.6%
Marshall Islands	15	270	5.6%	18	297	6.1%	6	321	1.9%
Liberia	24	221	10.9%	34	285	11.9%	29	307	9.4%
Japan	5	221	2.3%	2	232	0.9%	3	250	1.2%
Malta	11	139	7.9%	12	159	7.5%	21	185	11.4%
Bahamas	7	115	6.1%	5	116	4.3%	9	116	7.8%
Turkey	8	84	9.5%	4	66	6.1%	8	81	9.9%
Thailand	8	70	11.4%	4	71	5.6%	5	77	6.5%
Malaysia	1	54	1.9%	0	62	0.0%	4	71	5.6%
Cyprus	6	65	9.2%	3	69	4.3%	6	69	8.7%
Other Flag	19	218	8.7%	19	252	7.5%	35	285	12.3%
Total	325	4905	6.6%	302	5157	5.9%	339	5363	6.3%

Note: (Ⅰ): Nr. of Detentions, (Ⅱ) Nr. of NK SMC Ships, (III)Detention Ratio＝(I)／(II) %

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

Type of Ship	2013			2014			2015		
	(Ⅰ)	(II)	(III)	(Ⅰ)	(II)	(III)	(Ⅰ)	(II)	(III)
Bulk Carrier	178	2062	8.6%	180	2263	8.0%	183	2340	7.8%
Other Cargo Ship	117	1806	6.5%	101	1852	5.5%	132	1916	6.9%
Oil Tanker	8	424	1.9%	6	448	1.3%	9	465	1.9%
Chemical Tanker*	16	375	4.3%	8	347	2.3%	10	377	2.7%
Gas Carrier	6	232	2.6%	7	242	2.9%	4	257	1.6%
MODU	0	2	0.0%	0	2	0.0%	0	4	0.0%
Passenger Ship	0	2	0.0%	0	2	0.0%	1	3	33.3%
High Speed Craft	0	1	0.0%	0	1	0.0%	0	1	0.0%
Total	325	4904	6.6%	302	5157	5.9%	339	5363	6.3%

Note: 1. (Ⅰ): Nr. of Detentions, (Ⅱ) Nr. 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 of NK SMC Ships and the number of the cases where detainable deficiencies related to ISM Code (hereafter "ISM detainable deficiency") were raised, and the frequency of ISM detainable deficiencies per port state.

In Australia, the frequency of ISM detainable deficiencies has been more than 50% in the last 2 years.

In EU countries, the frequency of ISM detainable deficiencies was more than 50 %. Especially in Germany and Italy, it was about 90% in the last 2 years.

Also in China, the frequency is becoming higher; more than 25% in 2015.

In USA it accounted for more than 40% in 2014 and 2015.

In Japan and Korea, although ISM detainable deficiencies were pointed out, the numbers were too small to analyze their trends.

In other countries, the frequency of ISM detainable deficiencies was less than 20% in 2015.

Table 3.2.3. Number of Detentions and Frequency of ISM Detainable Deficiencies per Port State

Port State		2013			2014			2015		
		(I)	(II)	(III)	(I)	(II)	(III)	(I)	(II)	(III)
Australia		24	70	34.3%	40	75	53.3%	39	74	52.7%
China		15	92	16.3%	14	64	21.9%	20	78	25.6%
Japan		8	23	34.8%	6	19	31.6%	4	16	25.0%
Korea		6	13	46.2%	2	8	25.0%	5	8	62.5%
EU	Germany	2	3	66.7%	8	8	100.0%	7	8	87.5%
	UK	6	7	85.7%	11	13	84.6%	3	4	75.0%
	Italy	4	6	66.7%	11	12	91.7%	8	9	88.9%
	Other EU Members	16	23	69.6%	13	17	76.5%	13	24	54.2%
USA		2	18	11.1%	11	24	45.8%	16	38	42.1%
Other Port States		15	70	21.4%	22	62	35.5%	14	80	17.5%
Total		96	325	29.5%	127	302	42.1%	129	339	38.1%

Note: (I): Nr. of the cases where ISM detainable deficiencies were raised

(II): Nr. of detentions of NK SMC ships. (notwithstanding the reason of detention)

(III): Frequency of ISM detainable deficiencies = (I) / (II) %

3.3 Analysis of ISM Detainable Deficiencies

This clause introduces the analysis of ISM detainable deficiencies raised in Australia and EU countries, where ISM detainable deficiencies were raised very frequently as shown in Table 3.2.3. Deficiency Codes of ISM deficiencies, specified by MOUs are as follows:

- Paris MOU : "15150-ISM" only
- Tokyo MOU, USCG : Deficiency Codes corresponding to Elements of ISM Code. See Table 3.3.

Table 3.3. Deficiency Code applied for ISM Deficiencies (Tokyo MOU, USCG)

Deficiency Code		(ISM Code Element)	Defective Item
Tokyo MOU	USCG		
15101	2510	2	Safety and Environmental Policy
15102	2515	3	Company Responsibility and Authority
15103	2520	4	Designated Person(s)
15104	2525	5	Masters Responsibility and Authority
15105	2530	6	Resources and Personnel
15106	2535	7	Shipboard Operations
15107	2540	8	Emergency Preparedness
15108	2545	9	Reports of Non-conf., accidents & hazardous occur.
15109	2550	10	Maintenance of the ship and equipment
15110	2555	11	Documentation- ISM
15111	2560	12	Company Verification, Review and Evaluation
15112	2565	13	Certification, Verification and Control
15199	-	-	Other (ISM)

3.3.1. Australia

Table 3.3.1(a) shows the number of the cases where ISM detainable deficiencies were raised (per Deficiency Code). Table 3.3.1 (b) shows the deficiencies regarded as the evidences of ISM detainable deficiencies.

In many cases, the description of the ISM detainable deficiency was "The deficiencies marked (ISM) are evidences of failure or luck of effectiveness of implementation of ISM" or similar. That is to say, during the PSC inspection "hardware deficiencies of structure, equipment, etc.", "documentary deficiencies of charts, nautical publications, log, records, etc." and/or "operational deficiencies of drills, etc." as shown in Table 3.3.1(b) were pointed out at first. Then, these were regarded as the evidences of the problem with implementation of SMS, which resulted in the detentions due to ISM deficiencies. Deficiency Codes of ISM detainable deficiencies were determined, considering the corresponding elements of ISM Code with which the findings were the evidences of non-compliance (NC). For example, in case where the evidence was "the crew cannot wear the fireman's outfit properly", it was regarded as NC related to ISM Code 8 "emergency preparedness" of Deficiency Code"15107. Where the evidences were related to two or more elements of ISM Code, "15199- Other(ISM)"was used.

ISM detainable deficiencies with Code "15199-Others (ISM)" were most frequently raised. Meanwhile, within the deficiencies which correspond to the single element of ISM Code, most of them were "15106- Shipboard Operations". Many of the evidences were related to "work & rest hours", "charts" and "voyage planning". In some cases, ISM detainable deficiencies were raised with concrete descriptions of the detainable items, and many of them were missing or non-updated charts.

Judging from the above, it is supposed that the Australian authority (AMSA) placed great significance on Safety of Navigation (especially, prevention of course-off), and the PSC inspections were carried out in accordance with this policy.

On the other hand, ISM detainable deficiencies were also raised where the followings were found:

- deficiencies pointed out in the previous PSC inspection but left untreated or insufficiently treated
- deficiencies having been recognized by crew before port entry but not informed to port authorities.

Reference: AMSA Website- "Port State Control in Australia"

(URL) http://www.amsa.gov.au/vessels/ship-safety/port-state-control/index.asp

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

Deficiency Code	(ISM Code Element)	Defective Item	Nr
15101	2	Safety and Environmental Policy	0
15102	3	Company Responsibility and Authority	0
15103	4	Designated Person(s)	0
15104	5	Masters Responsibility and Authority	0
15105	6	Resources and Personnel	1
15106	7	Shipboard Operations	15
15107	8	Emergency Preparedness	3
15108	9	Reports of Non-conf., accidents & hazardous occur.	1
15109	10	Maintenance of the ship and equipment	1
15110	11	Documentation- ISM	0
15111	12	Company Verification, Review and Evaluation	0
15112	13	Certification, Verification and Contorol	0
15199	—	Other (ISM)	21

Table 3.3.1. (b) Deficiencies regarded as Evidences of ISM Detainable Deficiencies (Australia)

Def. Code	Deficiency	Nr.	Remark	Convention
01306	Schedules for Watch Keeping Personnel	10	-	STCW Chap. VIII MLC, 2006 -Title 2
01307	Table of working hours			
01308	Record of Rest			
03105	Covers (Hatchway-, Portable-, Tarpaulins, etc.)	5	-	SOLAS - Chap. II-1/ II-2
03108	Vetilators, Air pipes, Casings	6	-	
07105	Fire doors/ openingsin fire-resisting divisions	6	Fire Doors -hooked/tied open	
10105	Magnetic Compass	5	-	SOLAS Chap. V
10106	Compass Correction Log			
10111	Charts	24	-	
10127	Voyage or Passage Plan	12	-	
10135	Monitoring of Voyage or Passage Plan	10	Failure of position monitoring, plotting, etc.	
11101	Lifeboats	9	Failure of starter, on-load release gear, etc.	SOLAS Chap. III
11131	Onboard Training and Instruction	7	-	
14402	Sewage Treatment Plant	5	-	MARPOL -Annex IV
Others	--	145	-	-

3.3.2. EU Countries

For ISM deficiencies, Paris MOU specifies single Deficiency Code "15150-ISM". Therefore, the Deficiency Code cannot be utilized to analyze ISM detainable deficiencies raised in EU countries.
In almost all the cases the description of ISM deficiency is "The deficiencies marked (ISM) are evidences of failure or luck of effectiveness of implementation of ISM ", or similar. In most cases, during the PSC inspection "hardware deficiencies of structure, equipment, etc.", "documentary deficiencies of charts, nautical publications, log, records, etc." and/or "operational deficiencies of drills, etc." were pointed out at first. Then, these were regarded as the evidences of the problem with implementation of SMS, which resulted in detentions due to ISM deficiencies.
Further, the required action like "Safety management audit by the Administration is required before departure of the ship" was often added to the above typical description.
Table 3.3.2 shows the categories of the deficiencies regarded as evidences of ISM detainable deficiencies.

As evidences of ISM detainable deficiencies, the ones related to "Fire Safety" and "Safety of Navigation" were pointed out frequently. However, other categories of deficiencies were also pointed out in many cases.
That is to say, there is no particular category of deficiencies which tends to be regarded as the evidence of ISM detainable deficiency. In other words, the deficiencies in all the categories were regarded as the evidences of ISM detainable deficiencies.

The deficiencies in the area of MLC, 2006, especially concerning Title 3 "Accommodation, Recreational Facilities Food and Catering" and Title 4 "Health Protection, Medical Care, Welfare and Social Security Protection" were also treated as evidences of ISM detainable deficiencies.

For the frequent deficiencies pointed out in each Port State in EU, please see Clause 2.4 in Chapter 2.

Table 3.3. 2. Deficiency regarded as Evidence of ISM Detainable Deficiencies （in EU Countries）

Def. Code	Category of Deficiency			Number
01	Certificate & Documentation	011	Ship Certificates	31
		012	Crew Certificates	25
		013	Documents	18
02	Structural Conditions			21
03	Water/ Weathertight Conditions			26
04	Emergency Systems			58
05	Radio Communications			12
06	Cargo Operation including Equipment			0
07	Fire Safety			101
08	Alarms			4
09	Working and Living Conditions	091	Living Conditions	10
		092	Working Conditions	13
10	Safety of Navigation			80
11	Life Saving Appliances			49
12	Dangerous Goods			0
13	Propulsion and Auxiliary Machinery			34
14	Pollution Prevention	141	MARPOL I	14
		142	MARPOL II	0
		143	MARPOL III	0
		144	MARPOL IV	4
		145	MARPOL V	9
		146	MARPOL VI	6
		147	Anti Fouling	0
16	ISPS			1
18	MLC, 2006	181	Minimum Requirements	0
		182	Conditions of Employment	9
		183	Accommodation, etc.	35
		184	Health Protection, etc.	33
99	Other			3

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.

Tables 4.1.1 thru 4.1.3 show the trends and the details of the registered number of the NK MLC ships, which is used as the matrix of the subsequent statistics.

About 87% of the NK MLC ships are classed with this Society.

Table 4.1.1. Number of NK MLC Ships (per Class.)

Classification	2013		2014		2015	
NK class	3836	87.0%	4127	86.8%	4288	86.5%
Other class	572	13.0%	627	13.2%	672	13.5%
Total	4408		4754		4960	

Table 4.1.2. Number of NK MLC Ships (per Flag)

Flag	2013		2014		2015	
Panama	2360	53.5%	2469	51.9%	2498	50.4%
Singapore	504	11.4%	534	11.2%	566	11.4%
Marshall Islands	305	6.9%	334	7.0%	362	7.3%
Hong Kong*	303	6.9%	328	6.9%	343	6.9%
Japan	199	4.5%	230	4.8%	249	5.0%
Malta	156	3.5%	168	3.5%	187	3.8%
Bahamas	120	2.7%	123	2.6%	123	2.5%
Liberia	50	1.1%	95	2.0%	118	2.4%
Turkey*	79	1.8%	73	1.5%	83	1.7%
Cyprus	71	1.6%	72	1.5%	69	1.4%
Thailand*	57	1.3%	62	1.3%	65	1.3%
Other Flag	204	--	266	--	297	--
Total	4408		4754		4960	

Note: * Not ratify MLC, 2006. Voluntary "Statement of Compliance" has been issued.

Table 4.1.3. Number of NK MLC Ships (per Ship Type specified in SOLAX Chapter IX)

Type of Ship	2013		2014		2015	
Bulk Carrier	1936	43.9%	2133	44.9%	2202	44.4%
Other Cargo	1528	34.7%	1653	34.8%	1726	30.0%
Oil Tanker	406	9.2%	410	8.6%	427	7.4%
Chemical Tanker *	337	7.6%	337	7.1%	365	6.3%
Gas Carrier	198	4.5%	217	4.6%	234	4.1%
Passenger Ship	3	0.1%	4	0.1%	5	0.1%
MODU	0	0.0%	0	0.0%	1	0.02%
Total	4408		4754		4960	

Note: * "Chemical Tanker" includes Oil/ Chemical Tanker.

4.2 Statistics of Detentions of NK MLC Ships

MLC, 2006 has been in force since 20 August 2013. As of the end of 2015, 70 countries have ratified the convention.

Among the MOUs, Paris MOU is the only one that declares to carry out PSC inspections on MLC,2006 matters. Among 20 member countries (including Hong Kong) of Tokyo MOU, as of the end of 2015, the convention has been ratified by 14 countries and already in force in 10 countries. (China ratified the convention in November 2015 and will put in force on 12 November 2016.)
USA has not yet ratified this convention.
Due to the above situation, the number of the port states, which carry out PSC inspections based on MLC,2006, are limited at present.

The numbers of detentions of NK MLC ships due to the deficiencies related to working and living conditions (hereafter, MLC deficiencies) were 14 in 2014 and 27 in 2015. Table 4.2 shows the number of detentions due to MLC deficiencies per Port State, In 2015, detentions due to MLC deficiencies occurred in Australia, Canada, EU Countries and Russia. 17 cases out of 27 cases were in EU countries.

Table 4.2.
Number of Detentions due to MLC Deficiencies (per Port State)

Port State		2014	2015
Australia		1	6
Canada		2	1
EU	Germany	3	6
	France	1	3
	Other EU Members	5	8
Russia		1	3
Other Port States		1	0
Total		14	27

4.3 Analysis of MLC Detainable Deficiencies

This clause introduces the analysis of MLC detainable deficiencies which were pointed out for NK MLC ships in 2014 and 2015.

In this clause, the deficiencies with Codes listed in Table 4.3.1 are defined as MLC deficiencies.

Table 4.3.2 shows the number of MLC detainable deficiencies pointed out in 2014 and 2015.

As there were the cases where two or more MLC detainable deficiencies were raised during one inspection, numbers of detentions and MLC detainable deficiencies are not equal.

Among MLC detainable deficiencies, Deficiency Code 01220 "Seafarer's Employment Agreement (SEA)", 18203 "Wages" and 18302 "Sanitary Facilities" were pointed out frequently.

Deficiency Code 01307 "Max. Hours of Work or Min, Hours of Rest" and 01308 "Records of Seafarer`s Daily Hours of Work or Rest" are the requirements of both MLC, 2006 and STCW. In many cases, the deficiencies with Code 01308 were raised in Australia in 2015, and most of which were regarded as the evidences of ISM detainable deficiencies. (See Chapter 3, Clause 3.3.1)

Deficiency Code 18300 series and 18400 series are corresponding to Title 3 and Title 4 of MLC, 2006, respectively. These deficiencies were pointed out as MLC detainable deficiencies, and also, in many cases in EU countries, treated as the evidences of ISM detainable deficiencies. (See Chapter 3, Clause 3.3.2)

To sum up, in Australia and EU countries, although MLC deficiencies were not regarded as detainable, they were often treated as the evidences of ISM detainable deficiencies.

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)
01000		**Certificates & Documentation**
012	--	Crew Certificate
	01218	Medical Certificate
	01219	Training and Qualification MLC– Personal Safety Training
	01220	Seafarer`s Employment Agreement (SEA)
	01221	Record of Employment
013	--	Document
	01307	Max. Hours of Work or Min, Hours of Rest (Table of Working Hours)
	01308	Records of Seafarer's Daily Hours of Work or Rest (Records of Rest)
	01330	Procedure for Complaint under MLC, 2006
	01331	Collective Bargaining Agreement
18000		**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. Numbers of MLC Detainable Deficiencies (per Deficiency Code)(2014 – 2015)

Def. Code	Category/ Item	Nr.	Port State (s)
012	**Crew Certificate**		
01218	Medical Certificate	1	Sweden
01220	Seafarer`s Employment Agreement (SEA)	9	Belgium, Germany, France, UK and Gibraltar
013	**Document**		
01308	Records of Seafarer' s Daily Hours of Work or Rest	2	UK, Russia
01330	Procedure for Complaint under MLC, 2006	2	Germany
01331	Collective Bargaining Agreement	1	Canada
182	**Conditions of Employment**		
18201	Fitness for Duty– Work and Rest Hours	2	Australia, Korea
18203	Wages	12	Australia, Belgium, Canada, Cyprus, Germany, Netherland, Russia
18204	Calculation and Payment	5	Germany, France, Russia
18299	Other (Conditions of Employment)	2	Canada, Germany
183	**Accommodation, Recreational Facilities, Food and Catering**		
18302	Sanitary Facilities	9	Germany, Spain, Gibraltar, Netherland
18314	Provisions Quantity	4	Australia, Canada, France
18324	Cold Room, Cold Room Cleanliness, Cold Room Temperature	4	Germany, Spain, France, Greece
–	(Other Deficiencies with Code 183xx)	5	––
184	**Health Protection, Medical Care, Social Security**		
18401	Medical Equipment, Medical Chest, Medical Guide	2	Germany, France
–	(Other Deficiencies with Code 184xx)	12	––

(Reference)

PSC Inspection on Working and Living Conditions in Countries not ratifying MLC, 2006

As mentioned in the former clauses, rest hours (Deficiency Code 01307 and 01308) are the requirement of both MLC, 2006 and STCW. Therefore, it is subject to PSC inspections also in the countries which have not ratified 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" (In USA, 0200 - 0500 and 0800 series) 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 4.3.3 shows the number of detainable deficiencies with Deficiency Code 09000 series (ILO detainable deficiencies) pointed out in 2014 and 2015.

Table 4.3.3. Numbers of ILO Detainable Deficiencies

(per Deficiency Code)(2014 - 2015)

Def. Code	Category/ Item	Nr.
091	**Living Conditions**	
09106	Sanitary Facilities	4
09124	Galley, Handling Rooms	3
09127	Cleanliness	4
09128	Provisions Quantity	3
--	(Other Deficiencies with Code 091xx)	4
092	**Working Conditions**	
09209	Electrical	2
09211	Steam Pipes and Pressure Pipes	2
09232	Cleanliness of Engine Room	17
09233	Guards-fencing around Dangerous Machinery Parts	2
--	(Other Deficiencies with Code 092xx)	9

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 2015.

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 2015, 31,407 inspections were carried out in the Tokyo MOU region, and 1,153 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 2013 through 2015.

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

Authority	No. of Inspection			No. of Detentions			Detention ratio (%)		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
Australia	3,342	3,742	4,050	233	269	242	6.97	7.19	5.98
Canada [1)]	416	389	476	9	5	9	2.16	1.29	1.89
Chile	896	901	923	17	26	15	1.90	2.89	1.63
China	8,078	7,361	8,126	659	476	443	8.16	6.47	5.45
Fiji	27	2	4	0	0	0	0	0	0
Hong Kong, China	740	736	697	40	47	49	5.41	6.39	7.03
Indonesia	2,784	2,605	2,045	35	24	29	1.26	0.92	1.42
Japan	5,365	5,337	5,400	199	208	178	3.71	3.90	3.30
Republic of Korea	2,214	1,928	1,807	109	73	85	4.92	3.79	4.70
Malaysia	898	918	1,057	17	9	30	1.89	0.98	2.84
Marshall Islands	1	21	18	0	1	0	0	4.76	0
New Zealand	329	239	168	7	9	9	2.13	3.77	5.36
Papua New Guinea	106	124	128	5	4	3	4.72	3.23	2.34
Peru[2)]			35			0			0
Philippines	2,128	2,016	2,367	4	2	3	0.19	0.10	0.13
Russian Federation [1)]	972	996	1,021	15	13	12	1.54	1.31	1.18
Singapore	782	1,127	1,004	22	28	35	2.81	2.48	3.49
Thailand	499	566	637	3	0	3	0.06	0	0.47
Vanuatu	3	0	0	0	0	0	0	0	0
Vietnam	1,438	1,397	1,444	21	9	8	1.46	0.64	0.55
Total	31,018	30,405	31,407	1,395	1,203	1,153	4.50%	3.96%	3.67%

1) Data is only for the Pacific ports.

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

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 2013-2015	No. of Detentions 2013-2015	Grey to White limit	Black to Grey limit
Mongolia	417	86		38
Sierra Leone	728	135		63
Tanzania	87	18		11
Indonesia	546	85		49
Cambodia	4,150	560		318
Korea, Democratic People's Republic	669	98		58
Papua New Guinea	32	7		5
Niue	80	14		10
Egypt	33	6		5
Togo	177	21		18
Kiribati	700	68		61
Belize	1,454	119		118

5.1.3 Detentions by Recognized Organizations

Table 5.1.3 and Figure 5.1.3 show 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) (*1)

Recognized Organization	No. of Inspections 2013-2015	No. of Detentions 2013-2015	No. of RO responsibile detentions	Detention ratio (%)	RO responsibile detention ratio (%)
ABS	9,987	228	13	2.28	0.13
BV	10,255	369	15	3.60	0.15
CCS	8,206	71	1	0.87	0.01
DNV	10,545	254	5	2.41	0.05
DNV GL AS	4,249	122	8	2.87	0.19
GL	8,827	341	12	3.86	0.14
KR	8,973	136	3	1.52	0.03
LR	12,855	355	6	2.76	0.05
NK	30,187	928	43	3.07	0.14
RINA	2,564	112	0	4.37	0
RS	1,262	67	3	5.31	0.24

(*1) 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.

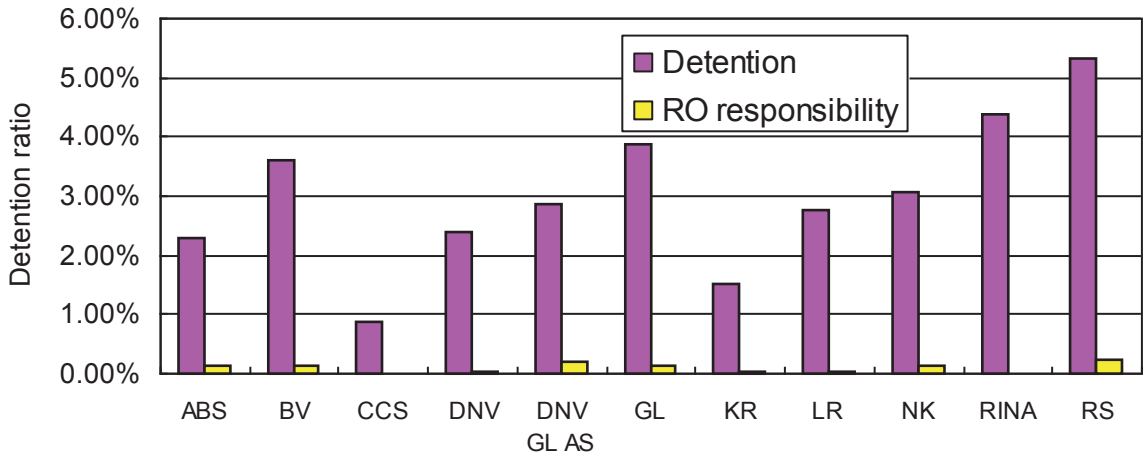


Fig. 5.1.3 Detention Ratio by Recognized Organization (Tokyo MOU)

5.1.4 Deficiencies by Category

Figure 5.1.4 shows the number of deficiencies by category for the three years from 2013 through 2015.

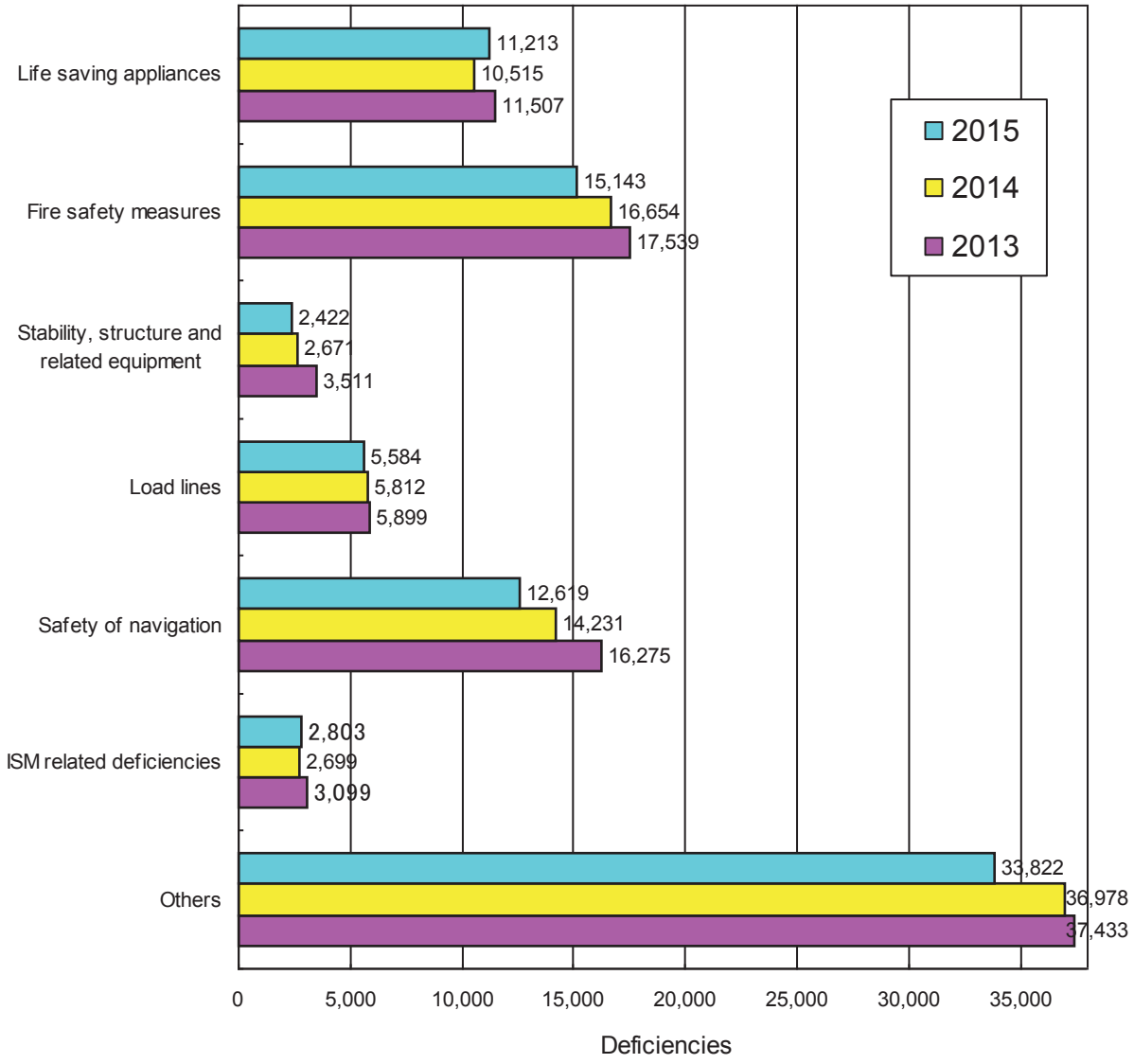


Fig. 5.1.4 Deficiencies per Category (Tokyo MOU)

5.2 Paris MoU

In 2015, 17,875 inspections were carried out in the Paris MoU region, and 607 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 2013 through 2015.

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

Authority	No. of Inspections			No. of Detentions			Detention ratio (%)		
	2013	2014	2015	2013	2014	2015	2013	2014	2015
Belgium	1,003	1,028	969	21	14	18	2.10	1.36	1.86
Bulgaria	536	491	366	20	14	8	3.70	2.85	2.19
Canada	890	981	1063	33	22	32	3.70	2.24	3.01
Croatia	200	256	284	13	10	5	6.50	3.91	1.76
Cyprus	100	126	137	8	18	13	8.00	14.29	9.49
Denmark	379	439	445	3	6	0	0.80	1.37	0.00
Estonia	151	191	188	1	0	0	0.70	0.00	0.00
Finland	294	285	292	3	2	0	1.00	0.70	0.00
France	1,305	1,321	1,256	41	36	27	3.10	2.73	2.15
Germany	1,325	1,318	1,234	29	44	39	2.20	3.34	3.16
Greece	1,027	1,079	1,155	49	68	85	4.80	6.30	7.28
Iceland	63	71	63	2	6	3	3.20	8.45	4.76
Ireland	313	275	276	23	14	15	7.30	5.09	5.43
Italy	1,420	1,326	1,387	131	88	92	9.20	6.64	6.63
Latvia	204	308	282	1	0	0	0.50	0.00	0.00
Lithuania	160	184	220	4	0	1	2.50	0.00	0.45
Malta	190	199	184	17	11	7	8.90	5.53	3.80
Netherlands	1,496	1,334	1,316	57	27	22	3.80	2.02	1.67
Norway	609	585	571	9	1	9	1.50	0.17	1.58
Poland	376	450	525	12	24	32	3.20	5.33	6.10
Portugal	400	429	492	9	8	8	2.30	1.86	1.63
Romania	747	775	591	16	24	44	2.10	3.10	7.45
Russian Fed. 1)	822	984	1008	37	35	38	4.50	3.56	3.77
Slovenia	185	196	155	12	4	5	6.50	2.04	3.23
Spain	1,554	1,813	1,723	63	69	58	4.10	3.81	3.37
Sweden	398	530	567	3	4	3	0.80	0.75	0.53
United Kingdom	1,540	1,456	1,126	51	63	43	3.30	4.33	3.73
Total	17,687	18,430	17,875	668	612	607	3.78%	3.32%	3.38%

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 2013-2015	Detentions 2013-2015	Grey to White Limit	Black to Grey Limit
Tanzania, United Republic of	253	45	**High Risk**	25
Moldova, Republic of	553	80	**Medium to High Risk**	49
Togo	382	55		35
Comoros	216	28	**Medium Risk**	22
Cook Islands	352	41		33
Dominica	41	7		6
Cambodia	384	41		36
Belize	546	55		49
Saint Kitts and Nevis	299	31		29
Saint Vincent and the Grenadines	746	68		64
Sierra Leone	267	27		26

5.2.3 Recognized Organization Performance Table

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 2013 through 2015.

Table 5.2.3 Recognized Organization Performance Table (Paris MoU)

Recognized Organization	Inspections 2013-2015	Detentions 2013-2015	Medium / High limit	Performance Level
DNVGL	5,992	2	102	High
DNV	9,688	6	171	
ABS	5,506	3	93	
LR	12,009	9	214	
KRS	1,018	1	13	
RINA	3,390	7	54	
BV	11,366	31	202	
GL	11,734	34	209	
CCS	802	1	9	
NK	7,414	27	128	
RS	3,704	19	60	
TL	642	2	7	
CRS	155	0	0	Medium
PRS	440	4	3	
IRS	67	0	0	

5.3 USCG

5.3.1 USCG Statistics

In 2015, a total of 8,925 individual vessels visited U.S. ports, and a total of 9,265 SOLAS based safety examinations were conducted by the USCG during the year. Table 5.3.1 shows the number of safety related detentions for the three years from 2013 through 2015. The three-year average detention ratio increased from 1.31% to 1.67% 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
2013	9,278	121	1.29%	1.11%
2014	9,227	143	1.55%	1.31%
2015	8,925	202	2.18%	1.67%

* 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	2013-2015 Detention Ratio	Points of Targeting Matrix
Belize	25.00%	7 points
Bolivia	26.32%	
Honduras	12.50%	
Saint Vincent and the Grenadines	8.42%	
Samoa	7.41%	
Taiwan	15.38%	
Tanzania	10.87%	
Thailand	5.45%	
Antigua and Barbuda	2.69%	2 points
Cyprus	2.53%	
Greece	2.14%	
Malta	1.85%	
Panama	2.28%	
Turkey	2.59%	
Vanuatu	2.58%	

5.3.3 Recognized Organization Performance Table (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
	2013	2014	2015	Total	2013	2014	2015	Total		
ABS	1,833	1,603	1,677	5,113	-	-	-	0	0.00%	0 points
BV	1,331	1,310	1,038	3,679	-	1	2	3	0.08%	0 points
CCS	278	280	234	792	-	-	-	0	0.00%	0 points
DNV GL	4,048	3,622	2,687	10,357	-	2	1	3	0.02%	0 points
KR	353	293	287	933	-	-	-	0	0.00%	0 points
LR	2,539	2,310	2,143	6,992	-	-	-	0	0.00%	0 points
NK	2,580	2,590	2,203	7,373	1	-	-	1	0.01%	0 points
RINA	313	387	355	1,055	-	1	-	1	0.09%	0 points
RS	80	47	43	170	-	-	-	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 2015 was based on the records for 2013, 2014, and 2015.

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.

The detention ratio of ClassNK, which was calculated based on the last three year's detention numbers, was 0.01 percent. Therefore, the number of "Targeted Points" for 2015 is once again 0 Points for ClassNK.

Port State Control Annual Report
[English]

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