

June 2024

ClassNK

[English]

Port State Control Annual Report

Photographs of Deficiencies

Fire Safety



Corrosion of fire damper

Hold-back wire attached to fire door



Corrosion of fire door and door frame



Fire Safety



Leakage of fire line

Malfunction of fire line
isolation valve due to mud



Corrosion and leakage of
main fire pump



Fire Safety



Damage to insulation material
for fire line suction pipe
(passing through engine room)

Improper stowage of flammable
material in accommodation



EEBD covered by flammable
material (vinyl)

Life Saving Appliances



Lifeboat safety belt partly missing

Inoperative lifeboat hook



Deterioration of lifeboat drain plug (rubber ball)



Life Saving Appliances

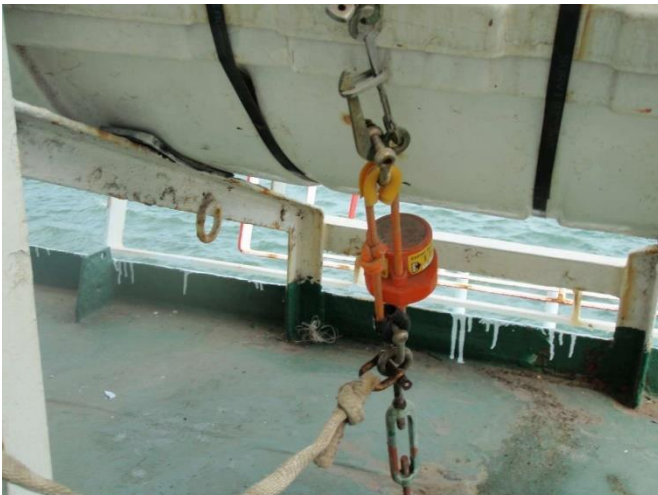


Holes on lifeboat embarkation station platform

Usage of unapproved liferaft hook



Improper connection of hydrostatic release unit (HRU)

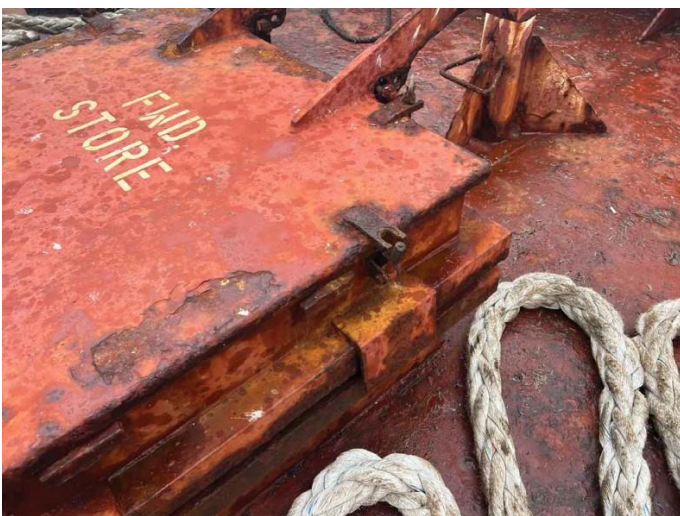


Load Line / Safety Construction



Hatch cover packing partly missing

Corrosion of hatch coaming



Access hatch closing bolt partly missing

Load Line / Safety Construction



Corrosion of natural ventilator

Corrosion of air pipe head



Defective air pipe head fittings

Load Line / Safety Construction



Corrosion of hatch cover cleat

Incorrect marking of ventilation open/close direction



Damage to upper deck handrail



Engine Room (SOLAS)



Leakage and accumulation of main engine oil

Malfunction of engine console in engine control room



Insufficient diesel for emergency generator



Engine Room / MARPOL



**Corrosion and damage of
sewage treatment plant**

**Damage to incinerator furnace
refractory material**



**Inappropriate
management/storage of
garbage**

Others



**Modification of fire division
without approval**

**Modification of accommodation
compartment without approval**



**Modification of electrical
equipment and penetration
without approval**



Others



Damage to upper deck access means

Corrosion and holes in upper deck bulwark stay



Disorder in Bos'n Store

Foreword

This Annual Report on Port State Control (PSC) summarizes deficiencies identified during PSC inspections carried out in various countries around the world. The objective of the report is to raise awareness of the present state of PSC and thereby improve future onboard maintenance, inspections, and Safety Management Systems.

The report consists of the following chapters.

Chapter 1: Measures adopted by ClassNK

Chapter 2: Statistical Analysis of Detained Ships Registered with ClassNK

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

In addition, to effectively implement port state responsibilities, many countries have signed a Memorandum of Understanding (MOU) for regional cooperation among local PSCs, and have agreed to establish a centralized & digitized database system and/or a harmonized approach.

The scope of PSC inspection has expanded from the hardware aspect of ships to the software aspect, such as onboard maintenance or operational procedures since the adoption of the ISM Code, which applies to all ships. This scope continues to expand as new regulatory concepts are introduced.

In line with the progress of PSC, ClassNK is committed to enhancing the transparency of PSC-related information and eliminating substandard vessels.

June 2024

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

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Chapter 1

Measures Adopted by ClassNK

1.1 Cooperative assistance with PSC and treatment of deficiencies

When surveyors of the Society are notified by port state of the detention of a ship classed with ClassNK, the Society actively responds in the following manners.

- Surveyors liaise with PSCO 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 PSCO to ensure uniformity of interpretation of class and statutory requirements.
- Surveyors provide PSCO 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 PSCO.
- Attending surveyors examine not only the condition of the deficiencies identified by the PSCO but also expand the scope of the survey for the general condition of the hull, machinery and equipment, or carry out a general examination to the extent of an annual survey, if necessary, carefully considering the seriousness of any deficiencies when they attend to ships that have been subject to an intervention action by the PSC.

1.2 Treatment of PSC inspection reports

When a surveyor receives an inspection report copy from PSC, the report is sent to the ClassNK Head Office for investigation by the staff in charge. Through each investigation, the insights are utilized for improving the Society's survey and audit quality.

In addition, in cases where the deficiencies pointed out by the PSC are determined to be related to previous surveys conducted by surveyors of the Society, appropriate corrective and preventive actions are taken in accordance with the ClassNK quality system.

Chapter 2

Statistical Analysis of Detained Ships Registered with ClassNK

2.1 General

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

- (1) Notifications from Port States issued in accordance with IMO Resolution A.1155(32) “Procedures for Port State Control” and
- (2) Publications related to detained ships issued by the Tokyo MOU, the Paris MoU, and the USCG.

In 2023, 419 PSC detentions were reported for 398 ships classed by NK. This included cases of detention for reasons not related to class or to NK itself.

2.2 Data on Detentions

2.2.1 Detentions per Ship Type

Table 2.2.1 Detentions per Ship Type

Ship Type	Number of Registered Ships (500GT or over)			Number of Detentions			Detention Ratio (%)		
	2021	2022	2023	2021	2022	2023	2021	2022	2023
Bulk Carrier	3,982	3,998	4,046	162	209	270	4.1	5.2	6.7
General Cargo	654	693	713	36	39	43	5.5	5.6	6.0
Container Carrier	643	674	677	12	14	28	1.9	2.1	4.1
Chip Carrier	124	132	142	2	4	6	1.6	3.0	4.2
Cement Carrier	124	128	128	0	0	1	0.0	0.0	0.8
Ro-Ro Ship	100	99	100	0	1	3	0.0	1.0	3.0
Vehicles Carrier	308	309	295	5	6	11	1.6	1.9	3.7
Reefer Carrier	105	108	106	5	2	3	4.8	1.9	2.8
Oil/Chemical Tanker	1,446	1,404	1,374	15	35	45	1.0	2.5	3.3
Gas Carrier	400	404	406	1	1	9	0.3	0.2	2.2
Others	659	661	661	3	2	0	0.5	0.3	0.0
Total	8,545	8,610	8,648	241	313	419			

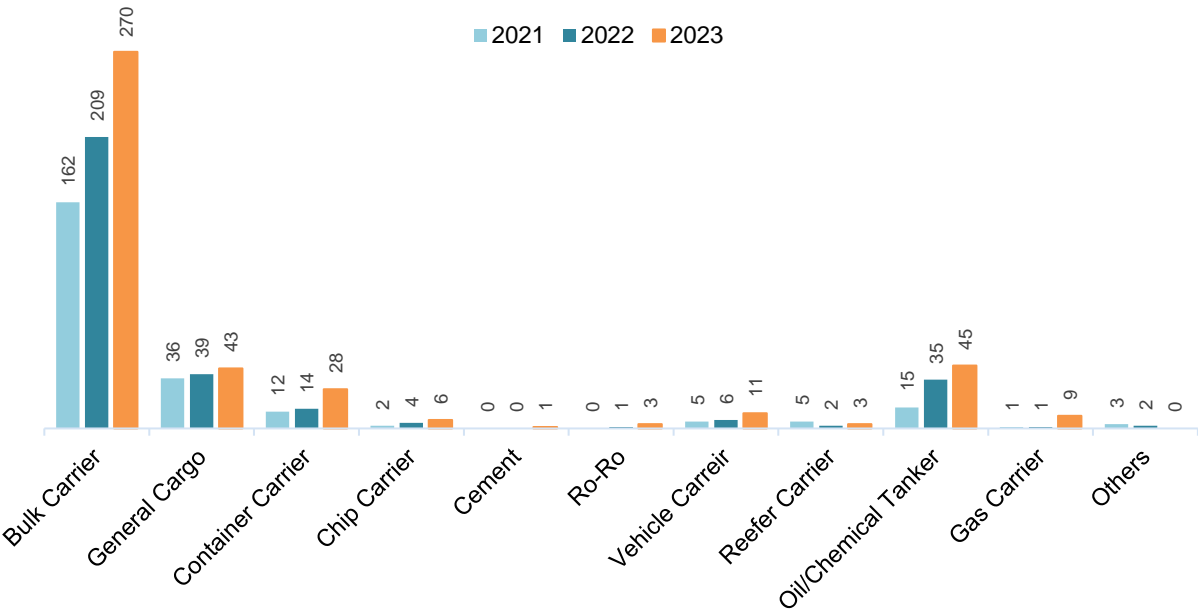


Fig. 2.2.1-1 No. of Detentions per Ship Type

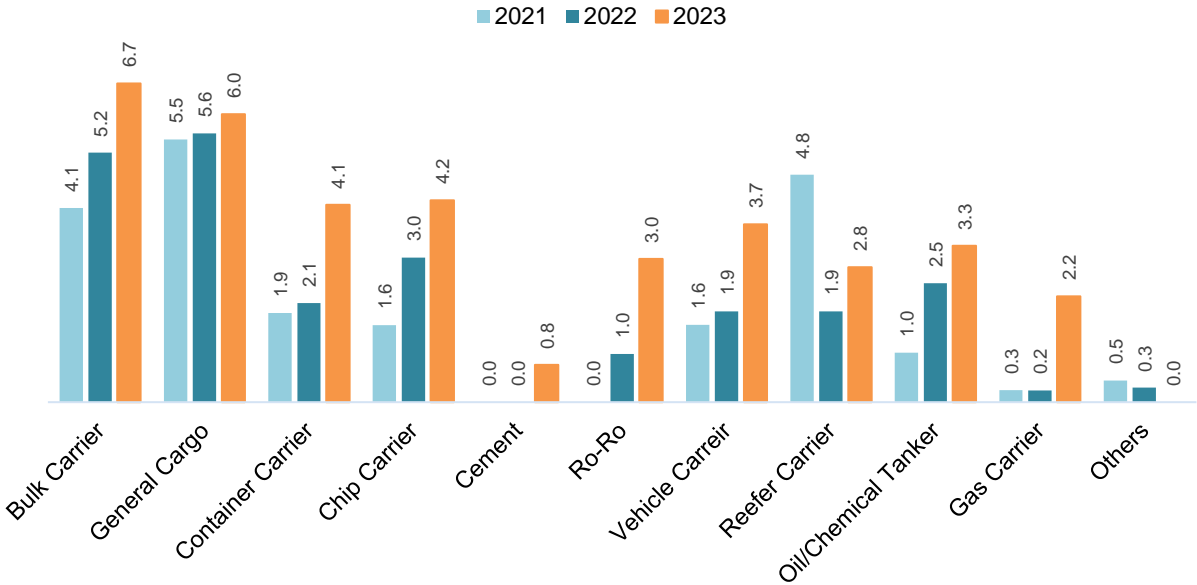


Fig. 2.2.1-2 Detention Ratio per Ship Type (%)

2.2.2 Detentions per Ship Age

Table 2.2.2 Detentions per Ship Age

Ship's Age	Number of Registered Ships (500GT or over)			Number of Detentions		
	2021	2022	2023	2021	2022	2023
Up to 5 years old	2,034	1,984	1,950	10	17	14
Over 5 and up to 10	2,367	2,218	1,968	51	42	29
Over 10 and up to 15	2,127	2,241	2,289	76	116	123
Over 15 and up to 20	1,009	1,095	1,302	42	63	112
Over 20 and up to 25	653	642	647	36	44	75
Over 25	355	430	492	26	31	66
Total	8,545	8,610	8,648	242	313	419

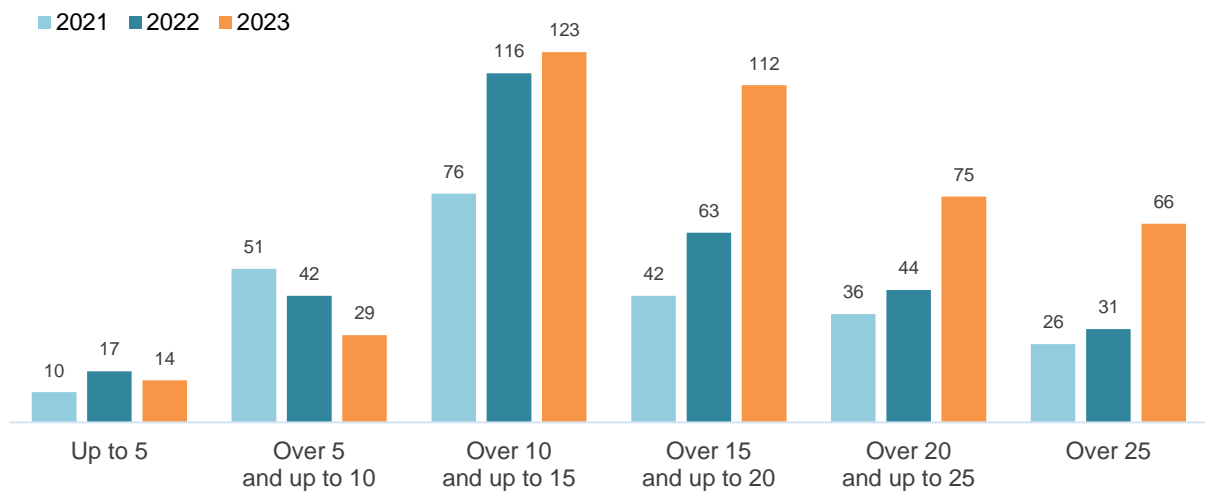


Fig. 2.2.2 No. of Detentions per Ship Age

2.2.3 Detentions per PSC Authority

Table 2.2.3 No. of Detentions per PSC Authority

Country	2021	2022	2023
CHINA	18	41	175
AUSTRALIA	44	54	54
RUSSIA	33	32	23
ITALY	12	18	22
CANADA	8	12	13
INDONESIA	22	22	13
UNITED STATES	8	8	12
SINGAPORE	0	4	9
BELGIUM	9	13	8
NETHERLANDS	0	6	7
UNITED KINGDOM	7	7	7
INDIA	1	3	6
JAPAN	6	6	6
KOREA	6	6	6
GERMANY	7	7	5
Others	60	74	53
Total	241	313	419

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

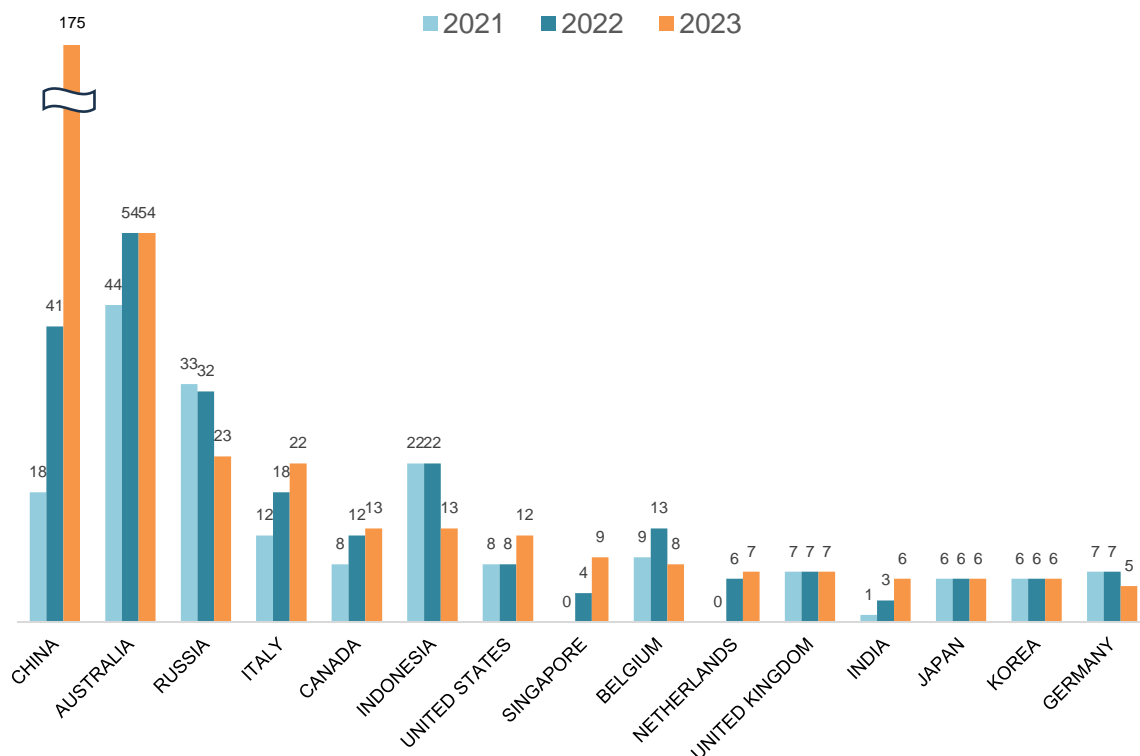


Fig. 2.2.3 No. of Detentions per PSC Authority

2.2.4 Detentions per Tokyo / Paris MOUs and USCG

Table 2.2.4 No. of Detentions per Tokyo / Paris MOUs and USCG

Region	No. of Inspections			No. of Detentions			Detentions Percentage		
	2021	2022	2023	2021	2022	2023	2021	2022	2023
Tokyo MOU (*)	6,943	7,453	8,610	111	164	281	1.60	2.20	3.26
Paris MoU (*)	2,114	2,375	2,238	67	98	79	3.17	4.13	3.53
USCG	2,660	2,286	2,097	7	8	12	0.26	0.35	0.57
Total(*)	11,717	12,114	12,945	185	270	372	1.58	2.23	2.87

(*): There are overlapping detention cases between Tokyo MOU and Paris MOU (east coast of Canada).

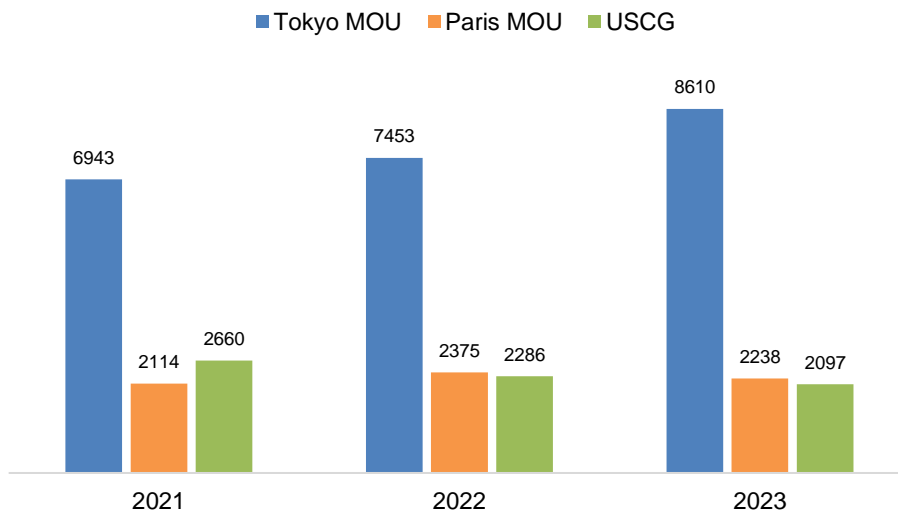


Fig. 2.2.4-1 No. of Inspections per Tokyo / Paris MOUs and USCG

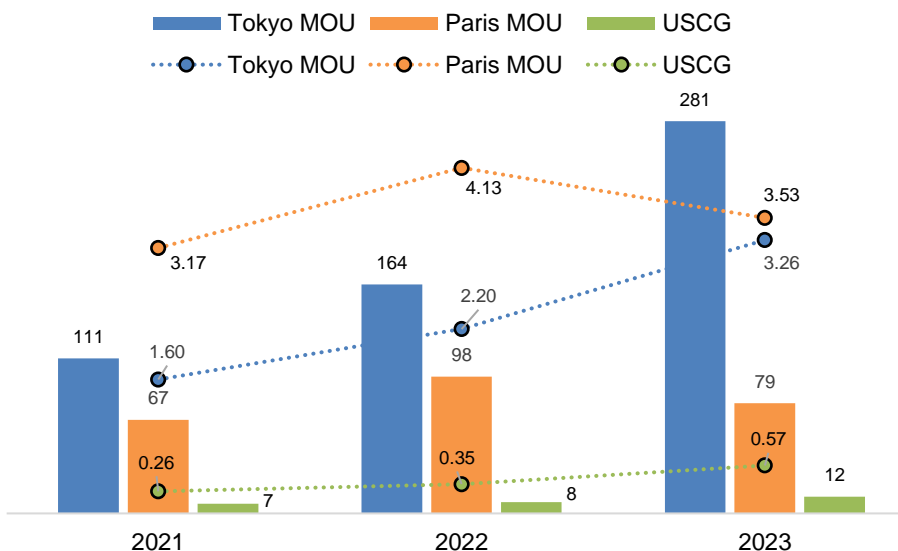


Fig. 2.2.4-2 No. of Detentions and Detention ratio per Tokyo / Paris MOUs and USCG

2.3 Analysis of Detainable Deficiencies

2.3.1 Number of Detainable Deficiencies per Category

In 2023, a total of 1,488 detainable deficiencies were reported in conjunction with 419 detentions. The deficiencies are categorized as shown in Figure 2.3.1 and categories in this figure are based on those of the Tokyo MOU.

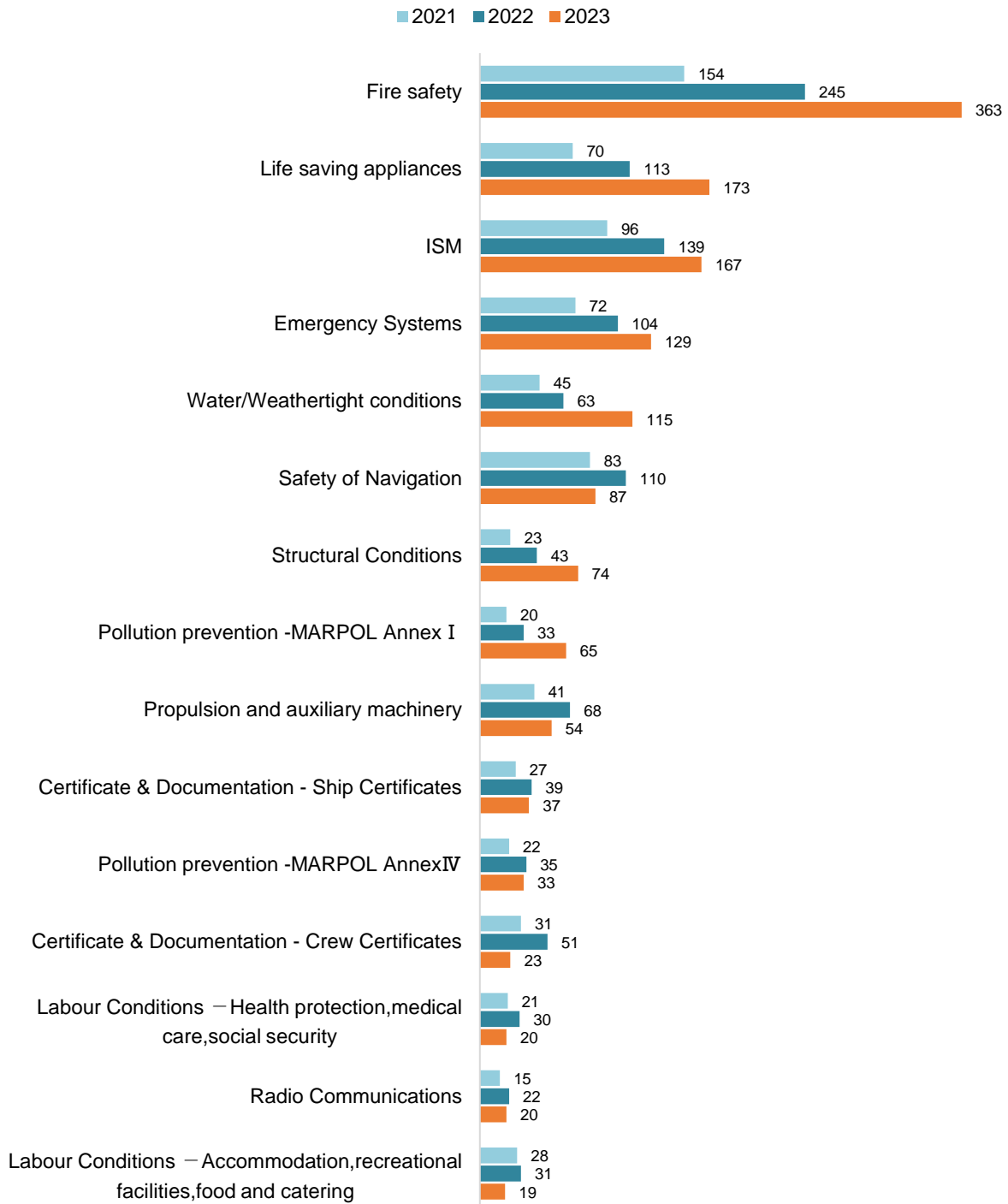


Fig. 2.3.1 No. of Detainable Deficiencies per Category

2.3.2 Number of Detainable Deficiencies per Defective Item

Figure 2.3.2 shows those items of detainable deficiencies that were reported frequently, in conjunction with the actual detention of ships in the NK fleet.

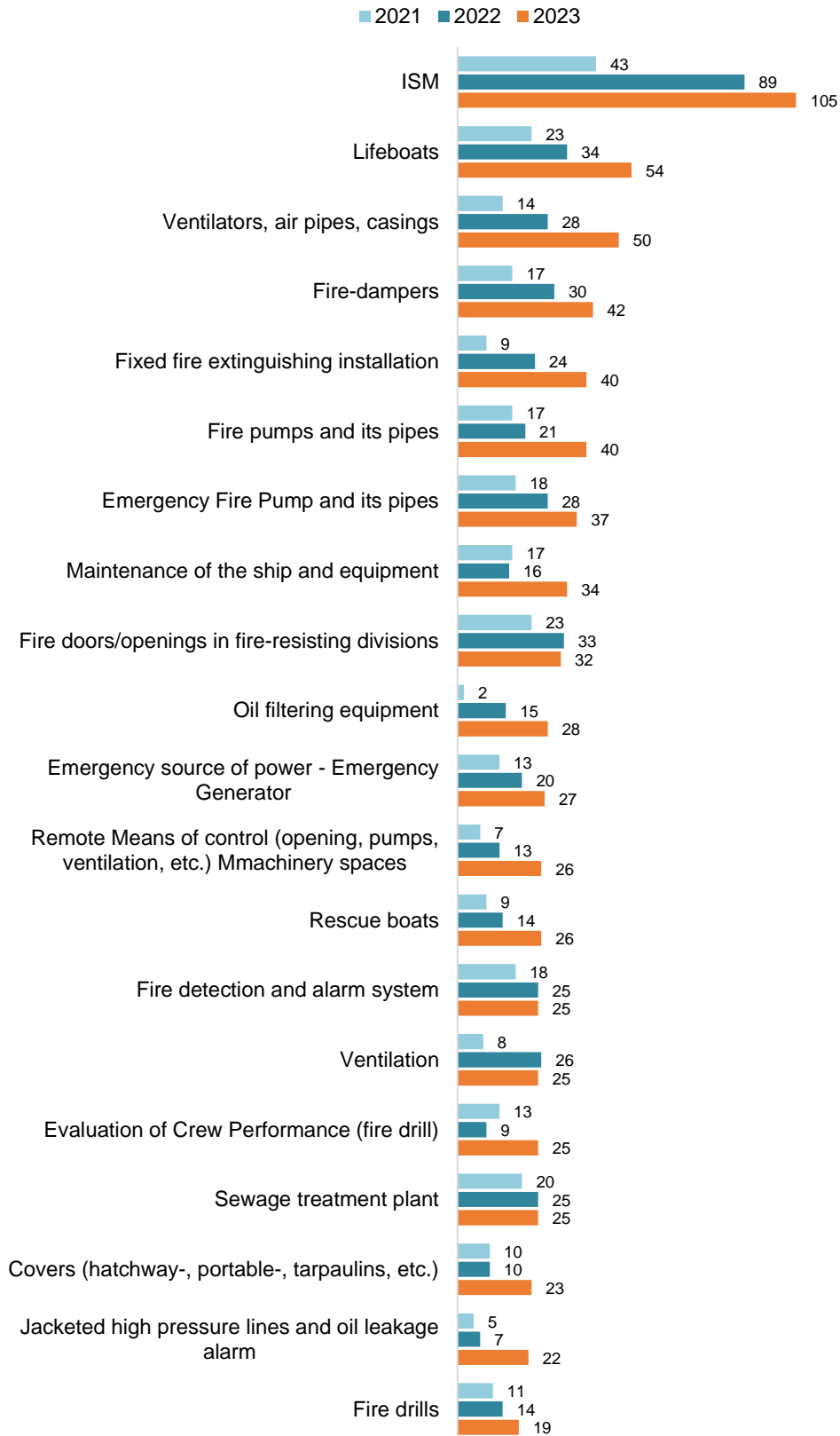


Fig. 2.3.2 No. of Detainable Deficiencies per Defective Item

2.3.3 Frequently Reported Deficiencies per Category

The deficiencies per category reported from 2021 to 2023 are explained in detail in (1) to (9).

(1) Fire Safety

Major types and details of deficiencies noted under the category of “Fire Safety” are shown in Table 2.3.3-(1) below.

Table 2.3.3-(1) Fire Safety

Item	2021	2022	2023	Noted Deficiencies
Fire-dampers	17	30	42	Worn, Unable to close properly
Fixed fire extinguishing Installation	9	21	40	Worn/corroded/holed piping line, Malfunction
Fire pumps and its pipes	17	21	40	Malfunction of fire pump (incl. for emergency), Insufficient pressure, Worn/holed/leaking in fire main line, Malfunction of isolation valves
Fire doors/openings in fire-resisting divisions	23	33	32	Unable to close properly (by self-closing device), Fitting of hold-back system, Unable to lock with latch
Ventilation	8	26	25	Unable to close properly/stuck
Fire detection and alarm system	18	25	25	Malfunction of fire detector, Control panel displaying abnormal reading

(2) Life Saving Appliances

Major types and details of deficiencies noted under the category of “Life Saving Appliances” are shown in Table 2.3.3-(2) below.

Table 2.3.3-(2) Life Saving Appliances

Item	2021	2022	2023	Noted Deficiencies
Lifeboats	23	34	54	Unable to start engine, Poor maintenance of rechargeable batteries, Inoperable on-load release gears
Rescue boats	9	14	26	Unable to start engine, Poor maintenance of rechargeable batteries
Launching arrangements for survival craft	1	10	19	Inoperable, Corrosion/damage, Installation of obstructions, Defective wires for remote control means
Embarkation arrangement survival craft	4	8	17	Poor condition of embarkation ladder, Embarkation lights broken/burned out, Installation of obstructions
Launching arrangements for rescue boats	6	11	16	Inoperable, Poor maintenance, Inadequate pressure of hydraulic accumulator
Operational readiness of lifesaving appliances	5	8	6	Defective engine/instruments of life boat /rescue boat, Defective release systems, Unfamiliarity with tasks

(3) Emergency Systems

Major types and details of deficiencies noted under the category of “Emergency Systems” are shown in Table 2.3.3-(3) below.

Table 2.3.3-(3) Emergency Systems

Item	2021	2022	2023	Noted Deficiencies
Emergency fire pump and its pipes	18	28	37	Inoperable Insufficient discharge pressure
Emergency source of power - emergency generator	13	28	27	Unable to start (including secondary means of starting), Unable to automatically connect to emergency switchboard
Fire drills	11	14	19	Unfamiliarity with operation/procedure/assigned duty
Emergency lighting, batteries and switches	9	12	11	Weak/abnormal batteries, Inoperative/worn/damaged emergency lights
Abandon ship drills	7	8	9	Unfamiliarity with tasks, operation/procedure/assigned duty
Water level indicator	6	11	7	System malfunction

(4) MARPOL (All)

Major types and details of deficiencies noted under the category of “MARPOL” are shown in the Table 2.3.3-(4) below.

Table 2.3.3-(4) MARPOL (All)

Item	2021	2022	2023	Noted Deficiencies
Oil filtering equipment (Annex I)	2	15	28	Unfamiliarity with operation, Malfunction
Sewage treatment plant (Annex IV)	20	25	25	Malfunction, Defective instruments, Corrosion of plant case
15ppm alarm arrangement (Annex I)	6	7	17	3-way valves/alarm malfunction, Sampling line stuck, Unfamiliarity with operation
Garbage (Annex V)	1	4	4	Inappropriate management/storage

(5) Water/Weathertight Conditions

Major types and details of deficiencies noted under the category of “Water/Weathertight conditions” are shown in Table 2.3.3-(5) below.

Table 2.3.3-(5) Water/Weathertight Conditions

Item	2021	2022	2023	Noted Deficiencies
Ventilators, air pipes, casings	15	28	50	Corroded/seized flaps/covers of ventilators and float of air pipe heads
Hatch covers Cargo and other hatchways	14	17	23	Worn/corroded/holed, Worn/missing cleats, Oil leakage from hydraulic oil system, Worn/missing rubber packing
Doors	9	7	10	Corroded/worn, Not properly closed, Worn/missing rubber packing

(6) Safety of Navigation

Major types and details of deficiencies noted under the category of “Safety of Navigation” are shown in Table 2.3.3-(6) below.

Table 2.3.3-(6) Safety of Navigation

Item	2021	2022	2023	Noted Deficiencies
Voyage data recorder (VDR / S-VDR)	8	16	13	Malfunction
Lights, shapes, sound-signals	11	10	12	Navigation lights damaged (glass cracked, cover worn, etc.)
Electronic charts (ECDIS)	16	12	9	Malfunction, ENC not updated
Charts	6	8	8	Not updated to latest, Navigation charts for engaged/intended voyage unavailable
Nautical publications	8	16	6	Not updated to latest, Necessary publications unavailable
Pilot ladders and hoist/pilot transfer arrangements	1	7	3	Damaged/Worn

(7) Structural Conditions

Major types and details of deficiencies noted under the category of “Structural Conditions” are shown in Table 2.3.3-(7) below.

Table 2.3.2-(7) Structural Conditions

Item	2021	2022	2023	Noted Deficiencies
Electrical installations in general	0	2	9	Emergency switchboard malfunction, Electrical cable insulation damaged
Closing devices/watertight doors	3	2	8	Watertight doors closing defects, Packing deteriorated
Steering gear	4	3	5	Malfunction, Oil leakage
Hull damage impairing seaworthiness	4	1	5	Structural members corroded, cracked, holed

(8) Propulsion and Auxiliary Machinery

Major types and details of deficiencies noted under the category of “Propulsion and Auxiliary Machinery” are shown in Table 2.3.3-(8) below.

Table 2.3.3-(8) Propulsion and Auxiliary Machinery

Item	2021	2022	2023	Noted Deficiencies
Propulsion main engine	15	23	19	Oil/cooling water leakage, Defective safety device
Auxiliary engine	6	21	15	Inoperable generator engine, Oil leakage
Bilge pumping arrangements	4	9	10	Inoperable, Suction valve seized/secured

(9) Crew Certificates

Major types and details of deficiencies noted under the category of “Crew Certificates” are shown in Table 2.3.3-(9) below.

Table 2.3.3-(9) Crew Certificates

Item	2021	2022	2023	Noted Deficiencies
Seafarers' employment agreement (SEA)	18	18	11	Crew with invalid employment contract
Endorsement from flag state	2	10	4	(Original) certificate not available onboard, Expired
Certificates for master and officers	1	6	3	Flag endorsement unavailable, Inappropriate descriptions
Medical certificate	2	5	3	Expired, Inappropriate descriptions

2.4 Analysis of Detainable Deficiencies per PSC Authority

Most frequent detainable deficiencies per PSC Authority are shown in Tables 2.4.1 to 2.4.7 according to the number of detentions reported from 2021 to 2023.

2.4.1 China

Table 2.4.1 China

Category of Detainable Deficiency	2021	2022	2023
Fire Safety	2	23	162
Life saving appliances	2	14	81
Water/Weathertight conditions	2	9	69
Emergency Systems	2	10	46
ISM	4	8	38
Pollution prevention -MARPOL Annex I	2	5	34

Defective Items	2021	2022	2023
Ventilators, air pipes, casings	1	3	31
Lifeboats	0	6	28
Fixed fire extinguishing installation	0	5	22
Fire pumps and its pipes	0	7	20
Oil filtering equipment	0	3	19
Remote Means of control (opening, pumps, ventilation, etc.) Machinery spaces	0	1	18
Fire-dampers	0	1	18
Maintenance of the ship and equipment	1	3	18
Covers (hatchway-, portable-, tarpaulins, etc.)	1	2	17
Emergency Fire Pump and its pipes	1	6	15

A total of 562 detainable deficiencies relating to 175 detentions were noted in 2023. (3.2 detainable deficiencies/detentions)

2.4.2 Australia

Table 2.4.2 Australia

Category of Detainable Deficiency	2021	2022	2023
ISM	16	21	17
Water/weathertight conditions	4	5	11
Fire safety	6	12	9
Life saving appliances	13	7	8
Emergency systems	6	4	8
Pollution prevention -MARPOL Annex I	2	8	5
Pollution prevention -MARPOL Annex IV	2	5	5

Defective Items	2021	2022	2023
ISM & Other (ISM)	6	8	13
Fire-dampers	3	10	6
Sewage treatment plant	2	5	5
Emergency source of power - emergency generator	2	4	5
Ventilators, air pipes, casings	3	2	4
Lifeboats	6	2	4
Scuppers, inlets and discharges	0	1	3
Operational readiness of lifesaving appliances	4	3	3
15ppm Alarm arrangements	1	3	3
Emergency Fire Pump and its pipes	4	0	3
Fire pumps and its pipes	4	0	3

A total of 71 detainable deficiencies relating to 54 detentions were noted in 2023.
(1.3 detainable deficiencies/detentions)

2.4.3 Italy

Table 2.4.3 Italy

Category of Detainable Deficiency	2021	2022	2023
Fire safety	20	38	45
Emergency Systems	5	16	21
ISM	8	17	20
Safety of Navigation	13	7	15
Life saving appliances	6	18	14

Defective Items	2021	2022	2023
ISM	8	17	20
Fire doors / openings in fire-resisting divisions	2	9	5
Fire fighting equipment and appliances	3	8	5
Evaluation of Crew Performance (fire drill)	4	3	6
Emergency Fire Pump and its pipes	0	3	5
Means of escape	1	0	5
Embarkation arrangement survival craft	0	3	5

A total of 189 detainable deficiencies relating to 22 detentions were noted in 2023.
(8.6 detainable deficiencies/detentions)

2.4.4 Indonesia

Table 2.4.4 Indonesia

Category of Detainable Deficiency	2021	2022	2023
Life saving appliances	2	8	7
ISM	5	6	6
Fire safety	11	12	5
Pollution prevention - MARPOL Annex IV	9	16	3
Emergency systems	2	6	1

Defective Items	2021	2022	2023
Masters responsibility and authority	0	0	4
Ventilation	1	9	3
Lifeboats	0	4	3
Fire-dampers	4	0	3
Rescue boats	1	2	2
Sewage treatment plant	9	11	2

A total of 32 detainable deficiencies relating to 13 detentions were noted in 2023.
(2.5 detainable deficiencies/detentions)

2.4.5 Canada

Table 2.4.5 Canada

Category of Detainable Deficiency	2021	2022	2023
Life saving appliances	1	4	10
ISM	3	6	9
Structural Conditions	3	1	6
Propulsion and auxiliary machinery	0	1	5
Fire safety	3	11	4
Emergency Systems	1	7	4

Defective Items	2021	2022	2023
ISM (All)	3	6	9
Fire fighting equipment and appliances	1	3	3
Seafarer employment agreement (SEA)	5	2	3

A total of 55 detainable deficiencies relating to 13 detentions were noted in 2023.
(4.2 detainable deficiencies/detentions)

2.4.6 United States

Table 2.4.6 United States^(*)

Category of Detainable Deficiency	2021	2022	2023
ISM	7	7	8
Fire safety	11	4	4
Life saving Appliance	2	2	3
ISPS	0	6	3
Pollution prevention -MARPOL Annex I	0	2	1

Defective Items	2021	2022	2023
Maintenance of the ship and equipment	7	3	6
Closing devices/watertight doors	1	0	2
Access control to ship	0	2	2
Oil accumulation in engine room	2	2	1
Fire pumps and its pipes	0	1	1

(*): Including Guam, Puerto Rico

A total of 24 detainable deficiencies relating to 12 detentions were noted in 2023.
(2.0 detainable deficiencies/detentions)

2.4.7 Belgium

Table 2.4.7 Belgium

Category of Detainable Deficiency	2021	2022	2023
Fire safety	10	16	19
Emergency systems	4	8	9
ISM	8	13	8
Life saving appliances	3	13	7
Structural Condition	1	16	7

Defective Items	2021	2022	2023
ISM	8	13	8
Bilge pumping arrangements	1	2	6
Fire pumps and its pipes	1	3	5
Emergency source of power - Emergency Generator	0	1	4
Electrical installations in general	0	0	3
Fire doors/openings in fire-resisting divisions	1	1	3
Remote Means of control (opening, pumps, ventilation, etc.) Machinery spaces	1	1	3
Evaluation of Crew Performance (fire drill)	1	2	3
Lights, shapes, sound-signals	1	3	3

A total of 73 detainable deficiencies relating to 8 detentions were noted in 2023.
(9.1 detainable deficiencies/detentions)



PrimeShip-PSC Intelligence
Support for improving PSC performance and ship management systems

PC ver.
(For management companies)

Mobile ver.
(For seafarers)

\$0

The banner features a dark blue background with a world map and various data visualization icons like charts, graphs, and QR codes. A central white circle contains a large '\$0' symbol.



Trend analysis

Using AI, it is possible to analyze trends in typical deficiencies, defective items and categories for each country/port. You can also check and graph actual deficiencies recorded by the PSC classified into each typical deficiency.



Checklist

Output pinpoint PSC checklists based on the PSC's past records of selected ports or countries. In addition, any checklists and report forms created on PC that are stipulated in the Safety Management Manual are automatically linked to the mobile app of the managed ships for convenient use on mobile devices.



Tie-up

Communicate with land staff in chat format regarding PSC reports and malfunctioning equipment using the mobile app. In addition, by utilizing the task status management function, it is possible to prevent oversights in task responses.



Summary report

Output a summary report of your fleet that summarizes PSC performance, defective items and frequently identified deficiencies, including trends in deficiencies found in frequently visited countries and ports.



Set your own KPIs and ship groups in order to monitor, measure and evaluate them.

More features are available free of charge to enhance PSC performance and assist in ship management.

For further details please refer to: <https://www.classnk.or.jp/hp/en/activities/portal/psc-intelligence.html>

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